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Achievement Motivation of Adult Learners in Hong Kong - An Exploratory Study

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Abstract

This thesis is focused on the question of motivation among adult students and the ways in which it can be theorised and investigated. The idea was prompted by three areas of concern. First, the large body of literature on achievement goal theory is developed in the West involving school children and young adults. Second, research in cross-cultural motivation issues has also been focused on young learners. Third, research on adult learners has been fragmented and sparse. Little is understood about the motivation of adult learners in a Confucian Heritage Culture, such as Hong Kong.

The purpose of this study is to explore the transferability of achievement goal theory to Chinese adult learners. Based upon the social-cognitive framework, this study enquires if personal, behavioural and environmental factors of Chinese adults' achievement motivation can be satisfactorily explained by Western theory that is developed with young learners in mind.

A heuristic approach is adopted to explore personal perceptions and understandings of aspects relating to adult learners' motivation. In the first part of this study, the construct systems of 27 part-time Chinese adult students were explored using Repertory Grid interviews. In the second part of the study, the interview data were validated by data triangulation using two focus groups. The data showed that Chinese adults were primarily motivated by extrinsic goals in an avoidance orientation, while holding a firm belief in effort and hard work. Analysis of the data showed considerable differences between important elements suggested by the Western theory and important motivation factors revealed by the sample.

In the final analysis, cultural as well as developmental factors were found to attribute to the gap between Western theory and Chinese adult learners. The thesis concludes by discussing the implications of the findings and the strengths and limitations of the research.

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Declaration

The author hereby declares that none of the material presented in this thesis has been previously submitted for a degree.

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Last but not least, I wish to thank all those part-time adult students who participated in the research, from trial to execution. Without their personal theories this study would not be possible.

Chapter 1   Introduction

1.1   Background to the Study

1.1.1   Part-time Degree Study in Hong Kong

The participation of adult students taking part-time studies in Hong Kong has been increasing. According to the 2001 Stocktaking Survey on Continuing Education, a total of 316,009 students were engaged in part-time studies (Education and Manpower Bureau, 2004). Part-time studies include a wide range of programmes from short courses in language or computer skills to doctorate degree courses. Among this group of part-time students, 78,522 (24.85%) were studying degree courses in either taught or distance mode (2001 Population Census, 2002). The same Census report also shows that 77,832 (99%) of the part-time degree students were over 20 years old. Such a high participation rate of adult students pursuing academic qualifications is impressive at first glance, and an indicator of adults' desire to obtain higher qualifications such as a degree. However, high participation can only be beneficial for the students as well as the society at large when it is followed by high completion. From an educational perspective, whether students actually complete the programmes and learn can be a complex matter that requires investigation of multiple factors that affect their motivation towards achievement. This thesis is thus focused on the question of motivation among adult students and the ways in which it can be theorised and investigated.

1.1.2   Theoretical Perspectives of Student Motivation

Student motivation is a complex, multidimensional concept. For many decades, motivation researchers and theories have provided different explanations to the 'why', 'how' and 'what' questions to student motivation. Why, for example, do students choose to work hard on one subject or task and not on another? Why do some students

persist until the task is completed whereas others give up before they really start? How do students cope with challenges and failure? What learning strategies do they use in their studies?

Different approaches have been taken to explain human motivation. Initially, the experimental study of motivation was linked with the search for the motors of behaviour and associated with concepts such as instinct, drive, arousal, and need (Weiner, 1992). These concepts construct the basic tenet of behaviourism, which considers motivation as an essentially observable and predictable variable. Cognitive theorists on the other hand believe that behaviour is determined by our thinking, not simply by whether we have been rewarded or punished for the behaviours in the past (Stipek, 1998). A cognitive approach focuses on a variety of thoughts and determinants of behaviour initiated and regulated by goals, expectations, attributions, and emotional states. Current cognitive approaches focus on a variety of determinants of motivation, which include attributions, information-seeking, metacognition, emotional states, and self-evaluations (Dweck, 1999; Elliot & Dweck, 2005; Pintrich, 2000; Schunk & Pajares, 2005; Weiner, 2001). One of the central assumptions is that people's response to external events is based on their interpretations of these events. With an emphasis on intrinsic motivation, cognitive theories assume that, "the person is Godlike, possessing a mind, with complete rationality and full knowledge" (Weiner, 1992, p. 157). Humans are seen as active and curious in their search for information to solve personally relevant problems.

In a further stage of theory development, the social-cognitive approach has emerged in the last several decades with a focus on the way young learners understand a situation, interpret events and process information about the situation. The approach emphasises specific psychological processes that are built around goals. But goal-directed behaviour is not just a result of a certain personality trait as both cognitive and affective factors are recognised to produce motivational patterns (Heckhausen and Dweck, 1998). The thrust of the social-cognitive approach lies in the dynamic interplay of psychological processes that guide and organise patterns of cognition, emotion, and behaviour as students pursue their goals in their social world. Theories built under this

approach have significant relevance for teachers and schools in developing intervention strategies to help students' learning by identifying and explaining adaptive and maladaptive patterns in achievement motivation (Dweck, 1986; Elliot & Dweck, 2005).

For the purpose of this thesis, achievement goal theory within the social-cognitive framework will be focused on in the discussion and exploration of achievement motivation of adult students. While there are many motivation theories that can offer a sound theoretical basis for understanding academic achievement, the conceptualization of achievement goal theory incorporates important constructs that are grounded on a number of theories. In exploring student motivation as goal-directed activity, achievement goals reflect the desire to develop, attain, or demonstrate competence at their studies (Dweck, 1986), and they can influence the way that students approach and experience their course work. As such, achievement goal theory considers theoretical constructs such as attribution, goal orientations, implicit theories of intelligence, self-efficacy, intrinsic and extrinsic motivation, self-regulatory learning, helplessness and self-handicapping and so forth. All of these are contemporary motivation constructs related to achievement strivings that have been studied extensively in schools; and empirical research in the achievement goal area involving these constructs is still actively pursued, with the majority of studies taking place in the US and European countries.

1.1.3   Achievement Motivation of the Adult Learner

Educational psychologists' work in motivation and learning has centred primarily on the childhood and adolescent school years. Adult learners are often considered self-directed, autonomous and goal-oriented as suggested by the popular theory of andragogy (Knowles, 1978; Knowles, 1989). With this assumption, the literature on adult achievement motivation focuses primarily on the role of adult educators and instructional strategies with little concern for the learner's cognition (Schraw, 1998). Critics have accused that "educational psychologists have made few contributions to our present understanding of the nature and complexity of adult learning and development"

(Smith and Purchot, 1998, p. 5). It appears that decades of extensive knowledge built on young students' achievement motivation and literature about adult learning are separate entities with few common threads. This study seeks to explore if theories and research in young student achievement motivation in the West help in understanding the complex phenomena of adult motivation in academic settings in Hong Kong.

1.1.4 Student Motivation Across Cultures

A great majority of research and theories of achievement motivation has been carried out in Western countries, by Western scholars and researchers with Western students as their research targets. More recently, in acknowledging that cognition cannot be completely understood by studying only one's own culture, educational psychologists have become increasingly interested in research on the cultural context of motivation. Comparative research between the East and West[1] – terms which are rather vague but which we shall adopt in the first instance as others do – can be found in cognitive motivation theories in search of cultural similarities and differences (e.g. Eaton and Dembo, 1997; Pintrich and Schunk, 2002; Salili, Chiu and Hong, 2001). In general, research findings are in agreement that cognition, learning and motivation do vary across cultures. As a mediating factor, culture does affect one's motivation, goal orientation, attribution and learning strategies. For example, Chinese students are found to be more achievement oriented and intrinsically motivated than their anglo-american counterparts (Hong, 2001; Pintrich, Zusho, Schiefele and Pekrun, 2001; Grant and Dweck, 2001; Salili, Chiu and Lai, 2001). Yet, it should be remembered that most of the researches are still based upon school children and young adults in full-time university studies.

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[1] The terms "Western" and "West" are used to denote culturally Western people groups, e.g. American, Canadian, Western European, Australian; often individualist. The "East" refers to East Asian countries, e.g. China, Taiwan, Hong Kong, Singapore, Korea and Japan, which share a common Confucian tradition, referred as Confucian Heritage Culture (CHC). The CHC characteristics is detailed in section 2.4 of the Literature Review chapter.

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1.2   Purpose of the Study

The theoretical framework adopted in this study is based upon the social-cognitive framework, a triadic and dynamic perspective, which explains achievement motivation in terms of cognitions, self-perceptions and contextual environment.   Since adult learners are dynamic individuals whose academic motivation is affected by multiple variables such as age, gender, attitudes, values, family commitments, work, life roles and the learning environment (Brookfield, 1995), the social-cognitive framework can provide an all-round view of factors underlying adult student motivation. By examining motivation of Hong Kong adult part-time students, this study presents a learning and cultural perspective to the understanding of the motivation of adult learners who are brought up in a predominantly Confucian Heritage Culture (CHC), as well as in a westernised socio-economic environment.

1.2.1   Research Question

As said above, most of the achievement motivation theories are developed with school pupils in mind.   Yet adults who decide to continue education in a part-time learning mode are made up of individuals who have diverse background, richer life experiences, and different motives and goals.   Moreover, across the life span, cognitions and behaviours in academic settings change as one develops from childhood to adulthood. The lack of theoretical insight into adult achievement motivation in academic achievement suggests a need to explore the psychological, behavioural and environmental influences of adult learners.   As has also been said, much research has been carried out in western countries – particularly Britain and USA – and only recently has there been work in Asian countries and then only on younger learners. Little cross-cultural research exists that specifically examines achievement motivation among adult learners in the East.   Building on the above, a primary concern of the present study is to explore the content of the process of achievement motivation among part-time adult learners in an eastern culture. Specifically this study seeks to address the following research question:

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To what extent can achievement goal theory be transferred to explain part-time adult learners in Hong Kong?

In exploring the transferability of western achievement goal theory to adult learners in a Chinese culture - Hong Kong, the theory will be discussed under the social-cognitive framework in which three broad domains will be explored: personal factors, behavioural patterns and contextual environment. Details of these domains will be discussed in the next chapter. In the exploratory process, three affiliated questions related to the social-cognitive framework will be addressed:

1. Does achievement goal theory satisfactorily explain achievement motivation of Chinese adult learners with respect to personal factors?

2. Does achievement goal theory satisfactorily explain achievement motivation of Chinese adult learners with respect to behavioural patterns?

3. Does achievement goal theory satisfactorily explain achievement motivation of Chinese adult learners with respect to contextual environment?

1.2.2 The Scope of the Study

In this study, adult students are identified as persons over twenty-four years of age; they choose to study while maintaining their responsibilities in employment, family and other responsibilities of adult life (Justice & Dornan, 2001). Further, the study considers only adults in part-time degree studies. The academic programme can be offered by a local or overseas university, distance or face-to-face mode. The reason is to focus on academic (rather than vocational or interest) achievement motivation similar to that of school students in order to facilitate the exploration of the research question.

1.3 Research Approach

A heuristic approach is adopted in the study. The purpose is to explore people's understandings of their own motivations to gain insight into the degree of transferability of western theories about younger learners. In order to do this; data will be collected in two phases by using two qualitative methods, the Repertory Grid interviewing technique and focus group discussion. Phase one concerns identifying important variables that relate to achievement motivation as perceived by a sample of twenty-seven (27) part-time adult learners. The variables will be identified by the Repertory Grid Technique, which is rooted in Kelly's Personal Construct Theory (Kelly, 1955; Kelly, 1963). Briefly, Kelly claims that the world is 'perceived' by us in terms of whatever 'meaning' that we apply to it and we have the *freedom to choose* a different 'meaning' of whatever we want. We, as individuals, make sense of the world by 'construing' what we see and experience in terms of the words and ideas we would naturally use, and which experience has taught us in order to make sense of our world (Stewart and Stewart, 1981). In other words, in terms of our own personal constructs, motivation has different meanings to different people, and the Repertory Grid interviewing technique is a tool for getting people to reveal their construct system and their understanding of their motivations. The outcomes will be a set of important variables as revealed by the adult sample. In phase two, these variables will be validated by data triangulation using a smaller sample in the form of focus group discussion. In addition to triangulating data from the Repertory Grid interviews, which are about *what* adults say about their personal meanings of motivation; the focus group can tease out respondents' attitudes, feelings, experiences, beliefs and reactions for a more in depth understanding as to *why* people are saying it.

1.4 Organisation of the Remainder of this Thesis

Chapter two reviews the pertinent literature relating to achievement goal theory, effects of the Confucian Heritage Culture on student learning and motivation, and motivation of adult learners within a social-cognitive framework.

Chapter three describes the methodology employed in this study. It explains and justifies the use of Repertory Grid technique of construct elicitation and its research application. It then describes the focus group discussion, the process and relevance to this study.

Chapter four presents the findings of the Repertory Grid interviews revealing the personal construct systems used by part-time adult learners to construe the motivation of other students. It describes the procedures of content analysis and summarises key findings in a list of master constructs, which are important variables relating to motivation of part-time adult students. Data will be interpreted against Western literature in the social-cognitive framework.

Chapter five presents the findings of two focus group discussions highlighting comments, feelings, beliefs, experiences and insights relating to the important variables identified in the Repertory Grid data. Findings of the focus group discussions will be analysed against Western literature in the social-cognitive framework.

Chapter six presents a general discussion of the research results. It addresses the limitations and strengths of the study, discusses the implications of the research findings, and addresses the research questions.

Chapter 2   A Review of the Literature

2.1   Introduction

Over the past two decades, achievement goal theory has emerged as one of the dominant theories of motivation (Elliot, 2005; Pintrich & Schunk, 2002). Achievement goal theory posits that students' motivation can be understood as attempts to achieve academic goals (Dweck, 1986; Dweck & Leggett, 1988). The basic belief is that students' behaviours are a function of desires to achieve particular goals. Within a social-cognitive framework, the theory has been developed to emphasise the importance of how students think about themselves, their learning tasks, and their academic performance. Furthermore, the theory also emphasises the interactions of personal factors, behavioural patterns and the contextual environment and their effects on achievement motivation. The purpose of this chapter is to critically review the current body of knowledge of achievement goal motivation theory in a social-cognitive framework as related to school children in the Western societies[2], Chinese students and adult learners and to discuss the relationships among them.

The chapter is divided into four parts – (1) a discussion of the social-cognitive framework and its relevance to achievement goal theory, (2) achievement goal theories as introduced in the West, (3) cultural characteristics and motivation of Chinese students in Confucian Heritage Culture (CHC), and (4) theories about adult learners and learning.   Because the social-cognitive framework emphasises the interactional relationship of three factors, person-cognition, behaviour and environment, each part of this literature review will address these three components accordingly. It will be shown that while the study of achievement goal motivation based on younger students in the West is well formulated, the relevance of such theories in the Chinese culture is just

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[2] The terms "Western" and "West" are used to denote culturally Western people groups, e.g. American, Canadian, Western European, Australian; often individualist. In contrast there are within Asia groups who are considered Confucian Heritage Cultures, e.g. China, Taiwan, Hong Kong, Singapore, Korea, and Japan, with a collectivist tradition (Biggs, 1996).

beginning to be explored. With reference to motivation of adult learners, the literature will show that it is studied with the general assumption of adults being self-motivated in mind. Hence, research on achievement goal motivation of adult learners is sparse and fragmented, with few links with the currently available knowledge on achievement goal theory.

The review of literature will emphasise the achievement process in general, which relates achievement motives and goals to achievement behaviour and learning strategies. Given the exploratory nature of the current study, research findings and analyses about causality and correlations of achievement processes and outcomes is not an emphasis and will not be critically discussed.

In general, it will be shown that little research exists that specifically examines achievement goal motivation of adult students in the Chinese cultural context. A primary concern of the present research is to explore achievement goal motivation of part-time adult students in Hong Kong, and to examine the extent to which literature developed in the West can be applied. Thus, the presentation of the following tends to emphasise research findings associated with relevance and transferability of achievement goal in the West to adult learners and Chinese learners in Confucian Heritage Culture (CHC).

2.2   Social Cognitive Approach to Motivation

Social-cognitive theory posits there is an interrelation between an individual's cognitive processes and the social environment (Bandura, 1986; Pintrich & Schunk, 2002). The theory has its origins in the social learning theory, which incorporates the principles of learning from a behaviourist aspect as well as an emphasis on cognitive variables. Whereas strict behaviourism supports a direct association between stimulus and response, social learning theory asserts that there is a mediator (human cognition) between stimulus and response, placing individual control over behavioural responses to stimuli (Bandura, 1986). Social cognitive theory incorporates the insights and expands

the social learning theory to include self-perceived competence and self-regulatory processes in explaining an individual's behaviour.

The social cognitive perspective interrelates three factors in explaining a person's motivation: (a) cognition-personal, such as motives, goals and beliefs about ability; (b) environmental, such as family, the classroom environment and culture; (c) and the behaviour or performance of the person, such as persistence after receiving a low grade and self-regulatory learning strategies. These three factors interact through a process that Bandura (1986) termed reciprocal interaction, in which each factor affects the other two. These factors are shown in Figure 2.1. As a process-oriented approach, social-cognitive theories attempt to identify the specific variables (such as beliefs, values, and learning strategies) that play critical roles in students' pursuit of their goals.

Figure 2.1. Model of triadic reciprocity
Adapted from Pintrich & Schunk (2002)
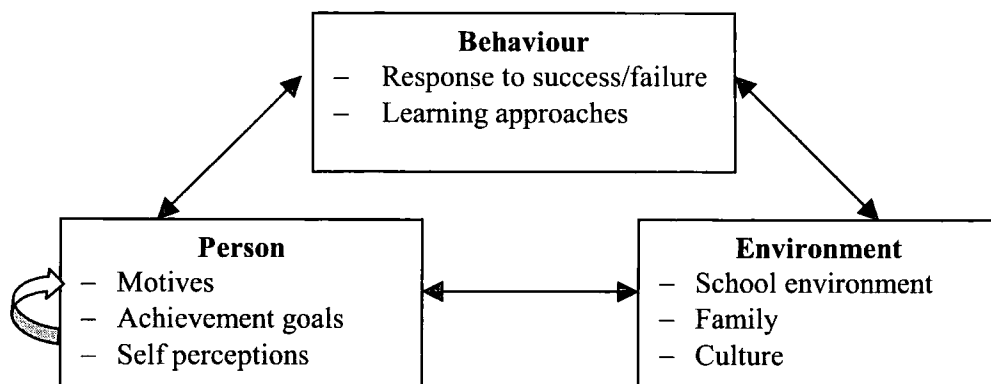
Within the interactional framework, the environment, the individual's behaviour, and the individual's characteristics both influence and are influenced by each of the other two components. It should be noted that the direction of influence among the three components is not always the same. Further, this reciprocal interaction does not imply that all sources of influence are of equal strength. Some sources of influence are stronger than others and they do not all occur simultaneously. In fact, the interaction between the three factors will differ based on the individual, the particular behaviour being examined, and the specific situation in which behaviour occurs (Bandura, 1993).

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The small loop emanating from the personal factor shown in figure 2.1 refers to the nature of mutual influences among various cognitive factors such as motives, expectations, beliefs, self-perceptions, and goals, as well as biological factors such as gender, ethnicity, temperament, and genetic predisposition (Bandura, 1986).

The reciprocal nature of motivational factors can be found in many motivation theories; the work of Ames (1992), Brophy (2004), Covington (1984, 1992), Deci and Ryan (1985), Dweck (1986), Dweck and Leggett (1988), Elliot and Covington (2001), Galloway, Rogers, Armstrong, and Leo (1998), and Pintrich (2000) have components of social cognitive views on motivation. The approach is considered particularly appropriate for this research because the reciprocal causation among three influence processes captures the role of cognition, behaviour and the contextual environment in the analysis of student motivation. Motivation of part-time adult students in achievement situations can be realistically discussed as a dynamic interplay of psychological processes in a triadic and reciprocal fashion.

In summary, the social cognitive approach considered in this thesis comprises of three specific areas of literature - the effects of cognition on achievement goal motivation that includes individual differences in goals, beliefs and self-perceptions, behavioural responses and the contextual environment in three perspectives, the Western view, the Chinese view and the adult view. The next section focuses on achievement goal theories developed by Western researchers. First, research that focuses on the effects of cognition on motivation will be discussed. This will be followed by an analysis of behavioural responses and contextual determinants of achievement motivation.

2.3   Achievement Goal Theories

In this study, motivation is conceptualised in accordance with achievement goal theories, arguably one of the dominant theories of motivation today (Elliot, 1999). Achievement goals have been described by Ames (1992, p. 261) as "an integrated pattern of beliefs, attributions, and affect that produces the intentions of behaviour...

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represented by different ways of approaching, engaging in, and responding to achievement-type activities." Therefore, key achievement goal constructs, for example, beliefs about self, attribution made to success and failure, the effect of goals in achievement processes, and behavioural responses to challenges and setbacks, will be included in this review. Achievement goal theory was developed within a social-cognitive framework and focuses on explaining how students' goal orientations influence achievement-related behaviour and outcomes (Ames, 1992; Dweck, 1986; Dweck & Leggett, 1988). In accordance with the triadic process of the social-cognitive framework, literature related to achievement goal theories are discussed in three aspects: cognition, behaviour and context.

2.3.1 The Effects of Cognition

Three cognitive areas are identified in the psychological processes in achievement goal motivation – achievement motives and goals, goal orientations, and self-perceptions. These are considered the central constructs of achievement motivation (Elliot & Dweck, 2005).

2.3.1.1 Achievement Motives and Goals

In determining individual motive for students' motivation to learn, motivation theorists share the view that achievement behaviour is an interaction between situational variables and the individual's motive to achieve. Two motives are directly involved in the prediction of behaviour, implicit and explicit (or self-attributed); these motives are conceived of as two different kinds of motivational constructs having specific functions and behavioural effects (Schultheiss & Brunstein, 2005). Of direct relevance to achievement goal theory is the notion of achievement motives, in which two aspects can be identified: the motive to approach success (nAch) and the motive to avoid failure (fear of failure). The achievement motive approach posits that nAch is an approach motive that orients individuals toward success whereas fear of failure is an avoidance motive that orients individuals toward failure (Elliot, 1999). In recent theorising of

achievement goals, achievement motives were viewed as antecedents of achievement goal adoption, and these goals, in turn, directly regulated achievement behaviour (Elliot and Church, 1997). The relationships between achievement motives and achievement goals will be discussed further following the review of goal orientations.

2.3.1.2 Goal Orientations

The term 'orientation' refers to a wide ranging framework that incorporates patterns of beliefs and feelings about success, effort, ability, feedback and standards of evaluation in achievement motivation. These beliefs and feelings are interrelated within each type of goal. Since the 1980s, research on goal orientations has resulted in development of the initial two-goal dichotomy, to the three-goal trichotomy and the most recent proposition of a four-goal 2 x 2 goal framework. Despite the changes in goal typology, two orientations of goals remain unchanged; they are mastery (or learning) goals and performance goals.

2.3.1.2.1 Mastery Goals

The point of a mastery goal is to improve and to learn in spite of obstacles (Seifert, 1995). Students with mastery goals tend to seek challenges and persist when they encounter difficulties and they tend to believe that effort is the cause of success or failure (Dweck and Leggett, 1988). Studies have found that students who adopt a mastery goal orientation engage in activities that are directed at gaining deep knowledge, skills and competence (Ames & Archer, 1988). Such students are self-regulated learners, able to use appropriate cognitive and metacognitive strategies effectively to cope with challenges of the task (Ames, 1992; Pintrich, 2000). An intrinsically motivated student tends to focus on tasks he or she enjoys or tasks that give a sense of personal mastery. Nicholls (1989) calls these students task-involved learners because they are concerned with mastering the task and are not worried about how their performance "measures up" to others. Mastery goal oriented students are likely to attribute success and failure more to effort than to ability, and have a high sense of self-

competence and self-esteem (Pintrich & Schunk, 2002). Hence, they are willing to work hard and show resilience in the face of failure. Studies have shown that mastery goal orientation is positively related to academic performance such as task engagement and an intrinsic value for learning (Ames, 1992: Meece, Blumenfeld and Hoyle, 1988). The pattern of behaviour associated with mastery goal is considered adaptive in the Western literature (Dweck & Leggett, 1988; Maehr & Midgley, 1991).

2.3.1.2.2   Performance Goals

In early work in goal orientations, a two-goal dichotomy – mastery and performance goals, was identified. Students with performance goals care about demonstrating their ability to others and they concentrate primarily on how their performance will reflect on their perceived ability and sense of self-worth. They view ability, rather than effort, as the strongest determinant of outcome (Dweck and Leggett, 1988). These students have an especially strong need to be perceived as able, and they think of ability in terms of outperforming others and winning approval (Ames, 1992). Theorists tend to relate performance goals to avoidance, lack in motivation, and less stamina toward mastering a task (Church, Elliot & Gable, 2001).

Drawing on extensive research with students from preschool to college, Dweck and her colleagues made a case for the mastery-performance goal distinction. General characteristics of these two orientations toward academic achievement are summarised in Table 2.1. Since mastery goals concentrate on developing competence and performance goals focus on the demonstration of normative competence in relations to others, students with mastery goals are thought to be more motivated and persistent; and performance goals oriented students are generally believed to be less adaptive and resilient.

Table 2.1. Comparing Goal Orientations
Adapted from Ames & Archer (1988), Dweck (1999), Dweck & Leggett (1988),
and Nicholls (1989)

Characteristics	Mastery Orientation	Performance Orientation
Value of & attitude towards learning	Learning has an intrinsic value. Focus on understanding and increase learning.	Learning is not an end in itself. Focus on looking smart and not looking stupid
Effort/ability	Effort and ability are related. Effort enhances ability.	Ability is capacity. Effort means lack of ability.
Persistence	High persistence in difficult tasks.	Low persistence in face of difficulty.
Challenge	Seeks challenge.	Avoids risk taking and challenge.

2.3.1.2.3   Performance Approach and Performance Avoidance Goals

However, the single dimensional construct with good and bad outcomes was questioned and argued that performance goal orientation may not be less adaptive. Based on the historical root of approach and avoidance in the achievement motivation literature (see Elliot & Covington, 2001), and the results of two manipulated laboratory studies with undergraduate students, Elliot and his colleagues proposed a trichotomous framework in which performance goals are sub-divided into performance approach and performance-avoidance goals (Church et al., 2001; Elliot, 1999; Elliot & Covington, 2001, Elliot & Harackiewicz, 1996). They suggested that individuals can be positively motivated to try to outperform others and to demonstrate their competence and superiority, reflecting an approach orientation to the general performance goal. In contrast, individuals can also be negatively motivated to try to avoid failure and to avoid looking stupid or incompetent, what they label an avoidance orientation to the performance goal. In either case, their judgment of their competence is based on normative comparisons with the performance of others (Pintrich, 2000).

The goal trichotomy framework has also integrated achievement motives as antecedents of the three achievement goals (Elliot & Church, 1997; Elliot & Trash, 1998). In their research involving undergraduate students, Elliot and Church (1997) found that the motive to approach success (nAch) was associated with the adoption of both mastery

goals and performance-approach goals, and the motive to avoid failure (fear of failure) was related to performance-avoidance goals.

2.3.1.2.4   The 2 x 2 Achievement Goal Framework

In the dichotomy and trichotomy models, mastery goals have been discussed and researched only in terms of an approach orientation; students were assumed to approach this goal, not avoid it. Both Elliot (1999) and Pintrich (2000) have proposed a two-dimensional matrix crossing the performance-mastery and approach-avoidance distinctions. In the 2 x 2 framework, a mastery-avoidance goal was incorporated (Elliot & McGregor, 2001).

In the 2 x 2 framework, the approach-avoidance distinction is construed as representing how competence is valenced according to positive possibilities (i.e. success) or negative possibilities (i.e. failure) respectively. This valence-based processing is presumed to instantaneously evoke approach and avoidance behaviours. The performance-mastery distinction is construed as representing how competence is defined (according to a normative standard or a task-based or intrapersonal standard, respectively). Table 2.2 summaries the 2 x 2 framework that comprises four achievement goals: mastery-approach, performance-approach, mastery-avoidance, and performance-avoidance (Elliot, 1999).

2.3.1.2.5   Mastery-Avoidance Goals

Although there has been little empirical research on a mastery-avoidance goal, there might be occasions when students are focused on avoiding not mastering the task (Elliot, 1999). The basic difference between mastery-approach and mastery-avoidance goals is that, with mastery-approach goals one wants to master learning tasks and is not worried about their ability to do so, whereas with mastery-avoidance goals, one wants to master learning tasks but is worried that he or she will not be able to do so. More specific examples can be drawn from questionnaire items describing mastery-avoidance

in Elliot & McGregor's (2001) studies with undergraduate students: "I worry that I may not learn all that I possibly could in this class", and "Sometimes I'm afraid that I may not understand the content of this class as thoroughly as I'd like".

In comparison with performance-avoidance goals, there are remarkable differences in the way one avoids achievement tasks. Mastery-avoidance goals entail striving to avoid losing one's skills and abilities (or having their development stagnant), forgetting what one has learned, misunderstanding material, or leaving a task incomplete. Performance-avoidance goals entail making effort in achievement situations with the aim of not being seen as stupid or inferior. Elliot (1999, 2005) also suggested that aging individuals, in general, may be concerned with not being able to master or do tasks they were able to do quite well in their youth, and that this mastery-avoidance goal could lead them to avoid trying these tasks or activities.

Table 2.2. The 2 x 2 Achievement Goal Framework
Adapted from Elliot & McGregor (2001); Pintrich & Schunk (2002)

Standards for Evaluating Performance

	Mastery orientation	*Performance orientation*
Positive – Approaching success	Mastery-approach goal Focus on mastering task, learning, understanding Use of standards of self-improvement, progress, deep understanding of task	Mastery-avoidance goal Focus on avoiding misunderstanding, avoiding not learning or not mastering task. Use of standards of not being wrong, not doing it incorrectly relative to task
Negative – Avoiding failure	Performance-approach goal Focus on being superior, being the smartest, best at task in comparison to others. Use of normative standards such as getting best grades, being top or best performer in class	Performance-avoidance goal Focus on avoiding inferiority, not looking stupid in comparison to others. Use of normative standards of not getting the worst grades, being lowest performer in class

Valence of Competence

2.3.1.2.6   Research Evidence

In a review of empirical work involving elementary to high school students (Elliot, 2005), mastery goals had been found with widespread positive effects on achievement process and outcomes, but performance outcomes, i.e. high marks, were not predicted by this goal orientation. Studies of College undergraduate students also suggested that mastery goals might predict interest whereas performance-approach goals might predict grades (Harackiewicz, Barron & Elliot, 1998; Harackiewicz, Barron, Pintrich, Elliot & Thrash, 2002). However, research examining performance-approach goals and educational outcomes has mixed results, with some indicating positive effects (Elliot, 2005), some negative effects and still some showing no effects (Midgley, Kaplan & Middleton, 2001). What this means is that students oriented to approach success and to develop their competences in mastery goals are not necessarily top students. It is those students who are concerned with demonstrating their abilities get good grades.

On testing performance avoidance goals, maladaptive patterns such as negative academic efficacy, avoiding help-seeking and test anxiety were found in six graders (Middleton & Midgley, 1997). Further evidence has also supported that adopting both performance and mastery goals have the advantages of resulting in positive outcomes such as higher interest and higher graded performance.

In general, mastery goals were consistently supported by experimental laboratory as well as field studies, in which direct and positive relationships with achievement processes and outcomes were identified (Elliot, 1999). Moreover, intrinsically motivated students were found to pursue mastery goals, react to set back and difficulties with adaptive behaviour, and adopt deep learning strategies (Ames, 1992; Dweck & Elliott, 1983; Dweck & Leggett, 1988; Elliott & Dweck, 1988). The effects of mastery goals were so convincing that Midgley et al. (2001) argued that they are the most beneficial orientation for all students across socioemotional, cognitive, and achievement outcomes. As such, schools, teachers and parents have been recommended to adopt the

TARGET[3] principles for fostering a high level of mastery orientation and minimising performance goal adoption (Elliot, 2005).

2.3.1.2.7   Multiple Goals and Multiple Pathways

Achievement goal theorists have initially assumed that different types of achievement goals are mutually exclusive. However, Pintrich (2000) suggested that there might be multiple pathways of achievement goals to learning via motivation, affect, persistence, and cognitive strategy use. It was suggested that adopting both mastery and performance-approach orientations might result in optimal outcomes. For example, higher level of self-efficacy and more adaptive cognitive and metacognitive learning strategies could result from mastery goals, while increased persistence and effort might be the result of performance-approach goals. Pintrich's (2000) multiple goals, multiple pathways model was supported by results of an extended longitudinal research with middle school students. The model argued that both mastery and performance-approach goals could promote academic achievement, but through different processes over time. Along a similar line of argument, Midgley et al. (2001) noted that not only goals were not bipolar, but there may also be interactions between performance-approach and mastery goals. Students are advised to adopt a selective pattern in achievement situations, for instance, pursuing mastery goals when they read texts with an aim to understand, but pursuing performance-approach goals when they prepare for exams with high grades in mind.

The multiple goal perspective has been found to be more prevalent in university learning than elementary and high school situations (Valle, Cabanch, Núñez, González-Pienda, Rodriguez and Piñeiro, 2003). It is argued that in university where demands are high, it is only logical that student pursue multiple goals simultaneously (Valle et al., 2003).

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[3] Mastery-related cues are conveyed by many aspects of a learning environment including the task, authority, recognition, grouping, evaluation, and time structures (TARGET).

2.3.1.2.8　　　The Future Time Perspective

Recent research has shown that a student's total motivation is more than a combination of intrinsic and extrinsic motivation (Husman & Lens, 1999; Husman, Derryberry, Crowson and Lomax, 2004; Simons, Dewitte, & Lens, 2000). Studies have argued that goal theory seemed to assume that students were focused on the present achievement situations; and that "goal theory does not discuss the motivational effects of instrumentality or future orientation" (Husman and Lens, 1999, p. 120).

The Future Time Perspective (FTP) theory suggests that learning and doing well in school are instrumental activities to their future goals, for example, a promising career or stable income. While it is recognised that the relation between motivation and instrumentality is complex, the distinction between intrinsic and extrinsic motivation needs to be elaborated to include present as well future goals (Husman & Lens, 1999; Simons et al., 2000). In reality, a person is often not only motivated by mastery and performance goals, or the possible immediate intrinsic and extrinsic reasons, but also by future consequences. Realistically, one's academic performance in terms of grades matters a lot, students who want to go on to top universities need good results. In other words, focusing on future consequences that are personally valued may lead to an adaptive learning approach (Simons, et al., 2000). Future time perspective theories suggest that perceiving the instrumentality of a present task (e.g. studying hard) for future goals (e.g. graduating with honours, starting a promising career, earning a stable income, and so forth) can enhance motivation, performance and persistence (Eccles & Wigfield, 1995; Husman & Lens, 1999). Therefore, in considering goals such as getting a good job or going to a good college, they do not really fit into the original meanings of performance or mastery goal. Rather, they are instrumental goals. Upon completion of each achievement task in a long motivational path, the person is one step closer to realising the goal.

So far the literature review has been focused on an overview of development of achievement goals. From a social-cognitive perspective, how students adopt

achievement goal orientations is affected by a host of different factors beside achievement motives. The next section will turn to review another cognitive area that has significant contributions to achievement goal adoption - self-perceptions.

2.3.1.3 Self-Perceptions

The study of the construct of self has a long history in psychology (see Pajares & Schunk, 2002). For goal theorists, understanding students' self-beliefs about themselves explain why some students choose certain activities and avoid others, why they succeed in some subjects and fail at others, or why they are optimistic or filled with fear at the thought of doing some tasks (Pajares & Schunk, 2002). In other words, whether students see themselves as able or helpless, as high or low in ability and competence, influences how they cope with achievement situations. In achievement goal theory, the study of self is probably best characterised by self theories, self-efficacy beliefs, self-concept beliefs, self-worth and the most recent addition of self-competence perception. However, the use of terminology has been found to be problematic due to the lack of coherence in the meaning and definition of the label self-perception, with the exception of self-efficacy, which was clearly defined by Bandura (1986, 1993 and 1997). Often self-perception is blended with other labels such as self-concept, self-awareness, self-image, self-schema, self-worth or self-evaluation (Schunk & Pajares, 2005). For clarity, the term 'self-perception' is adopted in this study for its generic appeal, and discussion is focused at the 'self' in academic achievement situations, and not in social or emotional cases. In subsequent discussions of self-perceptions, ideas from various concepts will either be incorporated or implied, for instance self-concept, self-confidence, self-esteem, self-efficacy, self-perceived competence and so forth. Two specific areas are selected for this part of the literature review - the implicit theories and competence perceptions.

2.3.1.3.1   Implicit Theories of Intelligence

In explaining why some students persist in the face of failure while others quit as soon as they encounter failure or difficulty, Dweck proposed that students' implicit beliefs about the nature of intelligence have a significant impact on the way they approach challenging tasks (Dweck, 1986, 1999). Based on Dweck's three decades of research with children and young adults, the implicit theories of intelligence suggest that students use two different concepts of intelligence, or ability. Dweck believes that students who hold an entity view of intelligence tend to enter achievement situations pursuing performance goals, seeking to look smart and protect their self-esteem (Dweck, 1999; Dweck & Leggett, 1988). In contrast, when individuals believe that their intelligence is malleable, they are more likely to pursue mastery goals, seeking ways to increase their skill level (Heymen and Dweck, 1998). If they fail, they assume that practice and effort will increase their chances of future success.

Empirical research of the theories had found that the two different views of ability had direct impact on achievement motivation (Dweck & Molden, 2005). Studies of seventh graders' maths strongly indicated that theories of intelligence predicted many variables that were important to achievement motivation (Robins & Pals, 2002; Trzesniewski & Robins, 2003, cited in Dweck & Molden, 2005). Table 2.3 summarises research findings of seventh graders by highlighting the relationships between the two different views of intelligence and motivational variables, such as achievement goal adoption, attribution effort beliefs, learning strategies, and academic performance. On the whole, incremental theory orients students in the seventh grade toward mastery goals, leads to effort attributions for setbacks and to increasing math grades. Conversely, students with an entity view of ability were oriented to adopt performance goals, inclined to belief that making effort was a sign of inability and attribute failure to the lack of ability. After a setback, the entity theorists tended to adopt avoidance strategies, trying to self-handicap themselves or do just enough to pass; as a result, their grades became worse after the setback. Research support is also noted in another study involving students from elementary and junior high schools in Greece (Leondari & Gialamas, 2002), in

which students' achievement goals were found to be related to their implicit theories of intelligence.

Because of the strong effect of students' implicit theories of intelligence on their adoption of achievement goals and outcomes, classroom interventions were designed to teach incremental belief; and improvement in performance and grades were recorded in several interventions with junior high school students (Black et al., 2003; Robins & Pals, 2002; Trzesniewski & Robins, 2003 cited in Dweck & Molden, 2005).

The entity-incremental distinction in the implicit theories has pointed to the importance of subjective perceptions of the meaning of ability. Another achievement self belief, the self-perceived competence, is addressed in the following discussion.

Table 2.3. Predicting motivational variables with implicit theories
Adapted from Dweck & Molden (2005)

Motivational variable / Implicit theories of intelligence	Entity theory (Ability as fixed)	Incremental theory (Ability as malleable)
Goals adoption	Performance goals	Mastery goals
Effort beliefs	Effort indicates ability deficiency	Effort as a means to be smart
Effects on attributions	Attribute setback to inability	Attribute set back to lack of effort
Effects on strategies after a setback	Avoidance strategies, self-handicapping	Adaptive strategies, mastery-oriented
Effects on grade	Deleterious, worse grades	Improvement in grades

2.3.1.3.2   Competence Perceptions

In analysis of achievement motivation, Elliot (2005) contends that competence is a conceptual core of the achievement goal construct. This idea is also evident in the trichotomous achievement goal framework, in which mastery goals were referred as the need to acquire and experience competence; performance-approach goals as the desire

to demonstrate competence; whereas performance-avoidance goals as the desire to avoid experiencing incompetence (Elliot, 1999). The effect of self-perceived competence to learn or perform can be seen in two extreme achievement behaviours - mastery and helplessness, which are resulted from the belief of "I can" and "I cannot" (Graham & Weiner, 1996). The belief that "I can" can be viewed as a person's belief about his or her personal competence in a given area to perform successfully, which in effect, is the essence of self-efficacy (Bandura, 1986). Self-efficacy is an ability construct that refers to individuals' beliefs about their capabilities to perform well; and it is probably the most developed and researched in its relations with motivation among other self-beliefs, for instance, self-esteem, self-confidence and self-concept. Effects of self-efficacy beliefs have been found to be positively related to effort, perseverance and resilience in adverse situations (Schunk & Pajares, 2005). In other words, the higher the sense of efficacy, the greater the effort, persistence, and resilience (Bandura, 1997). Researchers have shown that positive self-efficacy beliefs were positively related to academic outcomes, especially for high school and college students (Multon, Brown, & Lent, 1991, cited in Schunk & Pajares, 2005). Self-efficacy is also related to self-regulated learning variables and use of learning strategies. Zimmerman (1989) found that confident students engage in more effective self-regulatory strategies in their learning.

Generally there seems to be agreement among achievement goal theorists regarding the positive relations between self-perceptions of competence and intrinsic motivation and mastery goals (e.g. Deci & Ryan, 1985; Elliott & Dweck, 1988; Meece et al., 1988; Seifert, 1995). Individuals who develop and maintain positive perceptions of their abilities tend to have higher expectations of success, high levels of control over learning, and high intrinsic motivation (Covington, 1992). Moreover, Eccles & Wigfield (1995) reported results of their field studies with elementary and junior high school students and concluded that students with high perceived competence received higher grades than those with lower perceived competence. On the other hand, individuals with performance-avoidance goals who doubt their ability, often avoid tasks perceived to be challenging, show decreased performance, and low persistence when

they encounter difficulties (Ames & Archer, 1988; Dweck, 1999; Dweck & Leggett, 1988).

Research evidence has strongly suggested that self-perceptions of one's ability, as a mediator in achievement motivation, were strong predictors of academic outcomes. Similar to achievement motives, competence perceptions are presumed to orient students toward success or failure and are posited to have an indirect influence on achievement behaviour.

In this part of the literature review, both the implicit theories of intelligence and competence perception were discussed in terms of their role and effects on achievement motivation. It was shown that self perceptions, as a component of the person-cognition variable in the social-cognitive framework, have significant impact on students' subjective meaning systems of ability and subsequent goal adoption, intrinsic motivation, effort, persistence, learning strategies and achievement outcomes. It needs to be pointed out that, while it is recognised that concepts such as self-efficacy and self-concept, in the strictest sense, have different meanings (e.g. see Pintrich & Schunk, 2002, p. 66); yet for clarity, competence perceptions, as a construct, has been adopted with a global and generic understanding in mind. Meanwhile, it should be remembered that the majority of empirical evidence that shows strong support for influences of self-perceptions on achievement variables was based on experiments and field studies with elementary and high school students in North America and Europe. Whether the findings can be applied to adult learners and across cultures remain to be explored in this study.

2.3.1.4   Summary

From the review of literature relating to the cognitive aspects of achievement goal theories, it is noted that the majority of work has been drawn upon extensive empirical research based on experiments and field studies with school children and young adults in full time studies in North America and Europe. These studies consistently suggest

that students with mastery goals tend to adopt adaptive learning strategies, and persist in the face of obstacles, even when perceptions of ability may be low (Ames & Archer, 1988; Elliott & Dweck, 1988; Grant & Dweck, 2003). On the other hand, findings on negative outcomes of performance goals have been quite inconsistent, suggesting performance goals do not always produce maladaptive patterns of learning (Elliot & Church, 1997; Midgley et al., 2000). The latest addition to achievement goal literature, mastery-avoidance goals, is proposed to be more relevant for older students but has yet to be tested.

It has been suggested that teachers should develop mastery-orientation and incremental beliefs about intelligence in students by retraining them to believe that it is effort that makes a difference in their success or failure, rather than ability (Craske, 1988; Dweck, 1999). The view exemplifies the personal-behavioural interaction in a social cognitive framework. Research shows that students' self-perceptions influence such achievement behaviour as choice of tasks, persistence, and effort (Covington, 1992; Dweck, 1999; Valle et al. 2003). The following section presents an overview of behavioural responses in achievement situations.

2.3.2 Behavioural Responses

In social cognitive theories, "behaviour is a product of both self-generated and external sources of influence" (Bandura, 1986, p. 454). Having reviewed the personal cognitive component, attention is now turned to examining the behavioural components, in which patterns of behaviour can provide observable cues for understanding student motivation. In the current research, two behavioural perspectives are considered in this review – adaptive/maladaptive responses and learning strategies.

2.3.2.1 Adaptive/Maladaptive Patterns

Adaptive Pattern. The first pattern evident from research is the mastery pattern. This pattern is synonymous with Dweck's (1986) mastery goal-pursuit pattern and

Covington's (1984) success orientation. Students characterized by this pattern tend to display positive affect, flexible and adaptive strategy use, and deep cognitive engagement in the task. They tend to persist at difficult problems and learn from their mistakes.

Dweck's (1999) implicit theories emphasise that the mastery pattern is driven by a strong sense of *self*. Mastery students have a sense of competence and self-determination that gives rise to mastery goal pursuit (Bandura, 1993; Seifert, 1997). These students are confident in their capabilities to do the work (high self-efficacy) and believe that they are 'masters of their fate'. That is, they have a strong sense of control and tend to make internal, controllable attributions for success and failure and are unlikely to make external attributions for success or failure. According to Dweck (1986; 1999) students with an incremental view of intelligence tend to develop mastery patterns with respect to achievement. "Incremental theorists," as Dweck (1999) calls them, are interested in learning and mastering challenges. Following failure, they remain confident that they can succeed by revising their strategies and increasing their efforts. The same kind of persistence can also be seen in a person with a strong intrinsic motivation (Ames, 1992; Dweck & Leggett, 1988).

Research findings of five studies revealed that undergraduate students who endorsed mastery goals were more likely to see setback as information about ways to improve the learning process, rather than as indicators of low ability (Grant & Dweck, 2003). The same studies also reported that mastery-oriented students adopted more self-regulated methods, such as active coping, planning in response to failure. Another study showed that children who adopted performance-avoidance goals tended to have lower academic efficacy and avoided seeking help in the classroom (Middleton & Midgley, 1997).

In short, the kind of adaptive behaviour found in a mastery pattern include seeking challenging tasks, strong persistence by exerting more effort in the face of setback, and engaging in self-regulating behaviour for positive achievement outcomes.

<u>Maladaptive pattern</u> is characterized by less sophisticated strategy use, a tendency not to process information related to success and to make more negative self-statements. The pattern is sometimes related to failure avoidance behaviour. What drives the failure avoidance behaviour may be a desire to maintain positive competence perceptions and protect self-worth. Self-worth theory states that one way to avoid threat to self-esteem is by withdrawing effort (Covington, 1984). In maintaining their competence perceptions, and hence, self-worth, these students tend to make internal, stable, uncontrollable attributions for success and failure (Weiner, 1992). Consequently, they tend to believe that outcomes are beyond their control. As students experience a decline in confidence they begin to adopt failure-avoiding behaviours in an attempt to minimize threats to self-worth. Studies of school children and college students show that performance-avoidance goals are more likely to produce avoidance response patterns such as preferences for easy tasks, withdrawal of effort in the face of failure, and decreased task enjoyment particularly in cases where current perceptions of ability were low (Ames & Archer, 1988; Elliot & Church, 1997; Elliot & Dweck, 1988). Consequently, this avoidance orientation creates anxiety, task distraction, and a pattern of helpless achievement outcomes.

The maladaptive pattern of learned helplessness is characterized by an unwillingness on the part of the student to engage in tasks because he or she believes that effort is futile and failure is imminent. The student believes that the outcomes are beyond his or her control, and, regardless of one's actions, the outcome is the same. Studies showed that university students with performance goals tended to engage in denial and behavioural disengagement after experiencing an academic setback (Grant & Dweck, 2003). They blame themselves for failure. They experience much shame and humiliation, boredom and hopelessness. According to Dweck (1986; 2002) Children with an entity view of intelligence are prone to learned helplessness. The "entity theorists," as Dweck calls them, may try to simply avoid challenging activities. Or, they may also attempt things exceedingly difficult so that they have an excuse for failure. Because entity theorists believe that success is linked to intelligence rather than effort, students think they must

continue to be successful to be seen as intelligent and that failure implies a lack of intelligence.

Another maladaptive behaviour is self-handicapping, an avoidance strategy that focuses on creating impediments to successful performance on tasks that the student considers important (Covington, 1992). Different variety of behaviours have been suggested as examples of self-handicapping, including procrastination, lack of effort, illness, shyness, excuses, moodiness, drug or alcohol use, lack of sleep and over involvement with friends or activities. Unlike helplessness, which is related to avoidance-performance goals, self-handicapping can be a result of both performance-approach and performance-avoidance goals (Urdan & Midgley, 2001). Handicapping has been said to be born out of a fear of failure and the motive to avoid the negative implications about ability. It can serve as both an esteem-protective strategy by taking steps to protect self-esteem by withdrawing effort, thereby creating an explanation other than lack of ability for the failure (Urdan & Midgley, 2001).

Behavioural response in terms of a student's adaptive or maladaptive pattern was discussed in relation to beliefs about intelligence and achievement goals. The patterns of behaviour describe attitudes, reactions and actions of individual students when they are confronted with failure and obstacles. In academic achievement situations, the only tangible measure of success is results, marks and grades. Therefore, students' approaches to study can be crucial to the outcomes. The next discussion of learning approaches will conclude the behavioural component of the theoretical framework.

2.3.2.2 Approaches to Learning

Earlier researches to learning approaches identified two approaches to learning: deep-level and surface-level (Marton and Säljö, 1976). The deep approach emphasizes an intention to understand. The learner develops understanding and makes sense of what is learned, for example, the author's arguments; the relation of concepts to real life experience. Entwistle (1988) suggests that a deep approach has its roots in an intrinsic

orientation and sophisticated conception of learning and students tend to persist when learning becomes difficult. The strategies associated with the deep approach include cognitive and metacognitive learning such as wide reading, reflection, and relating it to previous knowledge and experience (Vermunt, 1998).

On the other hand, students adopting a surface approach direct their attention to learning the text itself in a reproductive conception of learning. According to Entwistle (1988), a surface approach derives from an extrinsic orientation and a simple conception of learning as memorisation. It involves an intention merely to satisfy course requirements, seen as external impositions largely remote from personal interests. Strategies involve investing a minimum amount of time and energy to avoid failing, memorizing selected content without understanding. Many students using the surface strategy have been found to be successful because deep level learning is just not required to satisfy many examination requirements (Vermunt, 1998).

According to Marton and Säljö (1976), students may adopt either deep or surface approach based on their expectations of what is required of them in the learning context. Sometimes, situational demands (e.g. the format of assessment) may influence a student to adopt a deep or surface approach.

2.3.2.3   Summary

A summary of this section is outlined in table 2.4, which relates deep and surface approaches to learning to motives, goal orientations, the implicit theories of intelligence, behavioural patterns, learning strategy and persistence. Patterns within each column indicate relationships that are supported by research in the area. The table shows that there are relationships between the deep approach to learning and a motive to approach success, mastery goal orientation, an incremental view of intelligence, adaptive behaviours, use of self-regulated strategies and persistence in the face of setback. Similarly, the surface approach is related to a fear of failure motive, a performance-avoidance orientation, an entity view of intelligence, maladaptive

behaviours, use of avoidance strategies with an attempt to minimize effort and vulnerability to failure.

Table 2.4   Summary of Behavioural Responses

	Deep Approach	Surface Approach
Primary motive	Approach success	Avoid failure
Goal orientation	Mastery	Performance-avoidance
Implicit theories of intelligence	Incremental view	Entity view
Behavioural patterns	Adaptive	Maladaptive
Learning strategy	Self-regulated strategies	Avoidance strategies
Response to setback	Persistence	Vulnerable

2.3.3   Contextual Factors Affecting Student Motivation

Motivation to learn and to achieve does not exist in a vacuum; rather it is an external and internal process (Ames & Ames, 1984a). Environmental factors can have a direct as well as indirect effect on the adoption of achievement goals (Ames, 1992; Elliot, 1999; Maehr, 1984). Four widely recognised contextual factors will be discussed in terms of their effects on student motivation; the factors include the role of the teacher, the school and classroom environment, family and the cultural environment.

2.3.3.1 The Role of the Teacher

Teachers' daily interactions with students enable them to most directly shape students' attitudes. Empirical studies have suggested strongly that motivational style can be influenced by changes in the student's experience in the teachers, among other aspects such as curriculum and the school organisation (Galloway et al.,1998). Since students differ in their self-perceptions and beliefs about their abilities, which lead to different attributions and subsequent responses in achievement situations. A teacher can foster the positive beliefs that lead to adaptive learning behaviours and to minimise the negative beliefs that inhibit learning (Stipek, 1998). A teacher can also encourage students to set mastery goals that are realistic and moderately challenging for them to

feel efficacious. On nurturing intrinsic motivation, a teacher needs to energise and arouse students' interest and curiosity in planning lessons and instructional methods effectively.

2.3.3.2 The School and Classroom Environment

Although teachers can stimulate students' involvement in and enjoyment of learning, their effort will be diminished if school-level policies, procedures, and values run counter to those at the classroom level (Lumsden, 1999). Some schools and classrooms are strongly oriented toward competition rather than co-operation, which can make it more difficult for some students to convince themselves as competent. When undue emphasis is placed on relative academic ability rather than progress and improvement, less able students are more likely to resort to maladaptive strategies with the intent of avoiding failure or minimising the negative meaning of failure (Covington and Omelich, 1979).

2.3.3.3 Family

Several studies have found that parents play a key role in shaping students' aspirations and achievement (Beyer, 1995; Paulson, 1996). Family factors such as parental support and expectations for their children seem to exert some influence on their achievement motivation (Beyer, 1995). Paulson (1996) indicated that parental involvement has a positive effect in adolescent achievement. Beyer (1995) also indicated that parental academic encouragement fosters children's cognitive development, grades, scores on standardized tests, and educational aspirations. Research in this area has suggested that pleasing parent, parental pressure, and responsibility felt toward one's family are strong motivations for achievement in the Asian context (Salili, 1996; Salili, Chiu and Lai, 2001).

2.3.3.4 Cultural Influence

Maehr (1974) maintained that the development of achievement motivation must be examined from the context of the individual and the cultural group of which he or she is a member. Achievement-motivated behaviour thus varies from culture to culture. Different cultures may hold differing orientations toward the concept of achievement, and may base success upon goals that differ significantly from one another.

According to Salili, Chiu and Hong (2001), the context of learning can be viewed at different levels. At the level of school and classroom, the context is reflected in students' perception of classroom environment, the nature of the learning task, assessment methods, attitudes and expectations of peers and teachers, students' interactions with their peers and teachers, as well as the school culture in general. At a general level, context of learning is influenced by the culture of a society. The prevalent norms, values and beliefs in a society are reflected in its cultural practices and expectations in different life domains. As Salili (1997) argued, "cultural values mediate achievement cognitions and behaviours and that achievement will mean different things and be manifested in different ways in people of different cultures or circumstances" (p.73).

There has been a growing interest in the cross-cultural investigation of achievement and motivation since several international studies have repeatedly documented the underachievement of American students when compared to their Asian and European counterparts (Bempechat & Elliott, 2002). In their efforts to place these achievement differences in cultural context, many researchers have been examining the ways in which culture exerts its unique influence on academic achievement. As noted in an earlier review of the literature, the great majority of the research supporting social cognitive theory comes from research in Western countries. Further, Biggs & Moore (1993) argue that while there may be some general principles of how humans learn, yet educators still need to be sensitive to the learning contexts and the characteristics of the learners involved.

2.3.4 Summarising Achievement Goal Theory

In the entire section of 2.3, literature of achievement goal theory has been discussed in three inter-related components as stipulated in the social-cognitive framework. In summarising this review, several prominent features emerge that characterise achievement goal theory in its different forms of development.

1. All the achievement goal literature cited is based on extensive research with school children and undergraduate young adults in developed western societies.

2. An avoidance orientation to goals is generally considered undesirable because it is related to negative behavioural patterns such as self-handicapping and surface learning.

3. An approach orientation is generally accepted as more desirable because of its positive effects on behavioural responses (e.g. self-regulatory learning).

4. A mastery approach achievement goal is regarded as most beneficial for students because of the related positive outcomes such as adoption of adaptive learning strategies, persistence and academic performance. Therefore, this goal is recommended for students and teachers are to encourage students in adopting mastery goals.

5. Two factors moderate goal adoption – implicit theories of intelligence and competence perception. Students with an incremental belief about intelligence tend to adopt mastery goals and persist in face of difficulty. Students with a strong belief in self-competence tend to have higher academic results, adopt self-regulating strategies and be oriented towards success. Consequently, schools and teachers are suggested to design intervention strategies to help students develop an incremental view of intelligence and optimistic belief in self competence.

6.   The latest addition of mastery-avoidance goals is incorporated in the 2 x 2 goal framework (see section 2.3.1.2.5 and table 2.2). Mastery-avoidance goals are proposed as more prevalent for older learners but the area is currently under-researched.

7.   Contextual environment, particularly the context of learning in school and classrooms is important in affecting students' motivation.

Early goal researchers tended to characterise achievement goal as personal dispositions (e.g. Dweck, 1986). More recently, however, researchers have conceptualised achievement goals as context-bounded constructs, highlighting the importance of various contextual variables in affecting specific achievement goal (e.g. Ames, 1992; Meece et al., 1988). Of particular interest here are the shared meanings and goals of learning and achievement in a given culture. In every culture, there are beliefs and expectations about what is worth doing, how hard to work and how to go about accomplishing one's goals. The following section will discuss the meanings of achievement and what is considered to be an important achievement goal in Chinese culture.

2.4   Student Motivation in the Chinese Context

Due to the diverse presence of Chinese in the world, Chinese, in this study is defined by those Chinese who identify themselves as being Chinese in places where they normally exist, in classrooms not in experimental laboratories for the sake of research. Given that most of the East Asian societies such as those of China, Taiwan, Hong Kong, Singapore, Korea and Japan share an obvious Confucian tradition, they are referred to as Confucian Heritage Culture (CHC) countries. It is interesting to note that these CHC countries had and still have different political and economic systems, while their students are known for their high academic performance internationally. The Confucian influence seems to transcend such features of national life. The following discussion covers a general overview of the Confucian Heritage Culture, which is followed by a

discussion of the mindsets and learning of the Chinese learners. The review ends with an analysis of achievement goal motivation of the Chinese CHC students in a social cognitive framework.

2.4.1 Cultural Heritage and the Meaning of Education

Confucianism, in its most basic form, deals with man's relationships with fellow man. This ancient Chinese philosophy describes a system of moral, social, political, and religious thought that has influenced Chinese civilisation up to the 21st century. Despite a traditional stress on education in Confucianist cultures, it is recognised that the conceptions of Confucianism on learning are highly complex. Thus, the present scope and focus of this review does not allow for engaging in an in-depth discussion. Several cultural characteristics relevant to education and learning are highlighted below.

2.4.1.1 Importance of Education

Education has a high status among Confucian traditional values; children are taught the ancient saying that "all jobs are low in status, except study which is the highest". Education is perceived as important not only because of its being a social ladder in the social hierarchy, but as an intrinsic development towards the betterment of the whole person (Lee, 1999). Educational achievement is highly valued within Chinese society, and its teaching emphasises "a product, not a process" (Biggs, 1996, p. 55).

Asian parents' expectations for their children are so high that they are more concerned about their performance rather than how much is learnt. This is because educational achievement is generally believed as the means for better career prospects and financial rewards (Sue & Okazaki, 1990). Across the countries affected by Confucian tradition, parental love is best demonstrated by parents providing the best possible opportunities for learning while the children trying to return love by doing their best in school. Often a child's education striving is driven by a strong sense of guilt about the sacrifices made by the parents (Hau & Salili, 1997).

2.4.1.2 Emphasis on Diligence (Effort)

Confucian ethics places great emphasis on education, effort, and will power, and it believes that everyone is educable, even perfectible. The idea of educability and perfectibility for all forms the basic optimism and dynamism towards education in the Confucian tradition. It also implies a strong belief in effort. According to Confucius, personal development, wisdom or human perfection, can be attained through effort and will power in the pursuit of learning. Thus, failure is always attributed to a lack of effort (Lee, 1996). The belief in effort also results in a de-emphasis on content. Crucially, then, the subject one studies is less important than the diligence with which it is studied. In CHC countries, there is also a de-emphasis on innate ability. Popular Chinese sayings such as "Effort can compensate for a lack of ability" and "Diligence compensates for ineptitude" vividly highlight the faith in ability. The driving force of effort, self-determination, or will power is logically emphasised as an important guiding principle (Lee, 1996). Consequently, CHC children are reared in an environment where effort, endurance, and hard work are emphasised. They are taught to study hard even when the probability of success is low (Chen, Lee & Stevenson, 1997).

2.4.1.3 Attitudes toward Learning

The CHC view of learning is that it largely involves hardship, diligence and perseverance, not enjoyment. Educational psychologists, or even common sense would argue that such a negative learning environment does little to motivate students. However, studies show that Chinese students have more positive attitudes toward learning and higher standards for achievement than their Western peers do (Stevenson and Stigler, 1992). The perceived centrality of education as a major task in the minds of Chinese suggests that the traditional beliefs in the value of education had been well incorporated by Chinese students (Chen et al., 1997). A recent study of 122 university students in China on their perceptions of the ideal learner indicated that Chinese learners viewed learning as a process of moral striving for self-perfection (Li, 2002a).

Results of the study reinforce the importance of many traditional Confucius values such as passion for lifelong learning, hard work, persistence and enduring hardship.

2.4.1.4 Collectivism

East Asian is often described as a culture where collectivism is emphasised (e.g. Hofstede, 1980). This collective orientation has important implications in shaping achievement orientations of CHC students. Achievement goals are often described as being for the benefit of the group (study group or family) rather than the individual. Similarly, the standard of achievement is often defined by other people (group or parents) rather than the individual (Salili, 1995). In contrast with the Western cultures, which value individualism and independence, high aspirations for individualistic and personal purposes are considered less important in the CHC context. Rather, dependence and affiliation are emphasised in traditional Confucian thinking (Yu, 1980).

While commonalities regarding purposes of learning are noted between the individualistic American and the collective Confucian Heritage cultures – both cultures stress intellectual development, skill acquisition, career preparation and positive affect toward learning (Li, 2003) – American culture tends to emphasise the purposes more for the individual whereas CHC believes the value of self-perfection and self-cultivation in terms of social contribution to society. In recent comparative studies of American and Chinese kindergarten students, cultural differences were identified with respect to value of learning (Li & Wang, 2004). It was reported that learning was perceived as more related to the individual self by the American children albeit more related to social respect and status by the Chinese.

2.4.2   A Social Cognitive Analysis of Chinese Motivation

We can now turn to the potential of a social cognitive framework for understanding achievement motivation of Chinese students, analysing the interrelationships among cognition, behaviour and environment.

2.4.2.1 Intrinsic and Extrinsic Motivation

It has been shown that Confucian Heritage Culture and context of learning affect the way that Chinese learners view learning as a process of moral striving for self-perfection and self-improvement (Li, 2002a). The process of learning is therefore an inner-directed process driven by the "heart and mind for wanting to learn" (Li, 2002a, 2002b). An ideal of learning like this is similar to intrinsic motivation, which is associated with human well-being through the satisfaction of psychological needs for autonomy, competence, and social relatedness (Deci & Ryan, 1985). Since intrinsically motivated students are naturally motivated to develop their intellectual and other competencies, intrinsic motivation is perceived to lead to highly valued outcomes such as creativity, quality, spontaneity, and vitality (Deci & Ryan, 1985).

However, the intrinsic significance of education in the Confucian tradition is only one side of the coin. For Confucius, a scholar should ultimately seek the opportunity to obtain a government office, in order to extend his good influence (Lee, 1996). Education is in this sense seen as an important means of leading to extrinsic reward associated with job prospects, wealth and upward social mobility (Sue & Okazaki, 1991), whereas for Westerners, education is considered to be only one of the means of social mobility. Paradoxically, the aspiration for extrinsic rewards coexists with the ideal of a person's inner-directed process striving of self-cultivation in the Confucian tradition. Watkins & Biggs (2001) argue that the dichotomy of intrinsic and extrinsic motivation, which is treated as mutually exclusive in Western theories, may not be relevant in Asia. When a Chinese student is seen with adaptive behaviour such as diligence, steadfastness, concentration and perseverance in a course of study, this student may well be motivated by "a head of mixed motivational steam: personal ambition, family face, peer support, material reward, and yes, possibly even interest" (Biggs & Watkins, 1996, p. 273).

2.4.2.2 Effort vs. Ability Attributions

While Western studies have revealed a compensatory relationship between effort and ability in older children and adults (Nicholls, 1989), there is ample evidence to suggest a culturally endowed focus on and high value for effort among CHC students (Chen et al., 1997; Chiu, 1987; Lee, 1996). It has often been demonstrated that CHC students are more likely to make effort attributions for an academic success or setback rather than to both effort and ability as do Western students (Salili, 1996). The effort attribution tendency is logical given the high value of diligence and hard work in acquiring understanding in the CHC societies. Indeed, to many Chinese students, teachers and parents, intelligence itself is not something innate and relatively fixed but rather something that can be improved by hard work (Watkins & Biggs, 2001). In a study of parental beliefs about children's academic performance, it was found that Chinese mothers cited lack of effort as the predominant cause of their child's failure in mathematics, whereas American mothers were more likely to attribute failure to ability, training, luck, and effort equally (Hess, Chih-Mei, & McDevitt, 1982). In general, researchers have attributed the high academic success of CHC students to parental motivation for academic success, increased time spent on studying and societal values (Hong, 2001; Stevenson and Stigler, 1992).

Because the culture emphasises the virtue of hard work, most Chinese students work very hard and on average spend many hours on studying (Hong, 2001). However, problems might occur if the effort spent does not pay off. Students who study hard but still get low grades may have no alternative but to blame their ability. While a high effort attribution is generally associated with adaptive learning behaviour, it could be a mixed blessing to Chinese students who have been shaped to believe that effort is only thing that counts (Hong, 2001).

2.4.2.3 Goal Orientations

Along with an emphasis on effort, which implies an implicit theory of intelligence as incremental (Dweck 1999), CHC influences seemingly will lead to a strong emphasis on mastery and performance approach goals. As discussed in 2.4.2.1, Chinese students are motivated by intrinsic and extrinsic means simultaneously; in fact they are perhaps more inclined towards the extrinsic end such as career prospect and social status. As such, a mastery goal orientation does not seem to be the only highly valued goal in CHC. On the other hand, a performance goal orientation may be more pertinent in its relevance to explaining achievement settings in CHC. In terms of performance approach goals, high achieving students tend to focus on how to outperform others with effort; for low achieving ones, their main concern is not to show their low abilities. In many Asian countries where performance is highly emphasised, it is not uncommon for students to attend cram schools from an early age. In highly competitive educational systems, there is a need to further distinguish the good and the excellent by outperforming others and getting good grades. Getting good grades, to a great extent, satisfy the cultural demand for achievement (Biggs, 1996). However, if such good grades fail to put students among the top ranks in the class, the high expectation for outstanding performance is still not yet met. Wanting to outperform others is therefore a more fundamental concern within the CHC societies (Grant & Dweck, 2001). In short, within a competitive educational system, mastery goals are much less valued for learning for the sake of personal interest, enjoyment and improvement, as suggested in the western literature.

Considerable evidence shows that people from different cultural backgrounds may be motivated by different forces and achieve their goals in different ways (Bempechat & Elliott, 2002; Li, 2002b). In Western societies, achievement motivation is highly individualistic and ego-enhancing, characterised by individual competition, where winning is its own reward (Atkinson, 1964). But in CHC societies the notion of success needs to be reinterpreted in a collectivist framework, which may involve significant others, the family, peers, or even the society as a whole. There is evidence, for

example, that suggests family and group goals are given higher priority than individual goals in collectivistic cultures such as the Chinese culture (Salili, Chiu and Lai, 2001). For some Chinese students, social solidarity goals (goals relating to pleasing parents, teachers, and peers) may be an important motivator in a socially-oriented culture.

In the process of attaining achievement, Chinese students are described as affected by multiple motivational factors such as personal ambition, family, face or interest (Biggs & Watkins, 1996). However, this is not the same as Pintrich's idea of multiple goals[4] (Pintrich, 2000), which suggests adopting a combination of mastery and performance goals while attempting different tasks for optimal outcomes. For instance, adopting a mastery goal for understanding and reflecting, and adopting a performance approach goal for examination preparation. For the Chinese, it appears that optimal achievement outcomes (i.e. high marks) are the results of adopting performance approach goals and social solidarity goals. It can perhaps be said that under the influence of Confucian traditions, Chinese students' achievement motivation also has a multiple perspective, they approach success by exerting effort so they are more likely to have a brighter future with high marks and in so doing they fulfil their filial duty to the family.

2.4.2.4 Self-Perceptions

In western literature, self is conceptualised as a cognitive construction that mediates a person's cognition and behaviour in achievement situations. In our review earlier in this chapter, two theories have been discussed; the implicit theories of intelligence and competence perception (see 2.3.1.3). On implicit theories of intelligence, it was pointed out that Chinese students tend to make strong effort attributions for academic success and failure (see 2.4.2.2).

Self-perceived competence, as a core construct that mediates goal adoption, learning, and achievement behaviour, incorporates meanings of self-efficacy, self-concept and

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[4] Multiple goals argue that people do not adopt only one goal in a given achievement situation. It has been discussed in 2.3.1.2.7.

self-confidence (explained in 2.3.1.3). Cultural theories (e.g. Hofstede, 1980) and empirical studies (e.g. Wang & Li, 2003) have shown contrasting views of the self in different cultures. Chinese in Confucian Heritage Culture are often characterised with collectivist selves, who view themselves as part of a larger social network that defines who they are and how they should behave. In contrast, the individualistic self is often used to characterise people in Western culture, particularly in North America. Individualistic selves tend to place an eminent emphasis on their personal goals and attainments, regarding themselves as unique individuals with private beliefs, attributes, and personality traits (Wang & Li, 2003). In a meta analysis of twenty studies of self-efficacy beliefs across cultures, Asians as collectivists have been found to have lower efficacy beliefs compared with non-Western cultural groups (Klassen, 2004). The relatively low perception of the self has been explained as the result of an emphasis on the value of humility and modesty in Confucian Heritage Culture (Salili, Chiu, & Lai, 2001). Because Chinese children are shaped by Confucian ethics, they display a tendency to self-criticism while the Westerners display a tendency to self-enhancement.

In a Western context, perceptions of self-efficacy are reported to influence perseverance, resilience, and task choice (Bandura, 1997). As such, an optimistic efficacy belief is argued to produce superior achievement whereas a realistic belief undermines functioning. However, realistic, as opposed to optimistic efficacy beliefs do not necessarily predict poor performance for all cultural groups. Studies revealed that Chinese students, despite their lower efficacy beliefs, perform better than their western counter parts (Eaton & Dembo, 1997; Salili, Chiu, & Lai, 2001). It seems, then, that Bandura's claim to optimistic self-efficacy that promotes performance may not hold true for all cultural groups. The lower but more realistic self-efficacy beliefs held by many collectivists do not seem to hamper high performance.

2.4.2.5 Learning Strategies

Chinese students are often criticised for making extensive use of rote memorisation and being passive and less interactive in class (Biggs, 1996). Chinese students have also

been criticised for their low-level, cognitive strategies; they are described as "student-as-tape-recorder" (Biggs, 1996). Yet, their level of achievement is relatively high (Stigler and Perry, 1990) compared with their Western counterparts in spite of their tendency to learn by rote. These apparent contradictions have been discussed in terms of 'the paradox of the Chinese learner' (Biggs & Watkins, 1996).

Research has found that many Chinese students combine memorisation with attempts to understand in ways which seemed to contradict the earlier research on student learning among Western students (Kember, 1996). The combination is seen by Chinese students as normal because "having an understanding of something implies memory, just as (meaningful) memory implies understanding" (Marton, Watkins and Tang, 1997, p. 32). Chinese students tend to see memorisation and understanding as often taking place at the same time; they believe that if they really understand the material, they will have a very strong impression that will help them to memorise without much effort (Marton, Dell'Alba & Tse, 1996). Research reports have suggested that many teachers and better students in Hong Kong and China do not see memorising and understanding as separate but rather as interlocking processes and that high quality learning outcomes usually require both processes (Watkins & Biggs, 1996).

Although there is no formal Confucian teaching in Hong Kong schools, and yet traditional beliefs still prevail in child-rearing practices. From a very young age, students in Confucian Heritage Culture (CHC), such as Hong Kong are expected to adopt rote memorisation as a routine way of learning. As a common and acceptable way of studying since primary school, even university students choose to include forms of memorisation in their studying even when conceptual understanding is required (Marton et al., 1996). In as much as effort, rote memorisation, unconditional respect and obedience towards teachers are emphasised as a key to academic success in CHC. As such, learning strategies may be characterised as adoption of surface approach in which reproduction of knowledge is the norm. As discussed in 2.3.2.2 and table 2.4, a surface approach is deemed to be less desirable in the sense that it is related to extrinsic motivation with a didactic reproduction orientation (Biggs, 1987; Entwistle, 1988). The

paradox, then, is that with all the characteristics that match a surface approach of learning, Chinese students still manage to perform well.

To sum up, while achievement goals among the Chinese can still be defined as individual perceived purposes for learning, such cognitions should be understood within the Chinese sociocultural context (i.e. Confucian Heritage Culture), taking into account the impact of values, norms and practices. Without such consideration, we may be misguided by the western research and motivate the Chinese in a culturally inappropriate manner, for example promoting mastery goals over performance goals and ignoring the potentials of social goals.

2.5   Motivation of the Adult Learner

In our earlier review of achievement goal literature in the Western context, it has been shown, that children's achievement motivation is a dynamic process affected by the cognitions, self-perceptions and the environment. Given the fact that adult learners are older and more mature in terms of their personal and professional life experiences, one would expect to find evidence of comparable rigor in research interest in the adult learner. Further, the resurgence of lifelong learning, as a framework and instrument for national education and training systems reform, has reinforced the interest and momentum of study of adult learning (Tennant, 2006).

While there is strong evidence of interest on research and writing about adults as learners and the distinguishing characteristics of the adult learning process that differentiates adult education from other kinds of education. On adult motivational psychology, however, there is a lack of richness in the literature (see e.g. Cross, 2003; Smith & Pourchot, 1998; Tennant, 2006). Moreover, despite the amount of literature devoted in adult learning, ranging from articles on adult learning principles to handbooks, guides, and tips, the understanding of adult learning is far from being universal (Brookfield, 1995). This section of the literature will first define adult learner, and then review the scope and nature of theory relevant to adult learning. An attempt

will be made to identify, if any, relationships between adults' cognition, behaviour and environment within a socio-cognitive framework of achievement motivation.

2.5.1 Defining Adult Learner

The word 'adult' can be defined in terms of one's biological and psychological development as well as the legal and social perspective (Knowles, 1978). Instead of using the word 'adult', Brookfield (1986) prefers the word 'mature', which is defined as those aged 21 or over. Under this definition an ever-growing number of adult students in colleges and universities is witnessed in most developed countries. The need for credentials and for education to be viewed as a lifelong need have brought an increasing number of adults into universities. Because of the vast differences between lifelong learners and traditional students who are younger and likely to have followed an unbroken linear path through the education system, the lifelong learners are also referred as non-traditional students. They are adults aged 24 and older who return to school full- or part-time while maintaining their responsibilities in employment, family and other responsibilities of adult life (Justice & Dornan, 2001). Due to the lack of consensus in defining adult learner by age, the literature reviewed in this section includes studies on both traditional and non-traditional students.

2.5.2 Adult Learning Theory

The field of adult education is viewed as a discipline in its own right consisting of professional adult educators who base their practices on theory, accumulated and shared knowledge, and the needs of their clientele (Smith and Pourchot, 1998). The very existence of the discipline implies that educators believe that there are differences between the learning needs, abilities and process of adult students and younger students. Two major approaches to theorising adult learning are included here. First, the developmental approach, which addresses how adults develop and change as they age, and how developmental issues and the changes adults encounter interface with learning

in adulthood. Second, a conceptual framework that portrays andragogy as the most appropriate approach for most adults in most learning situations.

2.5.2.1 Life Span Development Theories

Theories of adult development (Erikson, 1982; Levinson, 1986) frequently describe age-related developmental tasks at different life stages. The development approach posits that people are seen as making systematic progression in a certain order through a series of phases. Step by step they move closer to some form of adult status in some sort of sequential manner. Hence, developmental theories are also referred to as sequential models of development (Merriam & Caffarella, 1999). This sequential movement can be seen as involving changes in intellectual and physical powers; and the impact of life events and experiences. A widely quoted theorist, Erickson (1982), introduced eight stages of development, each representing a series of crises or issues to be dealt with over the life span. Applying Erikson's (1982) psychological theory of developmental stages, one would expect to find younger adults motivated to fulfil needs for relationships and establishing careers, where mid-life adults would become concerned with issues of generativity, such as parenting, finding meaning in their work, and giving back to the community. These stages are not exclusive to certain ages, but Erikson (1982) contends that certain life themes assume prominence at different life stages. Thus adults returning to school may be motivated not only toward practical concerns such as enhancing career opportunities, but also toward fulfilling developmental needs (Ross, 1988).

Another popular way of expressing stages of development is from Levinson (1986), who argues that the life cycle comprises a sequence of four eras, each lasting for approximately twenty-five years. According to Levinson, each era has its distinct character of living. Within the broad eras are periods of development, each period being characterised by a set of tasks and an attempt to build or modify one's life structure. Developmental changes in metacognitive awareness of study strategies appear to continue into adulthood. Mature students were found more likely to adopt a deeper,

comprehension-focused approach to learning (Justice & Dornan, 2001; Richardson, 2001). The role of educators, then, is to help each individual develop to the highest possible level by challenging the learner to move to increasingly advanced stages of personal development (Merriam & Caffarella, 1999).

In the life span development theories adults are assumed to be motivated to return to study by extrinsic need (career development) and intrinsic need (self-fulfilment) depending on their developmental stages. Mature students are also assumed to adopt a deep-learning approach in their studies. Such a universal approach to development has been criticised for the lack of consideration of individual differences (Rutter & Rutter, 1992). It might be added that there is also a lack of reference to cultural differences in explaining life span development of adults.

2.5.2.2 Andragogy

Since the 1970s, a theory of adult learning, andragogy, has been introduced by Knowles (1978; 1980), who highlighted significant differences between andragogy and childhood learning – pedagogy. While andragogy focuses on learner-directed learning approaches; pedagogy focuses on teacher-directed learning experiences. The adult is seen as being primarily responsible for planning, carrying out, and evaluating his or her own learning (Knowles, 1989). Andragogy, as the art and science of helping adults learn, was premised on five basic assumptions about the characteristics of adult learners. These assumptions related to the adult self-concept (from dependency towards self-direction), experience (a resource for learning), readiness to learn (oriented towards social roles), orientation (from subject-centred to problem-centred), and motivation (self-motivated). Inherent in andragogy is the concept of self, that is, self-directed learning. In self-directed learning, learners set their own learning goals, identify their own resources, select their own instructional methods, and determine how to evaluate their own learning (Merriam & Caffarella, 1999). Therefore, the role of the instructor shifts from that of a content-expert to a facilitator of learning who helps the learner develop learning goals.

Knowles' views are widely shared by many adult educators, who consider adult learners highly pragmatic, self-directed, autonomous and goal-oriented (Cross, 1981; Rogers, 1989; Wlodkowsky, 1999). In their analysis, almost all adults voluntarily choose to continue their education; this is one of the main features that distinguishes them from children who, by statute, have to receive education. Although adults have different reasons for participating in continuing education, and they all have anxiety and fear; yet as self-directed learners, self-initiated learning is assumed (Rogers, 1989). The key, then, is adopting instructional strategies to enhance their motivation during participation. The emphasis is well represented by the bulk of literature on effective instructional designs in adult learning.

While Knowles has focused upon something quite significant to adult learning, his original assertion that andragogy could be seen as a legitimate theory of adult education has drawn considerable criticism. Probably the biggest criticism is its lack of extensive research findings in the formulation of andragogy as an exclusive theory of adult learning (Brookfield, 1995; Jarvis, 2002). For the critics, the concept of andragogy is considered, at most, as a set of principles or assumptions to guide adult learning practice. Knowles has been criticised for merely describing the characteristics of adult learners rather than theorising the nature of learning itself (Merriam & Caffarella, 1999). Even Knowles himself, subsequently changed his mind and wrote that he preferred to think of andragogy as a model of assumptions about learning or a conceptual framework that serves as a basis for an emergent theory (Knowles, 1989). Still, Brookfield (2003) challenges that the so-called academic orthodox in adult education is based on false assumptions, which suggest that adult learning is inherently joyful, that adults are innately self-directed learners, and that there is a uniquely adult learning process as well as a uniquely adult form of practice are myths. Brookfield (2003) asserts that the major reason for such a weak theory development in adult learning is due to the persistence of myths held deeply in the minds of adult educators. In addition to its inability to represent the total picture of adult learning, the concept does not take into account socio-cultural factors that impact on the adult learner, who is

much more complex than school children (Davenport, 1993). In summary, this review suggests that andragogy as a theory of adult learning is far from perfect and should not be viewed as the absolute theory. The implications of this will therefore be significant for our consideration of whether motivation theories developed with younger people are applicable to adults.

2.5.3 Achievement Motivation of Adult Learners

Research on adult learners and motivation can be categorised in three rather independent areas. The following is a review of: first, adult participation in higher education; second, theoretical approaches to analysing adult motivation to achieve in academic studies; and third, learning strategies adopted by adult learners.

2.5.3.1 Participation in Higher Education

Participation is one of the more thoroughly studied areas in adult education. There is consistent interest in categorising the various reasons given for participating in adult learning. Houle (1961) identified three learning orientations held by the adults. The popular typology consists of goal oriented learners, who use education as a means of achieving some other goal; activity-oriented learners, who participate for the sake of the activity itself and the social interaction; and learning-oriented participants, who seek knowledge for its own sake. Houle's early work (1961) is generally credited with having given rise to a flood of scholarly works on participation in adult education. Over the years, some of these studies have focused on characteristics of the individual, such as learning styles and motivation (Boshier, 1971; Burgess, 1971). Research seems to be in agreement that basically adults are motivated by both extrinsic and intrinsic needs (Chan & Holford, 1994; Cross, 2003; Newstead, Hoskins, Franklyn-Stokes & Dennis, 1997). On the intrinsic side, adults return to school because they are interested in the subject matter, personal development and self-esteem. Extrinsically, adults return to college for improving job skills, qualifications or promotion prospect. The belief that additional qualifications is instrumental to future goal attainment can be interpreted in

the future time perspective to participation motivation (Husman & Lens, 1999; Husman et al. 2004).

In Hong Kong, the recent economic crisis and the government's promotion of lifelong learning have triggered a wave of blind pursuit of certificates (Lee & Qing, 2005). Lee & Qing's (2005) report argued that many mid-life students seemed to be 'addicted' to 'studying'. One single mother spoke of gaining three degrees in seven years by attending evening courses. While financing her studies by bank loans, she was considering a fourth degree because degrees were good investment in job security. The irony was, not only had this female student not had any job promotion nor employment improvement with the additional credential, her salary had actually fallen over those years because of economic recession.

From research on adult participation in continued education, we have a sense of who participates, what is studied, and what motivates some adults and not others to enrol in a course or undertake an independent learning project. Much of this work reflects an interest in designing effective programmes for matured students based on why they participate in education. Yet this information does not address issues that motivate the adult learners in the course of their studying. Interestingly, in most adult learning literature, the reasons for participation is often referred to as motivation to study, The next section reviews some of the attempts made to applying achievement motivation theories to adults.

2.5.3.2   Motivation to Achieve in Academic Studies

Compared with research on adults' reasons to participate in education, studies and literature on adults' achievement motivation are few. This is possibly due to the widely accepted assumptions of adult learners, who are perceived to be self-directed and self-motivated. Hence the primary concern of adult educators is focused on programme design and implementation, rather than motivation to achieve. It was not until more recently that a handful of research began to emerge.

One of the first studies to apply achievement motivation theories to the non-traditional students[5] found that non-traditional university students endorsed mastery goals more strongly than their traditional peers (Eppler & Harju, 1997). Consistent with Dweck's model, a mastery goal orientation was positively related to successful academic performance for non-traditional students. The study of 262 undergraduate students suggested that traditional and non-traditional students differed on variables that were inversely related to academic performance. The positive relationship between mastery goal and performance was supported by Dupeyrat & Mariné, (2005) who tested Dweck's (1986; Dweck & Leggett, 1988) social-cognitive theory of motivation with 76 French adults who chose to face the challenge of returning to school. Findings of the French study were generally consistent with Dweck's theoretical predictions. Striving for competence improvement (mastery goals) had a positive impact on learning activities and outcomes, while striving to demonstrate competence (performance-approach goals) or to avoid effort (performance-avoidance goals) had a negative influence on learning and achievement. Additionally, the study suggested that mastery goals had a positive influence on academic achievement through the mediation of effort expenditure. In one of the few studies in Hong Kong, performance approach goals were found to be irrelevant to adult learners in the BEd and MEd part-time degree programmes (Sachs, 2001). Rather an avoidance orientation in terms of fear of embarrassment instead of fear of failure was suggested to be more culturally relevant. Sachs (2001) argued that the concern for maintaining a positive self-image among the adult learners was more prevalent in their goal orientation.

There are other motivational mediators in the social-cognitive framework. The French study did not find clear relations with goal orientation and Dweck's implicit theory of intelligence (Dupeyrat & Mariné, 2005). However, strong correlations have been found between adult students' academic performance and self-efficacy and intrinsic motivation in the Hong Kong study (Sachs, 2001).

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[5] Non-traditional students are lifelong learners who are over 24 years of age, and who maintain their adult responsibilities at work and home. See section 2.5.1.

Clearly, the kind of literature relevant to achievement motivation of adult learners, as shown here, is sparse and fragmented. However, a simple key word search of "adult learners' motivation" on any search engines, in any libraries, would yield hundreds, if not thousands of results. A great majority of those results is about guidelines, tips, everything-you-should-know about motivating adults. A typical example is "Enhancing Adult Motivation to Learn" by Wlodkowski (1999). Being one of the most cited books on adult motivation, the author sets out to show how the instructor can develop in the learner the desire to learn. Drawing from a broad spectrum of theories (unfortunately none from a social-cognitive perspective), the adult learner is portrayed as self-directed and intrinsically motivated. The book develops 68 motivational strategies designed to increase learner interest and to enhance the impact of the learning environment.

While it is not difficult to understand the pragmatism of adult learning, yet the lack of theory is not something that can be easily defended (Cross, 2003). On the other hand, research on adult study strategies presents a more optimistic picture. There seems to be an interest on studying approaches to learning in mature students, which will be discussed below.

2.5.3.3 Learning Strategies

In higher education, there is a general consensus within the research literature that students manifest a number of different approaches to learning (Richardson, 1997). For example, students may adopt a 'deep' approach that is directed towards comprehending the meaning of the materials to be learned; or they may adopt a 'surface' approach when they encounter an overload of coursework and methods of assessment that stress the superficial properties of the material that is to be learned (Beaty, Dall'Alba & Marton, 1997). The deep and surface approaches have been discussed in an earlier review of learning approaches (see 2.3.2.2).

In addition to the deep-surface dichotomy, Biggs (1978) identified a "strategic" approach under the pervasive influence of assessment. In this approach, students adopt

deep and surfacing approaches in combination so as to achieve the highest possible marks. The approach involves using well-organised study methods and careful time management, but there is also alertness to any cues given by tutors about what they are looking for in their assessment, or what questions they are going to set in the examinations (Entwistle, 1988).

Within the research on motivation and learning strategies of adult learners, age has been suggested to mediate motivation orientation. Studies have found that older non-traditional students have higher levels of intrinsic motivation for learning and tend to adopt a higher level study strategy than did traditional students (Bye, Pushkar & Conway, 2007; Justice & Dornan, 2001; Richardson, 1997). Consistent with assumptions made about adult learners in the sequential models of life span development (that older adults are assumed to be motivated more for intrinsic reasons and adopt deep learning strategies in their studies), these studies seem to agree that older students are likely to find learning a more meaningful experience, and they tend to integrate new learning with their life roles in a more multidimensional way compared with younger adult students.

2.5.4 Influential Environment of the Adult

In the final stage of analysis of motivation of adult students, it will be shown that adults have a much more complex and dynamic contextual environment, compared with those of school pupils. Contextual factors that are extensively researched include family, the learning institution and the workplace (e.g. see Arthur & Tait, 2004; Jarvis, 2002; Sutherland, 1997).

2.5.4.1 Family

A typical adult can be a parent, a son or daughter or a sibling. Family members of any generation can seek to influence the adult student's motivation. Surveys on profile of participants in continuing or further education often cite 'family responsibilities' as one

of the main reasons for not participating in continued education (Chan & Holford, 1994; Jarvis, 2002; Richardson, 1997). Those responsibilities include financial as well as emotional support and they apply to the student from both ends, as a provider as well as a recipient. While parenthood has important effect on motivation, the effect has been found to be more profound for mothers (Johnstone & Rivera, 2003). Focusing on the mature female learner, Beaty et al. (1997) suggest that background factors that affect women need to be considered. These include the effect on the employment position of the husband; for example, if she needs him to look after the children at times when classes clash with his work. For reasons of childcare, travelling any distance to class may also be a problem. On an emotional level the husband may feel threatened intellectually by the wife's academic advance (Beaty et al. 1997).

2.5.4.2 The Learning Institutions

Typical institutions – schools, colleges and universities – are established for the purposes of learning. The policies and practices of each institution that have a direct impact on adult students routinely include the teaching faculty and administrative and academic support. Motivation and skills of the teaching staff have tremendous impact on the student's motivation to learn and to achieve (Jarvis, 2002). Dart (1997) points to the relative failure of teachers of adults to encourage metacognitive strategies by being facilitators and not mere purveyors of knowledge. Further, the support offered by peer groups is also important for achievement motivation. Such small communities have a particularly important motivational role in the adult students whose families or other social groups do not provide the support they need (Smith & Spurling, 2001).

2.5.4.3 The Workplace

The adult part-time student is often in full-time employment. In Hong Kong they often study more than 14 hours a week on various programmes for either work-related purposes or personal development (Shen, Lee & Chang, 2002). Another study in the UK has confirmed that increasingly people study at home and at the place of work,

during working times and/or in the evenings or at the weekends (Arthur & Tait, 2004). Modern communications such as the internet, mobile telephones, and the like have severed the link between time and space. However, the downside of all of this is that traditional boundaries between work and home, work and leisure, study and leisure are broken down. The interview findings of thirty Open University part-time adult students indicated that the genuine lifelong learners were highly motivated to develop themselves professionally and personally, despite excessively long working hours and heavy workloads alongside demanding family commitments (Arthur & Tait, 2004). While many employers were sympathetic and supportive to individual learning needs, few employers would reduce the workload to support an employee's part-time learning (Lee & Qing, 2005).

2.5.5   Challenges for Part-time Adult Students

A characteristic shared by the large majority of adult learners is that they are part-time students. Society normally anticipates that school is a full-time occupation. Those who proceed straight from school to university most often do so as full-time students. Yet, adults are normally expected to combine their education with existing commitments to their work and families. One obvious distinction between these two groups of students is the time available for study. As the term implies, the full-time student can devote a normal working day, and more, to study. The adult student usually has what is left after the working day plus time available at weekends. The same programme of study will inevitably take the adult student considerably longer than it would take by full-time study. A degree which would take three years of full-time study might be expected to extend to six or seven years of part-time study.

A further distinction lies in the number of conflicting demands upon the two types of students. The social world of full-time students often centres on campus life; they probably have limited responsibilities, commitments or conflicts beyond their role as a student. The adult student, however, is usually in employment, which not only takes time away from study but can also raise conflicting demands. Many adult students have

families who compete for time and attention with the study demands. The social circle of the adult student often has no overlap with the student cohort and this too can create tensions.

In order to understand achievement motivation of part-time adult students, it is perhaps appropriate to cite two emerging themes identified by Arthur and Tait (2004). The first refers to how people cope in competing commitments between work and family. Understandably, those with children still at home would be the hardest to cope. Age is another concern; students in their mid-life struggle the most with these commitments. The second theme concerns how some sustain their motivation to study better than others. Most writers in adult learning would argue that support from the spouse or family being a major factor. At this point, it is noted that the challenges mentioned so far remain opinions and common observations since they seem logically appealing. Exactly how adults respond to these perceived challenges in their personal cognition and behavioural patterns need to be empirically studied. With this theoretical gap in mind, this current research aims to explore adults' motivation to achieve by incorporating the contextual environment (including the cultural environment), the cognition and behaviour in a reciprocal interaction.

2.6   Summary and Conclusion

This chapter has explored three areas of literature that address achievement goal motivation under the social-cognitive framework in theories developed in the West, in Confucian Heritage Culture, and in adult learning. In this last section of the chapter, a summary of the three areas will be presented highlighting key findings and issues pertaining to theory transferability. This is followed by a conclusion.

2.6.1 Summary of Literature Findings

2.6.1.1 Achievement Goal Theory

Our review of literature indicates clearly that there is rigorous research effort in identifying how school children and young adults in full-time studies adopt achievement goals, and how goals affect achievement motivation in terms of learning and outcomes. Empirical findings generated from studies in various classroom and experimental settings have enlightened and strengthened our understanding of why and how children are motivated in academic achievement situations. Key findings are summarised as follows:

- Four achievement goals highlighted in the most updated model – the 2 x 2 goal framework (Elliot & McGregor, 2001), have been identified; and mastery-approach goals have consistently been found to relate to adaptive cognitive and self-regulatory learning.

- Research on performance goals, in both approach and avoidance forms, with respect to their effects on achievement behaviour and outcomes produce mixed results. Yet it is generally acknowledged that performance avoidance goals are the least constructive.

- Mediating students' achievement goal adoption are two beliefs about 'self'. Western goal theorists assert that students with an entity belief of intelligence tend to avoid challenges and be more vulnerable to setback, particularly when they have a weak belief in their competence.

- The implications for education are that schools and teachers should design intervention strategies in the classroom to develop students' incremental view of intelligence and their perceived competence so that they can benefit the most from mastery learning.

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2.6.1.2   Achievement Motivation in the Chinese Context

Recently there has been an increased interest in researching learning and motivation in Confucian Heritage Culture (CHC). Our review of literature indicates that under the influence of traditional Confucius ethics, Chinese students perceive learning and respond to academic achievement differently. It is also noted that the majority of research was based primarily upon children. The following summarises literature findings among Chinese learners.

- Chinese students are more driven by performance approach goals; they need to outperform others for high marks so they obtain a good job with high pay.

- Chinese students are also motivated by social solidarity goals – they study hard to fulfil their obligations to the family or community.

- Chinese students are shaped to believe that effort is the key to academic success even when intelligence is not superior. The firm belief of effort suggests an incremental view of intelligence.

- Teaching of filial duty also asserts that Chinese students must be obedient and respect the teachers; hence a dydadic approach to learning by rote is the accepted norm.

- Chinese students have been found to adopt a lower efficacy belief. In a collective culture, they learn not to behave individualistically because modesty is a valued virtue.

- Our interpretation of literature suggested that there were gaps between Western theory and the way Chinese students view achievement and behave in achievement settings. Specifically, the Chinese incremental belief of intelligence should be associated with intrinsic motivation, mastery goals, deep

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and self-regulatory learning according to western theory, and not extrinsic motivation, performance goals, and rote memorising.

2.6.1.3 Achievement Motivation of Adult Learners

While there is no shortage of published work in the area of adult learning and adult motivation, the content is primarily focused on learning strategies and adults' motives to begin to participate in study, the achievement goal perspectives are rarely referred to. The following presents a summary from a handful of achievement goal related studies that were conducted on adults.

Results of such studies suggest only very preliminary findings about mastery goals and learning strategies. Non-traditional adult learners (those aged over 24) tended to adopt mastery goals and a deep approach to learning.

- Within the social-cognitive framework, there is minimal work done on the personal-cognitive side of achievement motivation. This is possibly due to the popular assumption about adults being self-motivated and intrinsically motivated in their pursuit of continued education.

- The lack of adult theory suggests that little is known about how Western achievement goal theory can be related to adult learners.

2.6.2 Conclusion

A review of the literature suggests that (1) the large body of literature on achievement goal motivation has focused on young learners in developed Western societies; (2) there is an emerging interest in cross-cultural studies of achievement motivation focusing on full-time school and traditional college students, and differences between CHC students and western students have been noted; (3) common characteristics of Chinese learners seem to diverge from the cognitive-behavioural relationships described in western

theory; (4) the general understanding of adults' achievement motivation has been based upon an explicit assumption of adults as self-directed and self-motivated; and (5) achievement goals have been studied with students in different educational levels, ranging from kindergarten, primary, secondary to tertiary, but not among non-traditional adult university students in a part-time mode.

An obvious gap is found in the literature concerning the lack of shared theoretical ground between adults and children in terms of their motivation to achieve in education. There seems little cross-pollination of ideas between educational psychology and adult education: "the world of educational psychologists does not often incorporate knowledge from adult development or adult education; research and practice in adult education and adult development rarely draws on the knowledge base in educational psychology" (Smith and Pourchot, 1988, p. xi).

In view of the gaps this study aims to explore the question of theory transferability by empirical research with a heuristic approach. The next chapter will discuss the methodology – the repertory grid technique and focus group discussion, in addressing the research question.

Chapter 3   Methodology

3.1   Introduction

In the previous chapter, an in-depth overview of motivation literature specific to the current investigation into the application of social cognitive motivation theories to adult learners in the Chinese culture has been presented. In addition to presenting a broad picture of the research undertaken over the years into understanding achievement motivation, the review discussed how motivation of adults pursuing university degree studies can be a complex and dynamic process. The literature ranges from reflections, experiences and empirical evidence from educational psychologists and adult educators, to comparisons across cultures to investigate the differences in how students perceived educational achievement. The current investigation, through this detailed discussion of the motivation literature, confirmed the significance of the research question to further understand motivation of adult learners. The primary research question is:

> To what extent can achievement goal theory be transferred to explain part-
> time adult learners in Hong Kong?

In exploring the transferability of western achievement goal theory, the social-cognitive framework in which there are three broad domains, will be explored: personal factors, behavioural patterns and contextual environment. Details of these domains have been investigated in the literature review chapter. In the exploratory process, three affiliated questions related to the social-cognitive framework will be addressed:

1. Does achievement goal theory satisfactorily explain achievement motivation of Chinese adult learners with respect to personal factors?

2. Does achievement goal theory satisfactorily explain achievement motivation of Chinese adult learners with respect to behavioural patterns?

3. Does achievement goal theory satisfactorily explain achievement motivation of Chinese adult learners with respect to contextual environment?

In an attempt to address these research questions, a heuristic approach is adopted to help seek answers in this study. A heuristic approach is considered more appropriate for this exploratory study since the logic of research is not so much to test Western achievement goal theory, but instead to develop an understanding of the underlying motivations that people have for doing what they do, and then to consider to what extent this can be explained by achievement goal theory. As this research is focused on exploring how Chinese adult students perceive motivation in achievement situations, the methodology consists of two phases in which qualitative data are collected, the first involving the use of repertory grid technique and the second involving focus group discussion respectively. Phase one concerns extracting meanings that people have of the world around them by using the repertory grid interview technique. Phase two seeks to validate what people say during the interview with focus group discussions by triangulation of the sources of data.

This chapter aims to justify, explain and walk through the mechanics of why and how the two methods, repertory grid technique and focus group, are used for this study. In this respect, this chapter is arranged in the following order: First, a brief overview of conventional research approaches. Second, justification for using the grid technique will be discussed. The reader is then introduced to the make-up and characteristics of the sample and respondent composition. This is followed by a brief introduction to George Kelly's (1955) Personal Construct Theory and Repertory Grid Technique. Procedures and steps of the method will be detailed with a demonstration of the pilot study of the current investigation. Issues of the Grid's reliability and validity are also addressed. Lastly, the functions of focus group discussion and its procedures will be discussed.

3.2 General Research Approaches

Two main approaches that are commonly used in social and educational research are briefly discussed. The purposes are to highlight issues of each approach, upon which justification of the approach of the current study is made.

3.2.1 Approaches Using Quantitative Data and Analysis

Approaches using quantitative data and analysis are often associated with positivist perspectives in social research. The logic of such research is to collect data using standardised approaches on a range of variables; then search for patterns of causal relationships between these variables; and test given theory by confirming or denying precise hypotheses (Hammersley, 1993). Sample surveys and experiments are popular quantitative methods in psychological research. Importantly, there is a relatively high degree of pre-conceptualisation associated with quantitative-based studies. Adopting the theory-then-research approach, researchers working within this tradition will have certain a priori assumptions about how data collection is to be organised and the range of likely findings to be expected.

The strength of such approaches is the wide coverage of participants while the major weakness is the lack of depth and external validity, since survey research employs techniques which both reflect and reproduce assumptions that the researcher holds about the social world, and in particular the phenomena under investigation (Hammersley, 1993). Thus, the structured format of the questionnaire-based study suggests that the researcher has made certain choices about the issues which should (and by implication should not) be raised, and the format of their mode of delivery (self-completion forms, or interviews). Furthermore, because the question and answer systems employed are highly structured, respondents are denied the opportunity to elaborate on issues – especially those of a complex nature, like motivation – or to qualify any answers given. Critics would claim that this failure to gain an holistic appreciation of a respondent's views concerning an issue or phenomenon inevitably results in only partial data, and

fails to tap into the reality which exists within the inner consciousness of the respondent (Henn, Weinstein and Foard, 2006).

The measure of external validity is the extent to which the results can be generalised and thus applied to other populations. An experiment or a survey can have very high internal validity and very low external validity at the same time. The main threat to external validity is the inability of quantitative experiments or surveys to generalise findings to wider groups and circumstances. This is because quantitative research tends to fragment and delimit phenomena into measurable or 'common' categories that can be applied to all of the subjects or wider and similar situations. Hence, quantitative research, whilst able to claim validity for wider populations and not just merely samples, is restricted to measuring those elements that, by definition and distortion, are common to all (Winter, 2000).

3.2.2 Qualitative Approaches

Research arising out of the post-positivist rejection of a single, static or objective truth, has concerned itself with the meanings and personal experience of individuals, groups and sub-cultures which are best understood from qualitative data (Hammersley, 1993). 'Reality' in such research is concerned with the negotiation of 'truths' through a series of subjective accounts. Whereas researchers using quantitative data and analysis attempt to disassociate themselves as much as possible from the research process, researchers using qualitative data have come to embrace their involvement and role within the research. Another difference is that quantitative research limits itself to what can be measured or quantified and qualitative research attempts to 'pick up the pieces' of the unquantifiable, personal, in depth, descriptive and social aspects of the world. Qualitative research as a style of enquiry uses a wide variety of methods of data collection, but the most commonly used method is in-depth one-to-one interviewing and focus groups.

3.2.2.1 In-depth Interviewing

In-depth interviews can range from unstructured to fully structured with a detailed interview guide similar to a questionnaire. In-depth interviews have the advantages of providing direct communication and obtaining feedback, and probing on complicated issues; generally there is qualitative depth by allowing interviewees to talk about the subject in terms of their own frames of reference. At the same time, critics would argue that the closeness between the interviewer and interviewee implies that the method is inevitably a subjective one that lacks scientific rigor (Henn, Weinstein, Foard, 2006). The informal conversational process provides too much scope for the interviewer to influence the interviewee's responses by leading or misleading the latter.

3.2.2.2 Focus Groups

Both in-depth interviews with just one respondent and interviews with a group of participants have a common purpose, that is to collect data that accurately reflects the thoughts, feelings, and opinions of respondents. In focus groups the intention is to stimulate discussion among people and bring to the surface responses that otherwise might lay dormant. The interactive dynamic is therefore considered to be crucial element of the focus group approach. In focus groups, the role of moderator is to encourage participants to discuss topics, to challenge opinions expressed by others, and to identify shared positions. A key benefit of focus groups is the group dynamics which occurs when the moderator stimulates discussion among the participants about a topic. This can often generate new thinking about a topic which will result in a much more in-depth discussion of the subject being covered (Berg, 2004). Importantly, it enables the people in the group to share their views whether agreeing or disagreeing, thus enabling all the key issues to surface.

One of the limitations of the focus group method is the tendency to become influenced by one or two dominant people in the session thus making the output biased. In coping with this potential limitation, an experienced and well trained moderator is required to

handle different types of personalities. Another common criticism among proponents of quantitative research is that focus group output is not generalisable. While it is a truism that focus group findings cannot be generalised in the same way as quantitative data from random samples, qualitative researchers do find that if consistency is identified in the results from a series of focus groups, it is likely that the outputs from these sessions probably is representative of the larger population. This is often proven by conducting additional groups, which further confirm the findings from the earlier findings.

3.2.3 Research Approaches to Achievement Goal Theory in the West

While the literature on achievement goal motivation is rich and well-researched, a major concern lies in the nature of the research method. It is noted that the bulk of the literature is grounded in quantitative methods, in which hundreds or thousands of students have completed surveys and questionnaires or participated in experimentally manipulated learning experiences. Although there is no doubt that research in this tradition has provided valuable insights into how children's achievement-related beliefs influence their achievement behaviour in hypothetical situations or experimental procedures, the vast majority of what is known about children's motivation in the classroom is based on methods that are decontextualised (Bempechat & Elliott, 2002).

After a review of the literature review, it is realised that our understanding of achievement goal motivation of adult learners is actually fairly limited. This is partly due to the fact that research in the area has been sparse and fragmented (as discussed in 2.5.3.2), and partly because of the nature of quantitative methods. It is noted that many studies of adult motivation, particularly those using survey and quantitative methods (for example, studies by Chan & Holford, 1994; Dupeyrat & Mariné, 2005; Eppler & Harju, 1997; and Sachs, 2001, as discussed in 2.5.3.1 and 2.5.3.2), have barely scratched the surface of the personal and social dialectics which may be involved. Subjects themselves have rarely been asked or encouraged to reflect, in unstructured and longitudinal ways, on their reasons for learning in relation to personal histories. While researchers using survey methods can ask large and diverse samples of people

why they participate in education, they are unable to explore the meanings people themselves might give to their actions: about what, for example, university or a particular career might represent, at an intimate personal level, within the context of a whole life.

The review of motivation in the Confucian Heritage Culture points to the important body of knowledge for explaining learning in cultures. It has been shown that research on cultural impact has made a compelling case that culture is an important source of variation in examining beliefs about learning. Despite the recognition of culture, little is known about how Chinese students conceptualise achievement motivation because research in this area still remains largely etic in nature i.e. using concepts which are assumed to be generic. It is argued that if researchers rely on preconceived notions about achievement which were derived from Western experimental research, the richness and variations of how members of different cultures conceptualise and approach achievement are reduced (Li, 2002b). Emic views of learning i.e. using the concepts of the participants themselves have rarely been examined directly (Li, 2002b).

Due to the issues discussed above, a heuristic approach using qualitative data is chosen for the present research because it is particularly useful for the exploratory nature of this study, in which qualitative methods will help to clarify, aid conceptualisation and generate ideas for later research. As mentioned at the outset of this chapter, the current study involves two phases.

Phase 1. The repertory grid technique is used in phase one. Detailed discussion of the theoretical rationale, procedures and the pilot study are presented in sections 3.5 to 3.8.

Phase 2. The focus group method is adopted for phase two. Rationale for the group method, benefits and limitations, and the procedures are discussed in 3.9.

In both phases the main purpose is to collect, analyse and interpret data that relate to educational achievement motivation situations and the concepts and behaviours of

people within it. Specifically, the repertory grid method is used to identify key factors that respondents perceive important to achievement motivation, and focus groups will be used to validate the key factors by data triangulation.

3.3   Why Use the Repertory Grid?

The Repertory Grid is an instrument designed to capture the dimensions and structure of personal meaning. Its aim is to describe the ways in which people give meaning to their experience in their own terms. It is not so much a test in the conventional sense of the word as a structured interview designed to make those constructs with which persons organise their world more explicit. The way in which we get to know and interpret our milieu, our understanding of ourselves and others, is guided by an implicit theory which is constructed from our experiences. The repertory grid, in its many forms, is a method used to explore the structure and content of these implicit theories/personal meanings through which we perceive and act in our day-to-day existence. In simple words, repertory grid is a tool through which we can attempt to uncover and formally represent how individuals construct their worlds. A grid can, at one level, be thought of as a cognitive "map" charting a particular aspect of a person's world.

The grid method today is used in many different fields. While applications in the original field of counselling are still important, there are a wide range of other applications in medical diagnosis, personnel placement and development, market research, town planning, development of knowledge bases and expert systems, etc. (Stewart & Stewart, 1981). The technique has been adapted by many researchers and practitioners to help individuals explore their personal construct systems as a first step in recognising the process of change. Work related to the discipline of higher education research and curriculum development include Diamond & Zuber-Skerritt (1986), Pope & Denicolo (1991) and Zuber-Skerritt (1992).

As documented in the Literature Review chapter, much of the work on cognitive research in achievement motivation has been critiqued for lacking external validity since they were

set around controlled experiments with school pupils with no option of generalisation to adults. In most adult learner surveys using preset questionnaires or structured interview questions such as "why did you decide to take up continued education?", respondents usually respond with "appropriate" or socially desirable answers, such as "the trend of lifelong learning" or "the need for value-added learning", rather than what they actually think.

The choice of repertory grid as the primary methodology was decided based on its ability to probe deep into people's mental frames of references in a systematic way. Based on a great variety of applications using this method in the areas of clinical psychology, counselling, social work, and business management, it has demonstrated its powers to enter the cognitive mental thought-processes of the subjects interviewed, and has allowed researchers to establish a better understanding of their specific areas of investigation (Fransella, Bell & Bannister, 2004; Jankowicz, 2004; Stewart & Stewart, 1981). It has been shown that this method can provide a level of investigative inquiry that will allow the researcher to have a deeper understanding about how different people construe and perceive motivation of studying part-time as they experience it.

In this study, the Repertory Grid has the advantages that it

a) generates data in the form of personal constructs from adults who are studying or have studied part-time degree courses.

b) is based on actual experience

c) gives voice to the little studied personal construct systems of Hong Kong Chinese part-time adult learners

d) provides a standardised protocol that is free from interviewer bias and thus meets some of the criticisms of interview techniques mentioned earlier (Fransella, Bell & Bannister, 2004; Stewart & Stewart, 1981)

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3.4 Repertory Grid and Personal Construct Theory (PCP)

Repertory grids were an invention of the late George Kelly, an American engineer turned psychologist/psychotherapist who wrote up his work in the 1950s. Kelly developed the Repertory Grid Technique as an instrument for the elicitation of personal constructs. This technique is derived directly from Kelly's (1955) Personal Construct Theory (PCT) (see, e.g., Bannister & Fransella, 1986, for an introduction). The following discusses the rationale behind the theoretical basis of Kelley's Psychology of Personal Constructs.

3.4.1 Man the Scientist

PCT attempts to explain "Why man does what he does" (Kelly 1955). Kelly proposed that through the concepts people acquire, they make sense of their world, and become able to predict and understand things that happen to them. One of Kelly's key departures from mainstream psychology at the time was his argument that people get to the way they are because of basic assumption that man might be seen as incipient scientist. In essence, he believed that just like a scientist, whose ultimate objective was to predict and control, so too does the typical man who makes predictions and attempts to control their own life or destiny.

According to the theory, people develop their own tentative models or personal theories about the world in order to understand and negotiate their environments in the roles of "naive scientists" (Kelly, 1955). In other words, people create their own ways of seeing and interpreting world by developing an individual "system of constructs". Constructs are developed from our own experiences and are personal, intimate and unique to our own ways of seeing the world. Kelly argued that in order to understand their environment and to reduce uncertainty people engage in the same cognitive processes as research scientists. First, they develop theories about their world. Second, they develop hypotheses about what they expect to occur. Third, they test their hypotheses using subsequent events to determine whether their predictions (and their underlying

constructs) are accurate or inaccurate. If the hypothesis confirms what the person predicted it will be retained. Alternatively, if it proves to be inaccurate it will be revised or discarded. The validity of a construct therefore, depends on its success in predicting something. It is these constructs that help 'man-the-scientist' in predicting and anticipating events that enter his world and subsequently guide his behaviour and attitudes. Our construct system may change overtime as we get older and gain more experience.

3.4.2 Constructive Alternativism

The key message of the Personal Construct Theory is that the world is 'perceived' by a person in terms of whatever 'meaning' that person applies to it and the person has the *freedom to choose* a different 'meaning' of whatever he or she wants. Kelly (1991) claims that what an individual thinks about something or someone could be more influential in determining behaviour than objective data. Specifically, he posits that "the universe is real; it is happening all the time; it is integral; and it is open to perennial interpretation. Different men construe it in different ways. Since it owes no prior allegiance to any one man's construction system, it is always open to reconstruction" (Kelly, 1955, p. 189). This assertion, called constructive alternativism, reflects the philosophical position that there are always alternative ways of viewing the world. In simple words, the person has the 'freedom to choose' the meaning that one prefers or likes, and is capable of applying alternative constructions (meanings) to any events in the past, present or future.

People have a choice of the way they want to see the world. They can choose to ignore certain things, and pay more attention to others. Or they can choose to interpret events surrounding their world in the way that is more compatible with their own construct systems. The alternative ways of construing one's own world and one's own life-long experiences are infinite: some constructions being more useful than others. Each interprets their world from a position of subjective realism (Berger & Luckmann, 1991). Kelly cautioned that we do not define our own construct system from the point of view

of "correctness" or "right" (or "wrong" for that matter), but simply whether they are more or less useful for the purpose of our own understanding (Burr & Butt, 1992). In fact, constructs and constructions of events change over time; what is seen as acceptable today may not be seen as acceptable years from now or by other countries in the same era. Thus, if we can understand someone's construct system, we can understand his history and make some predictions of how that person will behave in a given situation. The Repertory Grid Technique was invented as a way to get people to reveal their construct systems, i.e. the way in which they see and interpret the world (Stewart & Stewart, 1981).

3.4.3 Development of the Repertory Grid

Kelly was interested in how people perceive and process information about their worlds. Kelly sought to learn about people, to categorise them, to appreciate their viewpoints and to help them better understand themselves (Stewart & Stewart, 1981). However, he was dissatisfied with the approaches being employed by other psychologists in the USA in the 1930s. Kelly believed that there was too great dependence of patients on "expert" psychologists, a professional obsession with numbers and a serious problem with observer bias.

The role of expert. Kelly's first major concern was the degree to which ordinary people depended on experts and their jargon to explain their behaviour. Kelly believed that if the researcher or clinician wanted to get a mental map of how an individual views the world the person should be asked. According to Kelly (1955), most people are quite capable of explaining their behaviour and taking responsibility for unravelling any problems. "It isn't that most people cannot see the solutions", claimed Kelly, "it is that they cannot see the problems" (1955:201). Because it systematically reveals the respondent's thought processes the Repertory Grid facilitates the independent identification of problems and solutions by the individual. Individuals by being held before a mirror can thus assume responsibility for their own development.

The number game. A second concern for Kelly was the preoccupation that psychologists had with the use of large samples to produce laws about human behaviour. Kelly worried that although such mass data might show something to be statistically significant it was of relatively little value in explaining an individual's thought processes. For Kelly, the central focus was on developing a methodology that permitted the researcher to make precise predictions about individual behaviour.

Observer bias. A third major concern for Kelly was observer bias. He saw this as a serious obstacle to gaining an accurate insight into a person's thought processes. In the interview, bias can be introduced by the researcher in numerous ways (for example, by failing to follow the interview schedule in the prescribed manner or consciously or unconsciously suggesting answers to respondents) (Singleton, Straits & Straits, 1993). To overcome such problems Kelly developed the Repertory Grid Technique. This enabled him to glean detailed information about a respondent in a way that minimises observe bias. As mentioned in an earlier critique of research methods (3.2.1 and 3.2.2), questionnaire survey and in-depth interview approaches have often been criticised for the lack of objectivity. On resolving subjective bias, Kelly's method clearly offers a viable alternative.

3.4.4 Personal Constructs

Constructs are personal interpretations of people, objects and events. In other words, a personalised version of reality (Jankowicz, 2004). Because a construct is given a verbal label when expressed, Kelly (1991) believed that to find its real meaning it is necessary to identify what a person sees as its contrast. To understand what a person means by 'honest', it is necessary to know what they label as its contrast. For example, the contrasts 'honest' – 'cheats', and 'honest' – 'lies' imply quite different meanings to the construct honest. Personal Construct Theory assumes that people anticipate and explain events in their world through organisation of perceptions, called "bi-polar constructs". People use these bi-polar constructs to test hypotheses, which are the basis of personal

theories. In the repertory grid interview, the researcher attempts to elicit a repertoire of constructs in a structured interviewing format.

3.4.5 Elements

Elements define the subject matter of the interview. They refer to specific people, objects, events or activities that represent the research topic. Anything can be an element: people, places, institutions, teaching skills, learning strategies – provided it does not include constructs. The elements should be examples or instances of the topic. For example, for the topic 'Student motivation ', one might have several descriptions of students, such as 'A hard working student', 'A lazy student' and so forth. The elements can be chosen by the researcher based on his or her background knowledge and reasons for conductint the grid interview. They can also be chosen by negotiation between the researcher and the interviewee. In this study, the elements are elicited by the researcher based upon the literature review and the research question. Details will be discussed in the pilot study in the following section.

3.5 Phase One – Repertory Grid (Jan 05 – Sep 06)

3.5.1 The Sample for this Study

The sample employed in this study was a purposive one and is thus non random. A total of twenty-seven (27) part-time adult students were identified by personal contacts or referrals. To be selected as a respondent, the individual must be a part-time student over the age of 24, and is currently studying a degree course or has completed the study no more than two years ago. Age 24 is selected on the basis of Justice & Dornan's (2001) definition of these adults as non-traditional students, who choose to return to education while maintaining their responsibilities in employment, family and other responsibilities of adult life.

Such non probability sampling has two major weaknesses:

a. The selection of interviewees may be subject to researcher bias
b. Results are not generalisable

While mindful of these disadvantages, a purposive sample was considered to be acceptable because of the exploratory nature of the study, the impracticalities of identifying the actual population of part-time adult university students and the logistical problems of randomly selecting an accessible sample. As such, the researcher does not seek to generalise this study to the wider population but to indicate the significance of the issues and what might be the focus of future research.

Further, in order to differentiate levels of requirements and demand, three types of part-time degree course were identified - undergraduate, master's, and doctoral studies.

The total sample was twenty-seven (N=27). Data were obtained via Repertory Grid interviews (lasting an average of one-and-a-half hours) with twenty seven adult students. A description of the sample demographics is presented in Table 3.1. Details about the Repertory Grid interviews will be discussed following an overview of the theoretical explanation of the Repertory Grid methods.

Table 3.1. Sample Demographics

Gender:	
Male	8
Female	19
Age:	
24 - 29	6
30 - 39	9
40 – 49	7
Over 50	5
Marital status:	
Married	13
Single/Divorced	14
Level of studies:	
Undergraduate	11
Master	11
Doctoral	5
Mode of teaching:	
Regular evening and/or weekend taught sessions	9
Occasional evening or weekend taught sessions	15
Distance learning	3

3.5.2 Repertory Grid Procedure – The Pilot Study (Mar 05 – June 05)

It was the first time that the Repertory Grid method was used as a research method by this researcher. There are terminologies and clear procedures to be followed closely in conducting grid interviews and analysis. The semi-structured interview format in eliciting constructs was practised many times for familiarisation and fluency. The application was pilot tested with three part-time adult students. Overall, the testing of the grid proved fruitful and enriching. The following is a brief description of this pilot, which will not only detail the Repertory Grid procedure, but also demonstrate the power and rigor of this methodology.

This pilot study involved an interview with two part-time MSc students in Human Resource Management and one part-time undergraduate student in Management Studies, to seek their perceptions of how they construed a motivated student from that of a less motivated student.

3.5.3 Key Processes

Jankowicz (2004) outlines six key steps in the repertory grid technique and these were followed. The first step was to design the interview worksheet (as shown in figure 3.2) and the grid interview record sheet (as shown in figure 3.5). The second step was the interview with participants using repertory grid technique. The third step involved data recording using both handwritten form during the interview and tape recording of the discussions. The fourth step was entering interview data into the computer, generating analysis reports and transcribing key points from the tape which were not captured in the interview worksheet. The fifth step was analysing the data using content analysis, cluster analysis, frequency count and differential analysis. The final step was to communicate with the interviewees on the key finds in order to clarify the validity of the insights generated.

3.5.4 Element Selection

Elements define the subject matter of the interview. They refer to specific people, objects, events or activities. The choice of elements in Repertory Grid is dictated by the nature of the problem. In other words, one must choose the elements to represent the area of investigation because they help to define the kind of conversation during the interview.

There are three ways to identify elements. Elements can be provided by the researcher, or by asking participant to supply them, or by negotiation between researcher and interviewee. In the case of the current study, the elements are supplied by the researcher, since the whole purpose of using Repertory Grid interviews is to find out if achievement goal theory, formulated in the West with school pupils in mind, can explain motivation of adult students in the East. Thus, perceptions (or personal constructs) of the interviewees need to be elicited for comparison with the literature. In viewing motivation as a social cognitive process, different types of students (for example, hard working, lazy) were selected as elements, as these are common

descriptions that are behaviourally identifiable. By exploring the construct systems of the sample of part-time adult learners, the profiles of motivated and less motivated students were differentiated. This allowed the later discussion of the questions of whether Western theories can be applied to Chinese adults.

The elements chosen were derived from achievement motivation literature within a social cognitive framework which was reviewed in chapter 2. In a pre-pilot investigation, the elements had been tried and reviewed several times with two experienced colleagues for

- relevance to the research purpose
- understandability
- ability of Hong Kong Chinese part-time adult students to relate to them in terms of their personal observation and experience.

Eight types of students, which were referred to in the literature and clearly understood by adult students have been identified (Figure 3.1). The pre-pilot experience also confirmed that for effective communication, the English language should not be used since it was not the interviewees' first language. It was decided that Cantonese would be used as a medium of the interview.

Figure 3.1. Types of Student

1.	A student with good marks
2.	A hard working student
3.	A student with self-confidence
4.	A student who doesn't give up easily
5.	A student with below average marks
6.	A lazy student
7.	A student with less self-confidence
8.	A student who gives up easily

<u>Rationale for Element Selection.</u> Elements selected for the current study are based upon the review of achievement motivation literature as detailed in 2.3. Elements 1 (a student with good marks) and element 5 (a student with below average marks) refer to achievement outcomes. Throughout the review of achievement goal theory academic performances has been discussed as an achievement outcome. It was argued that students who adopt performance-approach goals tend to approach success by outperforming others and aiming for high marks. Whereas students who adopt avoidance goals tend to aim for minimum outcomes with just passing marks (Ames, 1992; Dweck & Leggett, 1988; Elliott & Dweck, 1988). Elements 2 (a hard working student) and 6 (a lazy student) refer to students' effort expended in preparing and studying in a part-time degree course. These two elements also refer to goal orientation as discussed in 2.3.1.2. In the review, goal theorists contend that students who adopt an approach orientation tend to work hard to approach success while those with avoidance goals tend to work as little as possible to avoid failure.

Elements 4 (a student who doesn't give up easily) and 8 (a student who gives up easily) refer to the perseverance factor. It was argued in 2.3.1.3 that students who adopt learning/mastery goals are more likely to attribute success and failure to effort and hard work with an incremental view of intelligence, and they have a tendency to respond to setback with perseverance (Ames, 1992; Dweck & Leggett, 1988). On the contrary, students with an entity view of intelligence tend to believe that intelligence is fixed and there is not much they can do about it. Consequently they are likely to attribute failure to a lack of ability or intelligence; and they tend to give up more easily when they experience difficulties and challenges (Dweck 1999).

In social cognitive theory, self-perceived competence, in its broadest sense, refers to people's beliefs in their capabilities to exercise control over their own functioning, i.e. motivation to achieve. As discussed in 2.3.1.3, competence perception is considered central to achievement motivation as an intervening variable that mediates people's goal adoption and behavioural responses (Elliot, 2005). In the pre-pilot trial, elements 3 and 7 had been labelled "a student with high self-efficacy/low self-efficacy" and "a student

with high perceived competence/low perceived competence" respectively in two separate pilot tests. Feedback from the trial suggested that these terms would be confusing to Chinese-speaking people who were not familiar with social science terminologies. Subsequent tests with more people on the terms also indicated that Chinese people construe meanings of perceived-competence and self-efficacy belief as 'self-confidence' despite attempts made to explain the differences of the terms. As a result, the term self-confidence (elements 3 and 7) was chosen to represent competence perception or self-efficacy because of a higher level of general understandability among people. A further consideration was the fact that respondents would be emailed the Description Worksheet (as shown in figure 3.3) and asked to identify names against the elements prior to the interview; labels of elements must be clearly understood by the respondents since the researcher would not have the opportunity to explain the meaning of each fully.

It should be pointed out that in every Repertory Grid interview conducted in the research process, whenever elements 3 and 7 were addressed, effort was made to ensure that respondents' description of students with confidence was referred to a conscious awareness of one's ability in academic achievement, and not just some mental attitude about one's faith in their ability. It is also noted that the element "A more intelligent student" and "A less intelligent student" were excluded after the pre-pilot investigation because of the difficulty in defining and identifying intelligence of a person.

3.5.5 Qualifier

A qualifier modifies the basic elicitation question and directs the respondent toward the research purpose. In this study, the qualifier was '..what they do and how do they do it that makes them more or less motivated in a degree course'. To ensure that respondents related a question to their personal experience they were given a "Student Motivation Description Worksheet" (see Figure 3.2) and asked to nominate a person they had known who matched the student type described.

Figure 3.2
Student Motivation Description Worksheet

Below are listed eight descriptions which can be used to characterise adult students in higher education. Think of a person you have studied with, or a person you know who fits a description then write down their name. Although a person may fit more than one description, you can only name them once. If you have already named someone, you must make another choice, i.e. your list must include eight different students.

Topic: Motivation of part-time adult learners in higher education

In terms of: what they do and how they do it that makes them more or less motivated in a degree course

NAME   DESCRIPTION

_____   E1   A student with good marks

_____   E2   A hard working student

_____   E3   A student with self-confidence

_____   E4   A student who doesn't give up easily

_____   E5   A student with below average marks

_____   E6   A lazy student

_____   E7   A student with less self-confidence

_____   E8   A student who gives up easily

Note: This worksheet is for your use during the research interview. All people named remain confidential to you.

3.5.6 Construct Elicitation

Respondents were presented with the eight element cards in the following order for triadic sorting:

1	2	3
4	5	6
7	8	

Crossway   1,2,3   4,5,6

Downward   1,4,7   2,5,8

Diagonal   3,5,7   4,1,8   3,6,8   1,5,7
               4,2,6   1,8,6   2,6,7

This format follows the procedure recommended by Stewart & Stewart (1981). Although it does not exhaust all possible combinations it does present every possible pair at least once. Respondents were shown the elements in groups of three and asked "Based on your experience with and knowledge of these three persons, can you tell me in which way two of these students are similar to each other and different from the third; in terms of what they do and how they do it that makes them more or less motivated in a degree course?". In response, the interviewee might say "These two are similar (for example Element 1, a student with good marks) and Element 3 (a student with self-confidence) because they are always "willing to question" issues raised in lecture, while this one is different (e.g. Element 2, A hard working student) because he is completely "withdrawn". This two against one question was used to produce a series of bi-polar scales as shown below.

Willing to question – withdrawn

Want to learn – want to pass

Study long hours – study just before exam

These scales are the constructs.

Responses were recorded by writing down the numbers 1,2,3 (first triad) on the left hand side of the Grid Interview Sheet (see Figure 3.3) on the left side (similar column) with a line drawn underneath the numbers 1 and 3 to denote which of the three elements put forward for comparison. Element 1 (E1 - a student with good marks) and Element 3 (E3 - a student with self-confidence) were construed as similar while Element 2 (E2 - A hard working student) was construed as different. The respondent's phrase, "willing to question" was written alongside these figures in the Similar column of the Grid Interview Sheet. The contrasting construct, "withdrawn" was written in the Different column of the same row of the grid, producing a bi-polar construct of "willing to question" – "withdrawn". A total of 27 bi-polar constructs were elicited from the pilot study of three interviews as shown in Figure 3.4. The number 1.1 denotes the first construct elicited by interviewee 1, and so forth. Average number of constructs elicited per respondent was 9.

3.5.7   Rating of Elements

In this study constructs were turned into a five-point scale. While rating formats can range from 1-3 to 1-9, 1-5 is the range recommended by Jankowicz (2004). A wider range would be asking respondents to make finer discriminations than they can accurately express in a consistent way across the whole grid (Jankowicz, 2004). Upon completing a particular construct in a triadic comparison, respondents were asked to rate the different elements according to a five-point scale. Rating 1 has the closest match with the emergent construct and 5 matches the contrasting construct. See figure 3.5 for an example.

Figure 3.3

Grid Interview Record Sheet
(showing constructs)

Topic: Motivation of part-time adult learners in higher education

In terms of: what they do and how they do it that makes them more or less motivated in a degree course

Name: _____   Date: _____

Elements

1		E1	E2	E3	E4	E5	E6	E7	E8	5
1 2 3	Willing to question									Withdrawn
2 4 6	Want to learn									Want to pass
2 5 7	Study long hours									Study just before exam

3.5.8   Inclusion of Supplied Construct

The fundamental definition of a repertory grid is eliciting the interviewee's own constructs. However, in an effort to understand how the respondent construes, grid analysis can be made more effective by supplying a construct (Jankowicz, 2004). This construct relates directly to the topic of the grid, and to the purpose of the overall grid investigation. In fact, content analysis requires interviewees to obtain rating of an 'overall summary' of the elements. In the current study, a construct named "overall a more motivated student – overall a less motivated student" has been supplied by the researcher. This construct appeared at the very end of the interview, when all the triadic elicitations had been exhausted. Respondents were then asked to think about this statement across the 8 elements and to rate each element. This will produce a matrix for data analysis. It should be noted that, with the supplied construct, the total number of constructs to be analysed in the pilot study is 30.

Figure 3.4

Personal Constructs Elicited in Pilot Study

1.1   Serious about learning - Want to outperform others

1.2   Willing to accept different views - Stubborn, rigid

1.3   Want pass grade - Want good grades

1.4   No learning enthusiasm - High learning enthusiasm, commitment

1.5   Initiate discussion, ask questions - Completely withdrawn

1.6   More family obligations - Less family obligations

1.7   Matured, can face up to set back - Immature, nervous & shy

1.8   Exam oriented - Exam is not the only concern want knowledge

1.9   Subjective, high self esteem - No opinion

2.1   Outspoken - Unwilling to speak up

2.2   Smart fast thinker - Less smart slow thinker

2.3   Want to learn - Want to pass

2.4   Inquisitive - Rote learning

2.5   Persistent with own ideas - Keep opinion to self

2.6   Study consistently - Study before deadlines

2.7   More spare time, less demanding job - Little spare time, very demanding job

2.8   Spend hours studying - Spend less time studying

2.9   Married with obligations - Single care free

3.1   Want knowledge - Want the credential

3.2   Study deeply to get to the bottom - Rely on experience and practical knowledge

3.3   Low priority to study - High priority to study

3.4   Easily distracted with many interests - Persistent despite personal obligations

3.5   Proactive, initiate discussion - Withdrawn, no participation

3.6   Have diverse work experience - Have limited work experience

3.7   Learn as told - Strive to understand

3.8   Company sponsored - Self-financed

3.9   Want better career prospect - Satisfied with career prospect

Figure 3.5

Grid Interview Record Sheet
(showing ratings of elements)

Topic: Motivation of part-time adult learners in higher education

In terms of: what they do and how they do it that makes them more or less motivated in a degree course

Name: _____   Date: _____

Elements

		E1	E2	E3	E4	E5	E6	E7	E8	
	1									5
1 2 3	Willing to question	2	4	1	3	3	4	5	4	Withdrawn
2 4 6	Want to learn	1	2	3	2	3	5	2	4	Want to pass
2 5 7	Study long hours	3	1	4	2	3	5	3	4	Study just before exam

3.5.9 Full Grid

Upon completion of a Repertory Grid interview, the Grid Interview Record Sheet would be fully recorded by hand, as shown in Figure 3.6. Here is an example of a full grid displaying personal construct of one respondent (Scarlette) from the pilot study.

Figure 3.6
Grid Interview Record Sheet
(showing complete constructs and ratings of elements)

Topic: Motivation of part-time adult learners in higher education

In terms of: what they do and how they do it that makes them more or less motivated in a degree course

Name: _____   Date: _____

Elements

1		E1	E2	E3	E4	E5	E6	E7	E8	5
123	Want knowledge	2	1	4	2	5	4	3	4	Want credential
123	Study deeply to get to the bottom	1	1	5	2	3	4	3	4	Rely on experience and practical knowledge
456	Low priority to study	5	4	2	5	1	2	2	1	High priority to study
456	Easily distracted with many interests	5	5	2	5	1	2	3	3	Persistent despite personal/work obligations
147	Proactive, initiate discussion	1	2	4	1	5	4	5	5	Withdrawn, no participation
147	Have diverse work experience	1	2	2	1	5	2	5	4	Have limited work experience
258	Learn as told	4	5	3	5	1	2	3	1	Strive to understand
157	Company sponsored	5	4	4	5	1	4	1	2	Self-financed, juggle with payments
147	Want better career prospect	1	3	5	1	5	4	5	4	No urgent need for career progression, satisfied with career prospect
	Overall a more motivated student	2	1	4	2	3	5	4	5	Overall a less motivated student

3.5.10 Data Analysis

Data generated by the Repertory Grid technique can be analysed using frequency counts, content analysis and multivariate analysis. A number of Repertory Grid programmes are commercially available which facilitate statistical analysis using multivariate analysis. In this study, the Repertory Grid programme (RepIV) developed

by the Centre for Person-Computer studies was employed to generate a principal components analysis. The relationship of each element and construct is shown by a visual representation called a cognitive map. Details will be further explained in this section using data from the pilot study.

Upon entering interview data (i.e. personal constructs and ratings of elements) from individual respondent, the RepIV software was able to generate three displays for each interviewee. Figure 3.7 displays a printout of an original grid, in which one individual interviewee (Scarlette) construed motivating factors in part-time learning.

Figure 3.7. Original Grid of Scarlette

Want knowledge	2	1	4	2	5	4	3	4	Want the credential
Study deeply to get to the bottom	1	1	5	2	3	4	3	4	Rely on experience and practical knowledge
Low priority to study	5	4	2	5	1	2	2	1	High priority to study
Easily distract with many interests	5	5	2	5	1	2	3	3	Persistent despite personal obligations
Proactive, initiate discussion	1	2	4	1	5	4	5	5	Withdrawn, no participation
Have diverse work experience	1	2	2	1	5	2	5	4	Have limited work experience
Learn as told	4	5	3	5	1	2	3	1	Strive to understand
Company sponsored	5	4	4	5	1	4	1	2	Self-financed
Want better career prospect	1	3	5	1	5	4	5	4	Satisfied with career prospect
Overall a more motivated student	2	1	4	2	3	5	4	5	Overall a less motivated student

E8 A student who doesn't give up easily
E7 A studnet with less self-confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self-confidence
E2 A hard working student
E1 A student with good marks

3.5.10.1   Analysis of a Single Grid

3.5.10.1.1   Cluster Analysis

In analysing relationships within a single grid, the ratings are cluster analysed to create a focus grid. These calculations ensure that concepts with similar scores are grouped together in the focus grid. Similarly, attributes that have similar scores across the concepts are grouped together in the focus grid. An example of a focus grid of an individual interviewee (Scarlette) is shown in figure 3.8 below.

Figure 3.8

Focus Grid of Scarlette
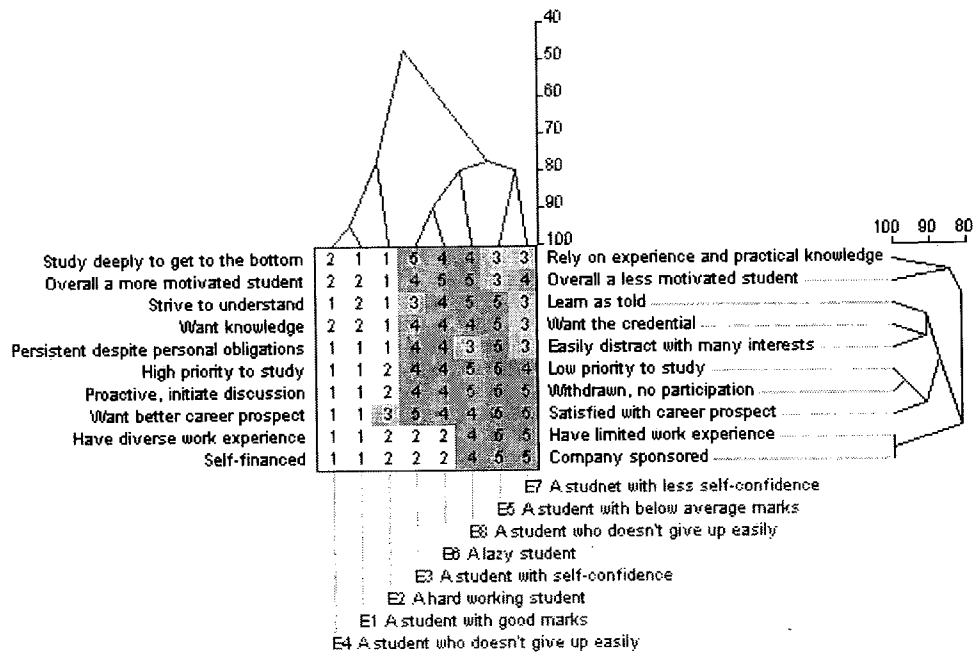
The structures to the top and to the right of the grid shown above are dendrograms that indicate the strength of correlations. For instance, the upper dendrogram shows E1 – "a student with good marks" and E4 – "a student who doesn't give up easily" as being very similar. These two elements have a % similarity score of about 96%. The right-hand dendrogram indicates a high correlation between an environmental factor (being a company-sponsored study or self-financed study) and ability (having limited vs. diverse work experience); the % similarity score is 100%. Another closely correlated construct is related to learning strategies (priority to study and learning behaviour), with a % similarity score of about 97%.

3.5.10.1.2   Difference Score

By further calculating the differences of scores for individual constructs versus the supplied construct (that is, "Overall a more motivated student – Overall a less motivated student"), the extent to which each construct is construed as correlated to the overall motivation can be identified. The lower the difference score, the higher the correlation.

As shown in figure 3.10, constructs 1 (Want knowledge – want credential) and 2 (study deeply to get to the bottom – rely on experience and practical knowledge) have the smallest difference scores with the supplied construct, indicating a close correlation between motivation and achievement goals, and learning strategies. Each difference score was then converted to a % similarity score according to the table provided by Jankowicz (2004) in Appendix 4.

Figure 3.9
Difference Scores

	Against Construct 10	% Similarities
Construct 1	5	68.75
Construct 2	5	68.75
Construct 3	6	62.50
Construct 4	6	62.50
Construct 5	7	56.25
Construct 6	12	25.00
Construct 7	6	62.50
Construct 8	12	25.00
Construct 9	10	37.50

3.5.10.1.3   Principal Component Analysis

The cognitive map of Scarlette, the pilot interviewee, displayed in Figure 3.10, shows the relationships among the elements, the relationships among the constructs and the relationships of each element with each construct. The principal component grid targets to group all constructs into two principal components – the first component explains 79.2% of recognised distinct patterns of variance and the second component 12.3%. Statistically, we can be satisfied with two principal components if they can explain 80% and above variability (Jankowicz, 2004). The distance of an element from a construct shows how important a construct is to that element. Elements and constructs which are related are plotted close to one another.

In this example, the first component (which accounts for 79.2% of variance) includes factors such as "high priority to study", "strive to understand", "want knowledge" to "overall motivation" and "a hard working student", because these constructs lie close to the horizontal component line. Component 2 (which accounts for 12.3% of variance) includes "have diverse work experience" and "self-financed", and these constructs lie close to the vertical component line. It seems that this interviewee has two major groups of preference, one is relating to goals and learning strategies (the first component) and the other environmental factors and ability (the second component). Judging from the percentage of variance, this interviewee clearly perceived goals and learning strategies as more important to motivation of part-time adult students than factors such as ability and the contextual environment. This means that the interviewee chose the meaning of motivation as she preferred, and she was applying alternative meanings, or constructions, to her experience and observation in the past, present or maybe the future. In Kelley's Personal Construct Theory (Kelley, 1955), the principal component grid (Figure 3.10) can be viewed as a graphic representation of the interviewee's personal theory, in which she construed, interpreted, evaluated and observed regularities in what was going on by noting similarities and differences among events relevant to motivation of part-time adult learners.

Figure 3.10
Principal Component Grid

93
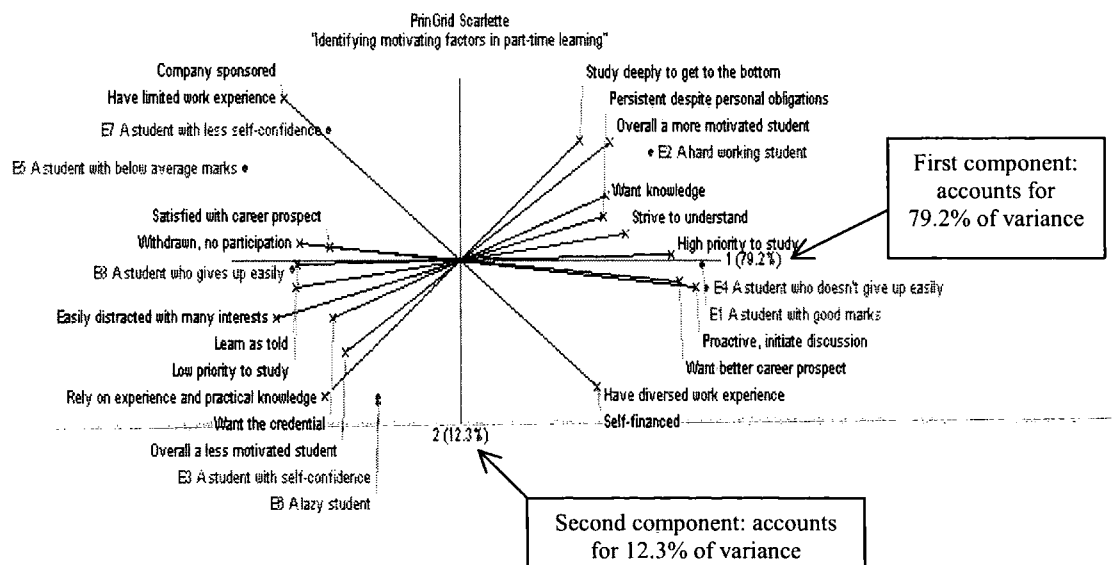
3.5.10.1.4   Validity Check

Computer generated results need to be discussed, verified with the interviewee and agreed by the interviewee. As with the elements, the interviewee should have some sense of ownership of the causal relationships as indicated by the cluster analysis and the principal component grid (Kelly, 1955, 1963). According to Jankoweicz (2004) the proper procedures for validation involve showing the participants the computer generated displays immediately after the interview and discussing their thoughts. However, from a practical point of view, this would not be feasible for two reasons. First, even if the researcher brought along a notebook computer to the interview, inputting the data and explaining the charts would take up valuable time (approximately 15-20 minutes). Together with the 60 minute interview time, it is unlikely that respondents have the time and patience for this process. Second, if time was not an issue, the average interviewee would be overwhelmed by the computer generated charts, not to mention understanding them. During the pilot, brief interpretation of the grid as it stood was communicated to the respondents by pointing out the obvious and checking for reflection.   For the major study, a set of three charts[6] with simple explanation was emailed to each interviewee for endorsement (See Appendix 1 for charts from 27 interviewees).

3.5.10.2   Analysing More Than One Grid

Repertory grid research typically involves more than one interview, and hence, producing more than one grid. In effect the researcher needs to deal with multiple grids with multiple constructs.   The challenge is to aggregate the different meanings presented in a summary for the sample as a whole, while preserving as many of the different interviewees' personal meanings as possible. Content analysis is adopted here to summarise the different meanings in the interviewees' grids by categorising them, counting the similarities and differences within each category.

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[6] Each set includes the original grid, focus grid and principal component analysis.

3.5.10.2.1　Data Categorisation

Twenty seven (27) raw bi-polar constructs were elicited from the 3 pilot Repertory Grid interviews (average 9 per interview). These were individually copied and coded from each Grid Interview Record Sheet onto index cards. To reduce the number of constructs to a more manageable level each coded construct was reviewed for duplication and clarity. Following this an initial sorting was done. Constructs which clearly belonged together, (for example, 'low priority to study' – 'high priority to study') were placed together and given a code. Next, the allocated index cards were examined and classified. This process produced five master construct categories and each was assigned a name. The five master constructs were: Goal Orientation, Ability/Effort Attribution, Self-Perception, Learning Strategies, Environmental Factors (see figure 3.11). The % similarity scores from the pilot interviewees were also recorded to indicate the extent to which each construct was similar, or different from the supplied construct (% similarity scores of one interviewee were listed in Figure 3.9).

3.5.10.2.2　Reliability Check

The categories devised in the pilot study were simply the researcher's own opinion, which was her own way of construing the interviewees' constructs. Other people might not see the same kinds of meaning in the constructs, and might even disagree. To guard against this problem, every content analysis needs to incorporate a reliability check. This is a procedure which ensures that the category system should make sense to other people although one has absolute freedom to make private interpretation of each category.

An independent reviewer, ideally an academic experienced in motivation theories, should be invited to examine each allocated construct and its coded grouping for clarity and internal consistency. Vague, confusing or duplicated constructs ought to be eliminated. When completed the independent reviewer and the researcher again examine each category to check for internal consistency, to reallocate any mis-

categorised constructs and to eliminate any repetitive, value or confusing constructs. In cases of disagreement, both parties must negotiate and renegotiate over the meaning of the categories and arrive at a redefinition. The process may take between one to three hours to:

a. check for any vague, confusing or unrepresentative constructs;

b. check each of the master construct categories to ensure that all the construct items formed logical clusters;

c. determine whether any of the categories could logically be further combined;

d. give a name to each category

Inter-rater reliability check between an independent investigator should be carried out on the content analysis in order to reach a mutually agreed redefinition of the categories. For the pilot study, this was not done since the total number of constructs elicited from three pilot interviewees was not large, and categories were readily identifiable against the literature.

Figure 3.11
Summary of Master Constructs
Pilot Study

Category (no. of constructs, % of total)	Constructs	% Similar-ity	Average % Similarity Score	H-I-L Value
Goal Orientation (6, 22%)	1.1 Serious about studying – Want to outperform others	50.00		I
	1.3 Want good marks – Only want to pass	56.25		I
	1.8 Exam is not the only concern – Exam oriented	50.00		I
	2.3 Want to learn – Want to pass	62.50		I
	3.1 Want knowledge – Want the credential	68.75		H
	3.9 Satisfied with career, no urgent for career progression – Want better career prospect	37.50		L
			57.50	
Ability/Effort	2.2 Smart, fast thinker – Less smart, slow			

Attribution (6, 22%)	thinker	37.50		L
	2.6 Study consistently – Study before exam	62.50		I
	2.8 Spend hours studying – Spend as little time as possible	75.00		H
	3.3 High priority to study – Low priority to study	62.50		I
	3.4 Persistent despite personal obligations – Easily distracted, many interests	62.50		I
	3.6 Diverse work experience – Limited work experience	25.00		L
			56.25	
Self-Perception (5, 19%)	1.2 Willing to accept different views – Stubborn, rigid thinking	31.25		L
	1.7 Handle criticism/set back maturely – Gets discouraged easily	68.75		H
	1.9 Subjective, high self-esteem – No opinion	43.75		I
	2.1 Outspoken – Afraid to speak up	38.89		L
	2.5 Persistent with own views – Keep opinions to self	- 6.25		L
			40.28	
Learning Strategies (6, 22%)	1.4 High commitment - No plan, no enthusiasm	75.00		H
	1.5 Initiate discussion, ask questions – Complete withdrawal from discussion	18.75		L
	2.4 Inquisitive – Rote learning	47.50		L
	3.2 Study deeply to get to the bottom – Rely on experience and practical knowledge	68.75		H
	3.5 Proactive, initiate discussion – No participation	56.25		I
	3.7 Learn as told – Strive to understand	62.50		I
			54.79	
Environmental Factors (4, 15%)	1.6 More family obligations – Less family obligations	25.00		L
	2.7 More spare time, less demanding job – Little spare time, very demanding job	37.50		L
	2.9 Married, family responsibilities – Single, care free	62.50		I
	3.8 Company sponsored studies – Self financed	25.00		L
			37.50	

3.5.10.2.3   Honey's Content Analysis

Honey's technique utilises some of the ratings available in the repertory grids from which the pool of constructs being categorised are taken. In this way, it manages to aggregate the meanings shared by a group of people while reflecting some of the individual perception of their private meanings (Jankowicz, 2004). For this purpose, a construct "overall a more motivated student – overall a less motivated student" had been supplied in this study.

Honey's content analysis proceeds on two assumptions (Honey, 1979):

a. that elicited constructs express personal ways by which each respondent understands the supplied construct; they are personal aspects of that construct;

b. that this personal meaning can be expressed as a matter of degree: some elicited constructs lie closer to the personal meaning of the supplied construct than others.

For each interviewee, the sum of differences between the ratings of the elements on each elicited construct, and the ratings of the elements on the supplied construct, are computed (As shown in Figure 3.9). These sums of differences were converted into percentage matching scores to cater for the situation in which different interviewees might have been working with different numbers of elements. After all the constructs of all interviewees were pooled and categorised, the result was that every construct had attached to it a percentage matching score (see Figure 3.11), which indicated its personal relevance to the topic of motivation of part-time adult learners as defined by *each individual interviewee's* own definition of "relevance" (the match is between the ratings on each construct and *the individual's* ratings on the supplied construct).

3.6   Learning from the Pilot Study

The pilot study was completed with positive feedback from the three respondents. They were impressed with this approach which they found intriguing and interesting. The

comments were that they could not foresee the answers and the final pattern of the constructs until they completed the rating. Two interviewees also commented that the final pattern was quite contrary to what they had in mind. An example was the low perceived effect of external factors on achievement motivation; they had always thought that they would be the most important factors. Yet at the same time, they agreed that the final "picture" was more meaningful and enlightening.

The major issues around this methodology were that it demanded much time and efforts from the respondents in thinking, comparing, and analyzing. The patience and concentration of the interviewees was easily worn thin after half an hour to 45 minutes of discussion. Therefore they easily gave up making any more comparisons on the excuse that they could not think of any new constructs.

3.7   Enhancement/Changes to Procedures for Major Study

Based on the insights from the pilot, a few additional steps were included in the major study in order to further improve the interviewing process and the subsequent analysis.

3.7.1   Validation of Interview Results

Each of the interviewees was provided through email copies of the computer generated reports of: the display grid, the focus grid that reflected the major clusters of constructs, the principal components grid and an overall summary that highlight major findings. All the interviewees were invited to send feedback and confirmation of the findings. While mindful that not every participant would respond to the email, effort was made to build in some form of discussion during the interviews which allowed for individual reflection.

3.7.2 Reliability Check of Master Constructs

During the pilot study, the categorization of the master constructs was done by the researcher, which was her own way of construing the interviewees' constructs. Different groupings might be generated by other different individuals. It is therefore necessary to conduct a reliability check on the final categorization to ensure the groupings make sense and are reasonable. This was not done in the pilot study due to time and resource constraint, but this step was conducted in the major study. An independent reviewer who was familiar with motivation theory was asked to repeat the groupings, then they were compared to that of the researcher's. The resulting differences were discussed and reviewed and through negotiation and discussion, the reviewer and the researcher would eventually agree on the logical and reasonable groupings, including the names of the major constructs and the inclusion of the individual constructs that would be included into each category.

3.8 Benefits and Limitations of the Repertory Grid Technique

It is in the application of interpretive perspectives in social research, where the investigator seeks to understand the meaning of events to those participating, that repertory grid technique offers exciting possibilities. The technique provides a means to capture subjective ideas and viewpoints and it helps interviewees to focus their views and opinions in a non-threatening way (Jankowicz, 2004). It elicits people's concepts without influencing their judgement by leading questions, as is the case when using other methods, such as questionnaires and interviews. The technique has two more advantages over traditional quantitative methods. First, it uses real people to identify real feelings or views rather than making assumptions about the current situation typically found in a questionnaire design. Second, the technique does not seek to fit interviewees' views into existing (and sometimes ill-defined) constructs. As a result, it is able to provide the researcher with an abundance and a richness of interpretable material. In exploring potential areas in higher education where the repertory grid might be deployed, the technique has been found to be a powerful heuristic tool, not

only to elicit people's present personal constructs of research, teaching and professional development from the researcher's perspective, but, moreover, to help staff and students to become aware of their own and other people's personal perspectives of professional or academic aspects (Zuber-Skerritt, 1988). The technique is especially suitable for the exploration of relationships between an individual's personal constructs (Cohen et al., 2003).

However, those who subscribe to a positivist paradigm may reject a constructivist approach in favour of quantitative surveys and questionnaires, which have higher face validity, and are quicker and easier to administer. Realistically, the time needed to elicit, analyse and interpret the grid is far greater than the time needed to administer and computer score standardised questionnaires, or to carry out an interview. Second, there is potentially a problem if the researcher fails to verify the computer-generated construct clusters with interviewees, because of the great importance of the validity of grid interpretation through discussion and reflection on the computer analysis and the assumptions of the underlying theory, including the primary importance of an individual's interpretation of the event (Kelly, 1955, 1963). Verifying the clusters can add to the time taken. Moreover, because repertory grid does not always easily lend itself to traditional psychometric assessment, it has been argued that while useful, it should only be employed as one source of information (Fransella, Bell & Bannister, 2004). Further, since the Repertory Grid does not measure a trait or characteristic in the traditional way a questionnaire does, but rather looks at the relationships between a person's constructs (giving it an infinity of forms), validity can only be expressed regarding a particular grid. So the limitations are that these individual personal theories are not necessarily generalisable and valid to other people.

3.9   Phase Two - Focus Group Discussion of Major Findings (Oct 06 – Nov 06)

In phase one of the current study, repertory grid techniques were used to generate two sets of data. First, personal constructs were elicited by individual interviewees representing each individual's personal theory about adults' achievement motivation in

part-time studies. This interview results were validated by communicating with respondents for their endorsement as outlined in validity check in 3.5.10.1. Insights of the pilot studies were considered and further steps were suggested to improve the validity, which was discussed in 3.7.1. Second, all the personal constructs were categorised into master constructs that represented groups of key factors that were perceived to be related achievement motivation by the sample as a whole. To ensure reliability of the grouping, a second opinion was sort to check for consistency. Phase two of the research concerns triangulation of major findings of the Repertory Grid data through focus group discussions. The nature of focus groups and their relation with this study is clarified and explained as follow.

3.9.1 Relevance of Focus Groups to this Study

For this study, triangulation of data combines data drawn from two qualitative methods, the Repertory Grid interviews and focus group discussion. The aim of the triangulation is to obtain convergence in the sense of confirmation of what has been discovered in Repertory Grid. Focus group discussion is a highly effective qualitative method especially for triangulation and validity checking (Morgan, 1997). The use of focus groups was to present major findings from the Repertory Grid and invite group members to comment, discuss and reflect. Members were encouraged to range freely in their discussion where this may reveal data that provide the research with important insights. With the presence of group dynamics, this type of interaction is likely to lead to a rich flow of data with a variety of points of view (Morgan, 1997). A dynamic group can generate or respond to a number of ideas, or master constructs, and evaluate them, thus helping the researcher to explore the question of transferability of western achievement theory in this study. The advantages can be summarised as synergy and serendipity (more information and ideas generation), stimulation and snowballing effect building on ideas of one another, more structure in terms of preset guideline yet at the same time allowing flexibility in discussions (Berg, 2004).

Although the group interaction is generally seen as an advantage of focus groups, there is always the possibility that intimidation within the group setting may inhibit interaction. To be effective, the focus group procedure requires a moderator, skilled at leading groups. Such a moderator should have sufficient group dynamics skills and techniques to be able to exercise control over the group, yet do so unobtrusively (Henn, Weinstein, Foard, 2006). Another difficulty associated with the use of focus groups, which is not encountered in individual interviews, is scheduling a time and location convenient to all participants. It is also noted that focus groups are not useful for testing hypotheses in the traditional experimental design; nor are they appropriate for drawing inferences about larger populations or for statistical testing and interval estimation, which require quantitative findings (Morgan, 1997). Focus group approach is appropriate for this research since hypothesis testing is not an objective.

The group method is particularly relevant to this study since participants can freely relate their personal experiences and insights to motivation in part-time studies. As described in 3.5.6, during the Repertory Grid interviews, the personal life of the interviewee was never referred to. With the interactive dynamic of the focus group approach, individual group participants can, within the limitations they might feel in a group, share their views whether agreeing or disagreeing, thus enabling all the key issues to surface.

3.9.2 The Focus Group Procedures

3.9.2.1 Planning of the Focus Group

Upon analyses of the Repertory Grid data, major findings were drawn based on emerging patterns and contents. A comparison against the literature revealed gaps between the data and theories, as well as prominent areas that warranted further investigation. A list of ten open-ended questions was drafted as a discussion guide. The questions have both a content and a process function. With respect to content, the number of questions was limited to less than ten because of the group process; a great

deal of discussion and elaboration could take place in a 100-120 minute session. Details of the process can be found in 5.2.3 of the Focus Group Discussion chapter.

3.9.2.2 Membership

All the 27 Repertory Grid participants were approached by email for their participation in focus group discussions. In the invitation, the goals of focus groups were specified, which were to present major findings of the Repertory Grid interviews in which they participated, and to seek their views, feelings and ideas of the findings. Since all the participants were adult students experienced in part-time degree studies, there is a certain degree of homogeneity among members. Two focus groups were organised; the demographic profile is presented in table 3.2.

Table 3.2. Demographic Profile – Focus Group

		Group A	Group B
Gender	Female	4	3
	Male	1	1
Age	24-29		1
	30-39		3
	40-49	3	
	over 50	2	
Marital status	Married	1	1
	Single/divorced	4	3
Level of studies	Undergraduate		3
	Master	2	1
	Doctoral	3	
Mode of learning	Regular evening and/or weekend taught sessions		4
	Occasional evening or weekend taught sessions	3	
	Distance learning	2	

3.9.2.3 Moderator

The role of moderator, which was assumed by the researcher, is particularly important in focus groups. The main role was to facilitate discussions, keep the flow directional and relevant. The moderator should encourage participants to discuss topics, to

challenge opinions expressed by others, and to identify shared positions. To stimulate discussion, the moderator needs to draw out silent individuals, and control those who dominate the conversation. Above all, the moderator is supposed to obtain participants' perceptions on areas relevant to adults' achievement motivation in a permissive and non-threatening environment.

3.9.2.4 Discussion Guide

A focus group is a carefully planned discussion designed to elicit feelings, experiences and insights from participants. To keep the discussion on track, it was necessary to develop a discussion guide that directs group discussion and maintains focus. The following is a guide developed for this focus group discussion.

- Introduction of focus group objectives and agenda
- Introduction of participants
- An overview of major findings of Repertory Grid
  - Presentation of master constructs – summary of construct descriptions
  - Presentation of charts that compared frequency counts and preferred constructs
- Introduction of questions and specific issues
- Discussion of questions and specific issues
- Summary
- Thank participants

3.9.2.5 Recording the Responses

It was necessary to seek participants' consent to recording by email or by telephone. Participants were assured that the recording contents were used exclusively for this research and their identities would not be revealed. Discussions were audio-recorded and transcribed immediately in order to resolve ambiguities while the session was still fresh.

3.9.2.6 Data Analysis

Coding procedures were used to categorise common themes within the social-cognitive framework. In content analysing the dominant themes, deviations, if any, were noted; moreover, interesting stories and quotes, the context which gave rise to participants' perceptions or comments were also noted. The intensity of the responses would be assessed, that is, the enthusiasm a participant held for a given topic. Comparisons with findings from both focus groups were made for further discussion.

3.10 Summary

This chapter discussed the methodology employed to examine of the objectives of this study. First, it described the rationale for adopting a heuristic approach which is considered relevant and appropriate for this exploratory study. Secondly, it described the Repertory Grid procedure and its research applications to the study of achievement motivation of part-time adult students in Hong Kong. The Repertory Grid is especially useful in exploratory studies with an emic view because data are expressed in the voices of the respondents (via their personal constructs) and not the voice of the researcher. Bias is reduced because no response alternatives are imposed. Response equivalence is also promoted because data collection procedures are standardised across all respondents. Thirdly, it describes the focus group approach for data triangulation and validity checking of the Repertory Grid data. The group approach is also considered appropriate for the exploratory nature of this study rather than hypothesis testing. The research question and the related methodologies are shown in table 3.3.

Table 3.3.
Summary of Research Methodology

Research Questions	Phase 1. Repertory Grid Interview Technique	Sample	Element Selection	Element matching & Construct Elicitation	Recording	Analysis	Phase 2. Focus Group Discussion
To what extent can achievement goal theory be transferred to explain part-time adult learners in Hong Kong? **Affiliated questions:** Does achievement goal theory satisfactorily explain achievement motivation of Chinese adult learners with respect to 1. personal factors? 2. behavioural patterns? 3. contextual environment?	Qualitative research technique which systematically examines the perceptions, feelings and experiences of part-time adult students in a degree course expressed in their own words, i.e. it reveals their personal construct systems.	11 undergrad students 11 master students 5 doctorate students	To define the subject matter of the interview the following eight elements were employed 1. A student with good marks 2. A hard working student 3. A student with self-confidence 4. A student who doesn't give up easily 5. A student with below average marks 6. A lazy student 7. A student with less self-confidence 8. A student who gives up easily	The eight elements were presented in various order for triadic sorting. Respondents were asked "Based on your experience with and knowledge of these three persons, can you tell me in which way two of these students are similar to each other and different from the third; in terms of what they do and how they do it that makes them more or less motivated in a degree course?" To ensure that respondents related each question to their own experience, they were required to nominate a person they knew personally who matched the element described.	-Responses were recorded on the Grid Interview Record Sheet (Figure 3.3) -Interviewee comments were directly hand recorded by the researcher	1. Content analysis of individual personal metrics to identify value of each construct elicited 2. Elicited constructs were content analysed & categorized into 21 master constructs 3. The master 21 constructs were classified into 11 sub-constructs grouped in 3 areas based on the social cognitive model The total elicited constructs were further content analysed to shortlist preferred constructs that were valued highly by the interviewees	Findings of the Repertory Grid interviews were presented to two focus group comprised of 4-5 individuals who had participated in the Repertory Grid interview Discussion was audio recorded and content analysed

Chapter 4
Repertory Grid Interviews – Findings and Interpretation

4.1   Introduction

As discussed in the previous chapter on research methodology, a heuristic approach involving two phases was adopted in this exploratory study on transferability of western theory of achievement motivation to Chinese adult learners. The first phase involves the use of repertory grid interview technique for extracting meanings that people have of the world around them. The second phase seeks to validate what people say during the interview with focus group discussions by triangulation of the sources of data. This chapter presents the results of twenty-seven repertory grid interviews, in which participants revealed their personal theories of motivation.

The repertory grid technique is a structured procedure designed to elicit a repertoire of constructs and to explore their structure and interrelations. Adult interviewees were asked to compare and contrast different elements (that is, types of students; for example, hard working, lazy) relevant to the purpose of this investigation in triads. As interviewees talked about different types of adult learners in part-time studies, they "created" their personal theories about motivation through a repertory of personal constructs. The constructs elicited by each interviewee form the basis for this analysis. An account of how constructs were elicited is detailed in section 3.5 in which the repertory grid procedures were discussed.

A summary of constructs elicited by 27 interviewees is presented in Table 4.1. The interviewees are classified in three groups, the undergrads, Master level and Doctorate students. All of the 27 interviewees have either completed a part-time degree course or are currently studying one.

Table 4.1   Summary of Constructs Elicited

Undergrad Interviewees	Constructs Elicited	Master level Interviewees	Constructs Elicited	Doctorate level interviewees	Constructs Elicited
U1	12	M1	13	D1	13
U2	11	M2	8	D2	10
U3	12	M3	12	D3	10
U4	10	M4	10	D4	11
U5	12	M5	11	D5	13
U6	11	M6	13		
U7	12	M7	13		
U8	13	M8	10		
U9	13	M9	9		
U10	11	M10	7		
U11	12	M11	13		
	129		**119**		**57**
Total constructs					**305**

According to table 4.1, a total of 305 constructs were elicited by 27 interviewees during the repertory grid interviews when they referred their personal views and experiences to achievement motivation of part-time studies.   In other words, phase one of this investigation was able to collect 305 data that are relevant to motivation to adult students in Hong Kong. In the remainder of this chapter, all the constructs elicited will be analysed to address the research question: to what extent can achievement motivation theories developed in the West be transferred to Chinese adult learners in Hong Kong. A series of content analyses will be used to process the data.   For an overview of how data are analysed, figure 4.1 summaries the flow of the analysis process.

First, all the 305 constructs elicited will be sorted, grouped and categorised into 21 master constructs.   The process is reported in 4.2 and the master constructs are interpreted against the literature in 4.3.   Second, personal constructs elicited by individual interviewees are content analysed in order to identify constructs that are highly valued by each individual; this is discussed in 4.4. Third, the sample as a whole is considered through further analysis of master constructs to determine specific constructs that are highly preferred by the sample collectively; the analysis can be found

in 4.5. Lastly, both the individual and sample analyses will be combined for an overall discussion in 4.6.

Figure 4.1   An Overview of the Data Analysis Process

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                    ┌──────────────────────────┐
                    │ 305 personal constructs  │
                    │ from 27 repertory grid   │
                    │ interviews               │
                    └──────────────────────────┘
                      │                      │
          ┌───────────┘                      └──────────┐
          ▼                                             ▼
┌──────────────────────┐                  ┌──────────────────────┐
│ 4.4 Analysis of      │                  │ 4.2 Categorisation   │
│ personal constructs  │                  │ of master constructs │
│ in individual grids  │                  │                      │
└──────────────────────┘                  └──────────────────────┘
    │            │                                     │
    ▼            ▼                                     ▼
┌──────────┐ ┌──────────┐              ┌──────────────────────────┐
│ Constructs│ │ Constructs│             │ 4.2.1 - 4.2.3           │
│ with high │ │ in        │             │ Grouping, labelling,    │
│ % similar-│ │ H-I-L     │             │ categorising 21 master  │
│ ity scores│ │ indices   │             │ constructs              │
└──────────┘ └──────────┘              └──────────────────────────┘
    │            │                             │
    └─────┬──────┘                             │
          ▼                                     │
┌──────────────────────┐                        │
│ Individually         │────────────┐           │
│ valued constructs    │            │           │
└──────────────────────┘            │           │
                                    ▼           ▼
                    ┌──────────────────────┐ ┌──────────────────────┐
                    │ 4.5 Content Analysis │ │ 4.3 Interpretation & │
                    │ of master construct  │ │ Frequency count of   │
                    │ - Aggregate meaning  │ │ master constructs    │
                    │ - Comparative        │ └──────────────────────┘
                    │   importance         │           │
                    │ - Identifying 104    │           │
                    │   preferred          │           │
                    └──────────────────────┘           │
                              │                         │
                              ▼                         │
                    ┌──────────────────────┐           │
                    │ 4.6 Interpretation of│           │
                    │ Preferred Construct  │           │
                    └──────────────────────┘           │
                              │                         │
                              └───────────┬─────────────┘
                                          ▼
                              ┌──────────────────────┐
                              │ 4.7 Overall          │
                              │ Discussion           │
                              └──────────────────────┘
```

4.2 Categorisation of Master Constructs

4.2.1 The Procedure

In the analysis, the constructs of all the interviewees are pooled, and categorised according to the meanings they express. For this research, a total of 305 constructs has been elicited from 27 interviewees. The process involves identifying, labelling, sorting, grouping and re-grouping constructs with similar meanings. In fact, it is a process in which the researcher construes the interviewees' personal theories of motivation. The initial categories are shown in Table 4.2, with a total of 17 master constructs. To ensure that the category system is not idiosyncratic, a reliability check is incorporated in the process.

Table 4.2   Master Constructs Version 1

1	Goal orientation
2	Self confidence
3	Attitude
4	Time & effort
5	Commitment
6	Intelligence
7	Other ability
8	Expectations
9	Persistence
10	Help-seeking
11	Self-monitoring
12	Self-handicapping
13	Planning & time management
14	Learning approach
15	Employment
16	Family
17	Miscellaneous

4.2.2 Reliability Check

An independent reviewer familiar with motivation theories was invited to repeat the procedure of identifying, sorting, labelling and grouping of all 305 constructs. Table

4.3 shows the categories identified by the reviewer, with a total of 22 master constructs. A comparison of the two versions revealed that there were differences. For categories that were disagreed on, the researcher and the reviewer discussed, negotiated, re-labelled and rearranged the categories until a system has been agreed upon. For example, the reviewer's version of 'employment/career security' and 'social recognition' corresponded closely with version one's 'goal orientation'. Upon discussion, it was agreed that it would be more appropriate to label them as 'employment-related goals' and 'other goals' respectively. In the final version, master construct of 'other goals' comprised of social recognition goals as well as other forms such as social solidarity. The reviewer's category of 'clear goals' was not identified as a separate master construct in version one. After much discussion, it was agreed that it should be added with the label 'goal clarity'. In general, there was about 80% agreement initially; with some of the differences found in choice of words in labelling and some in terms of interpretation of constructs. The process of reliability check was rather time-consuming yet very fruitful. Through discussion with the reviewer, we were able to group and label interviewees' personal constructs more coherently for further analysis against the achievement motivation literature, which is in section 4.4 of this chapter.

Table 4.3   Master Constructs Version 2 by Independent Reviewer

1.	Employment /career security
2.	Social recognition
3.	Clear goals
4.	Learning expectations
5.	Cognitive ability
6.	Language skills
7.	Life experience
8.	Personality/Confidence
9.	Attitude towards learning
10.	Diligence
11.	Commitment
12.	Attendance
13.	Planning / time management
14.	Study approach
15.	Performance in class
16.	Dealing with failure
17.	Family
18.	Financial
19.	Job Factors
20.	Personal factor
21.	Learning environment
22.	Education provider

4.2.3   Finalising Master Constructs

The finalised category system (Table 4.4) consists of 21 master constructs, five more than the initial attempt and one less than the reviewer's version. Some of the category labels have also been changed. After sorting all the constructs into the master category, wordings are examined in order to come up with collective meanings that describe the category as a whole. In the process, words with similar meaning are grouped and summarised, and words at odds are not included in the summary table. Each of the

master constructs is described in bipolar forms, with the emergent pole on the left and implicit pole on the right[7]. A complete listing of all the constructs grouped under twenty-one master constructs is presented in Appendix 2.

Table 4.4
Bi-Polar Construct Description

	Master Construct	Emergent Pole	Implicit Pole
1	Employment-oriented goals	Employment security, career prospect, job competitiveness, career advancement, professional qualification	Personal interest, self-esteem, self-improvement, fulfilling personal goal, too much time
2	Other goals	Social trend, decoration, recognition, self-esteem	To be the best
3	Goal clarity	Clear goals, know what they want, goal commitment	No objective, no purpose, no goals
4	Expectations and value	High marks, good results, knowledge, learning, continuous improvement	Easy pass, minimum learning material, minimum effort, low expectation
5	Cognitive ability	Smart, bright, intelligent, sharp, common sense, strong comprehension, knowledge application	Slow, mediocre, less intelligent, shallow, unable to apply knowledge
6	Language skills	Good English, express well, efficient learning	Poor English, weak language skill
7	Study skills	Effective study skills, practical, pragmatic, strong academic background	No skills, rigid, weak academic background, random
8	Work life experience	Matured, extensive work experience, wide exposure, diverse and rich life experience	Younger, limited work experience, limited exposure, simple & smooth life
9	Self-concept	Confident, believe in effort-performance, persistent, decisive	Rely on others, don't trust own self, no confidence, nervous, constantly worries, self-doubt
10	Attitude	Serious, focused, enthusiastic, high priority, care about improvement & learning	Not serious, half-hearted, slack, sloppy, avoid difficulty, don't care
11	Commitment & effort	Strong commitment, taking responsibility, hard working, make effort to prepare for exam & assignments	Lazy, no effort, study cues for exam in the last minute, studying is a chore, make excuses, choose easy courses and assignments
12	Attendance	High priority, make conscious effort to attend classes despite heavy workload and other commitments	Low priority, frequent absences, make excuses, find excuses not to attend class,
13	Planning	Good time management, planning ahead of time	Poor time management, no planning, last minute rush
14	Approach to learning	Deep learning, taking broad perspective, wide reading, care about understanding & learning, exploring options, creative, systematic, pragmatic	Surface learning, memorising without understanding, conservative, must have cues for exam, learning is irrelevant
15	In-class	Active participation, willing to	Quite, withdrawn, never approach teachers

[7] During the repertory grid interview, interviewees' perceptions of common characteristics of a pair of students are recorded in the emergent pole. Descriptions that made the third student different from the pair were recorded in the implicit pole.

		behaviour	approach teachers for clarification, willing to share, attentive, outspoken and constructive	for questions, daydream, sleep, do other things, selective attention
16	Initiative & independence		Actively seek help to solve problems, taking personal responsibility, independent	Passive, no initiative, rely on others for ideas and solutions, want to be told
17	Response to setback		Persist in difficulty or under-performance, take initiative to evaluate performance, accept responsibility, no complaint	Give up easily, complain a lot, accept failure, withdraw in failure, make excuses for poor performance
18	Employment factor		Demanding job, frequent overtime, unstable job, dynamic & challenging job, more responsibility, senior position	Routine job, regular 9-5 job, considerate boss, secured & stable employment, less senior position, less work pressure
19	Family factor		Many family obligations, demanding & complex domestic environment, health issue	Less family obligations, supportive family, no particular personal issue
20	Financial factor		More financial burden, unstable income, self-financed	Well-off, wealthy family, independent, company-sponsored

Note: The implicit pole is not necessarily a dictionary opposite. It reflects the meaning given by the interviewees.

Table 4.5 provides further details of the master constructs. Starting with the more obvious data, i.e. the number of constructs found in each master category. In the first category, 'employment-related goals', 23 constructs were elicited, and this represents 7.5% of the total number of constructs (305) elicited by all the interviewees. These figures are referred to as frequency of mention.

It is apparent that construct 11, 'Commitment and effort' is mentioned the most, with 12.4% of total constructs elicited. The second most mentioned category is 'Expectations and value' with 9.5%. Construct 3, 'Goal clarity' is mentioned the least, with only 2%. However, it should be remembered that frequency of mention does not equate value or importance. The meanings offered by individual interviewees as they expressed their personal knowledge of motivation, and their personal value attached to a given construct still remain unclear at this stage. Findings of a more in-depth analysis of individual meanings conveyed by each interviewee's rating in every grid will be presented in 4.5, in which 20 master constructs (excluding 21. Miscellaneous) are content analysed.

Table 4.5   Finalised Master Constructs

	Master Construct	Constructs elicited	% of total
1	Employment-related goals	23	7.5
2	Other goals	7	2.3
3	Goal clarity	6	2
4	Expectations and value	29	9.5
5	Cognitive ability	21	6.9
6	Language skills	7	2.3
7	Study skills	8	2.6
8	Work life experience	13	4.3
9	Self-concept	11	3.6
10	Attitude	13	4.3
11	Commitment & effort	38	12.5
12	Attendance	6	2
13	Planning	8	2.6
14	Learning approach	23	7.5
15	In-class behaviour	10	3.3
16	Initiative & independence	7	2.3
17	Response to setback	15	4.9
18	Employment factor	21	6.9
19	Family factor	19	6.2
20	Financial factor	13	4.3
21	Miscellaneous	7	2.3
	Total	*305*	

4.3   Interpreting Master Constructs

In the social cognitive model, motivation in an achievement context is explained in a triadic and reciprocal process (Dweck & Leggett, 1988) as explained in Section 2.2, which comprises of a person's cognition, behaviour and contextual environment. Data collected in the repertory grid interviews are interpreted against this theoretical framework.

In the process of identifying and framing constructs against achievement goal theories and models, the researcher had experienced some difficulties in deciding how certain constructs should be labelled. This is due to the fact that constructs were expressed in bipolar mode during the interviews; yet a construct is not necessarily composed of semantic opposites. While sometimes it is obvious that constructs such as 'Very demanding job – less demanding job' are related to employment, yet not all the constructs are as clear-cut and explicit. An example is 'Matured, pragmatic and stable – Over nervousness', which is harder to label. It can be said that 'over nervousness' is an indication of lack of self-confidence. However, 'matured, pragmatic and stable' do not exactly mean self-confidence. As a result, the master constructs were interpreted as best as feasible, noting redundancies and overlaps at times. With this concern in mind, due consideration was given to such ambiguity in the analysis.

The following sections show how the master constructs were interpreted and categorised against the social-cognitive framework. Three specific domains were categorised in parallel with the framework; and consisted of (1) person-cognition, (2) behavioural responses; and (3) contextual environment. Simple analysis is carried out with reference to frequency of mention of the master constructs and categories in general.

4.3.1 Person-Cognition

The person-cognition domain is about a person's beliefs, expectations, goals, intentions and self-perception. According to the social cognitive theory, through feedback and reciprocity, a person's own reality is formed by the interaction of the environment and one's cognitions. There is also an interaction involving one's thoughts and emotions and one's actions (Bandura, 1993). Of the twenty master constructs (excluding the miscellaneous construct) identified earlier in section 4.2.3, nine master constructs were found to be related to cognitive factors. Upon analysis against the literature, these nine master constructs were grouped into four categories within the domain of person-cognition (Table 4.6a). The four categories were directly related to the person-

cognition domain in the social-cognitive framework, and had been discussed in the literature review; they were: 1). motives and aspirations, 2). goal orientation, 3). abilities and skills, and 4). self-perceptions.

4.3.1.1 Motives and Aspirations

'Motives and aspirations' are important factors that drive adults to decide to take up part-time studies. Three master constructs from the data are directly related to this category - employment-related goals (such as employment security and career prospect); other goals (such as social trend and recognition); and goal clarity (knowing what one wants with no uncertainty). A brief description of the nine master constructs can be found in table 4.4; see also Appendix 2 for a detailed display of all the constructs. These goals constructs represent the basic motivational orientation that is fundamental in the achievement goal theory. For the most part, the kinds of goals described in the interview data can be conceptualised in terms of extrinsic or intrinsic orientations (Ryan & Deci, 2000), as well as goals with a future time perspective (Eccles & Wigfield, 1995; Husman et al., 2004). Identifying the last master construct, goal clarity, with theory was somewhat perplexing. In achievement theories, it appears that students' having a very clear idea about their goals is assumed. The fact that some of the interviewees felt quite strongly about the need to be absolutely clear about what one wanted from part-time studies was something that needed to be explored. A closer examination of the constructs indicates that they only match loosely with the mastery and performance goal model (Dweck & Leggett, 1988; Harackiewicz et al., 1998). It is noted that the majority of employment-related goal constructs actually make reference to motives, i.e. *why* adults engage in part-time study, rather than *what* they want from studies. A closer match with the two goal model is found in the next master construct 'expectations and value'.

Table 4.6a
Master Constructs in Person-Cognition Domain

Person-Cognitive		Master Construct	Construct elicited	% of total
Motives and aspirations	1	Employment-related goals	23	7.5
	2	Other goals	7	2.3
	3	Goal clarity	6	2
Goal orientation	4	Expectations and value	29	9.5
Abilities and skills	5	Cognitive ability	21	6.9
	6	Language skills	7	2.3
	7	Study skills	8	2.6
	8	Work life experience	13	4.3
Self-Perceptions	9	Self-concept	11	3.6
		Total	***125***	***41%***

4.3.1.2   Goal Orientation

The master constructs identified under *'goal orientation'* are related to what students anticipate as a result of studying the part-time course. The category is labelled *'goal orientation'* because all the constructs are expressed in goals terminologies such as mastery learning, performance approach goal and avoidance patterns. Moreover, values and expectations are often regarded as an integral part of goal orientation; for instance, a student who focuses on mastery goal expects and values knowledge and learning (Heckhausen & Dweck, 1998). Two distinct patterns were observed, on the one end there was minimum expectation, all that mattered was a pass grade, and learning had low value in the process. On the other end, expectation was high (in terms of marks and learning) and learning was highly valued. The patterns were similar to mastery and performance goals in the two-goal dichotomy.

4.3.1.3   Abilities and Skills

The motivation to achieve is also affected by one's ability to perform and do well. *'Abilities and skills'* refers to those abilities that interviewees perceived as important in

part-time studies. This category is not to be considered in the same way as beliefs about ability, which is related to the entity vs. incremental views (Dweck, 1986; 1999). Interviewees' perceived abilities and skills include cognitive ability (such as intelligence and the ability to comprehend learning materials); language skills (English proficiency to be more exact since all the interviewees had in mind courses that were taught in English and courses that used English texts); study skills (having effective methods); and work life experience (rich and diverse experience acquired in employment and life development). It is noted that work life experience is not a consideration in the western achievement goal theories, which focus mostly on school children's achievement motivation. Literature also makes extensive reference to intelligence as an innate ability, yet the repertory grid data indicated that actual experience gained in work and personal life could help understanding and applications of academic learning materials. It appears that a gap exists in western literature that has not accounted for a broader meaning of ability.

4.3.1.4 Self-perceptions

Lastly, 'self-concept' as a master construct consists of data that are referred as self-esteem, self-confidence and self-efficacy. While Bandura (1986, 1993) highlights self-efficacy (the belief that a particular action is possible and that the individual can accomplish it) which influences achievement behaviours, the data seem to indicate a somewhat less prominent role. Of the total 125 constructs elicited in the person-cognition dimension, only 11 constructs were associated with self-concept.

Constructs related to the cognitive aspect total 125, or 41% of all the constructs elicited by 27 interviewees (see Table 4.6a). 'Abilities and skills' has the highest frequency of mention (49 constructs) and self-concept has the lowest count (11 constructs). In this section, the following points have been identified, which suggest some degree of inadequacy of western achievement goal theory in terms of transferability to explaining adult learners in Hong Kong.

- From the repertory grid data, goal clarity was found to be an important factor of achievement motivation. For the Chinese adults, to be very clear about what they want from part-time studies had a direct relevance to their motivation. However, having clear goals is not explicitly addressed in the western theory.

- Work life experience was construed by some interviewees to be an ability or skill that affected motivation in part-time studies. The work life issue is not a consideration in achievement goal theory.

- The interview data indicate a low frequency count of constructs related to self-perceptions. For a factor that is positioned at the core of the social-cognitive theory, it seemed that adults did not think that self-efficacy, self-confidence and self-esteem were as important in this study.

In the following section, master constructs related to the second social-cognitive domain, behavioural responses, will be discussed.

4.3.2 Behavioural Responses

The focus here is on observable overt action that may be adaptive or maladaptive in the process. Eight master constructs were found to be related to four categories under the behavioural factors. The four categories are: attitude, effort, approaches to learning, and persistence. Table 4.6b presents the categories and their associated master constructs.

4.3.2.1 Attitude

The first category, 'attitude' corresponds with a master construct with the same label. It can be looked upon as a person's position that underpins his or her behaviour in terms of planning, learning strategies and so forth. While attitude is something that exists in the mind, yet behaviours described as enthusiasm, seriousness, and care about learning are the interviewees' overt and observable behaviour, which differentiated two types of attitudes – positive and negative. Referring to table 4.4, the positive side is described as

being serious, focused and enthusiastic; negative attitudes include behaviours that are not serious, half-hearted, slack and sloppy. These two contrasting attitudes are also thought in western theory to be related to goals, expectations and value (Heckhausen & Dweck, 1998). Therefore, similar attitudes were found in the interview data showing both positive and negative patterns.

Table 4.6b
Master Constructs in Behavioural Responses Domain

Behavioural Responses		Master Construct	Construct elicited	% of total
Attitude	10	Attitude	13	4.3
Effort	11	Commitment & effort	38	12.5
	12	Attendance	6	2
Approaches to learning	13	Planning	8	2.6
	14	Learning approach	23	7.5
	15	In-class behaviour	10	3.3
	16	Initiative & independence	7	2.3
Persistence	17	Response to setback	15	4.9
		Total	*120*	*39%*

4.3.2.2. Effort

Master construct 'commitment and effort' has the highest frequency of mention, with a total of 38 constructs elicited. Behaviours observed in this category include willingness to work hard, willingness to take personal responsibility and putting high priority to study. Among these behaviours appears an underlying theme – *'effort'*, which implies hard work, commitment and assuming responsibility in handling difficult tasks. Master construct 'attendance' (with 8 constructs) is included in the *effort* category since adult students do need to make an effort to attend classes despite heavy workload and/or domestic commitment. With both constructs, the *'effort'* category yields the highest frequency of mention (see figure 4.3), which indicates an incremental view of ability (Dweck 1986, 1999).

4.3.2.3 Approaches to Learning

The next set of behavioural responses is labelled '*approaches to learning*', and this theme embraces students' behaviour in the classroom as well as their study strategies. Four master constructs are included in this theme – planning, learning approach, in-class behaviour, and initiative and independence. Both adaptive and maladaptive patterns are noted in the data. Constructs that describe organised planning, attentive and participative behaviour in-class, and initiative and independence are specific self-regulated learning strategies when students take initiative to control their learning through self-generated thoughts and behaviours (Zimmerman, 1989). In the western theory, students have been found to adopt different approaches to learning depending on their goal orientation; for example, a mastery orientation is associated to deep, self-regulated learning strategies (Ames & Archer, 1988; Elliott & Dweck, 1988). However, the relationship between goal orientation and approaches to learning cannot be established in this study, which is not designed to measure correlations. In this exploratory investigation, our data confirm that cognitive and metacognitive learning strategies and deep learning are related to adaptive behaviour.

4.3.2.4 Persistence

Master construct 17, response to setback, describes behaviour in response to difficulty, poor performance or failure. The constructs elicited quite effectively suggest '*persistence*' of students in the motivation process. In achievement goal theory, persistence, or the lack of it, in the face of a setback, is an important behavioural pattern that corresponds with goal orientation and perceived competence (Elliott & Dweck, 1988; Elliott & Harackiewica, 1996). The interviewees thought that, in case of poor performance, persistence was related to accepting responsibility and taking remedial actions, and the lack of persistence was referred to students who make excuses, complain, withdraw or accept failure. Such behaviours are consistent with the literature. However, what the data did not show was the relationship between persistence and personal cognitive factors, as suggested by the implicit theories of

intelligence (Dweck, 1999). In Dweck's theory, students with an incremental view tend to persist when difficulty or failure is encountered because they believe their ability would improve given effort and time. Again, due to the exploratory nature of this study, correlations between persistence and the implicit theories were not tested. Yet patterns of persistent behaviour were noted in the data.

Table 4.6b shows that there are 120 constructs in the behavioural domain, representing 39% of the total constructs elicited. The behavioural constructs are dominated by patterns characterised as 'effort' and 'approaches to learning', with 44 and 48 constructs respectively. Two key points can be summarised in this section.

- Consistent with western achievement goal theory, both adaptive and maladaptive patterns of behavioural responses were recognised from the interview data.
- In the behavioural category, *effort* has the highest frequency of mention, indicating an apparent role in motivation in the minds of the interviewees.

4.3.3 Contextual environment

In the social cognitive model, the contextual environment influences and is influenced by personal and behavioural factors in the motivation process. In the literature, contextual factors such as the learning environment, teachers and parents have significant impact on achievement motivation among young children and adolescences in full-time studies (Galloway et al., 1998). Understandably, the contextual environment of adult learners can be quite different from that of school children since adults must deal with a much more complicated environment. The interview results indicate three specific external conditions, and the constructs are conveniently grouped into 3 sub sets that deal with factors relating to employment, family, and financial factors (table 4.6c). Teachers and the classroom environment were not addressed and only one interviewee mentioned quality of the education provider as an issue.

In the contextual domain, the repertory grid data indicated an entirely different set of motivational factors compared with literature. While it can be reasoned that adult learners do face different environmental influences with respect to their responsibilities in the workplace, and with families, and they do need to think about financial issues; yet the exclusion of teachers and learning environment in the interview data seems to suggest that this is not at all important in adults' achievement motivation.

Table 4.6c
Master Constructs in Contextual Environment Domain

Contextual Environment		Master Construct	Construct elicited	% of total
Contextual Environment	18	Employment factor	21	6.9
	19	Family factor	19	6.2
	20	Financial factor	13	4.3
		Total	*53*	*17.4%*

Seven constructs (2.3%) are unclassified and labelled miscellaneous accordingly. Since it would not be worthwhile creating categories for such a small number, these constructs will be not treated in the analysis.

4.3.4 Summary

Twenty (20) master constructs (excluding master construct 21, miscellaneous) have been sorted and grouped into three main domains that affect achievement motivation of adult part-time students. Figure 4.2 illustrates the distribution of these factors. Both the cognitive and behavioural factors receive a much higher frequency count than the contextual environment. The distribution suggests that interviewees construe personal factors and behaviour to be more relevant to motivation than environmental factors. Further breakdown of the key factors reveals the frequency of mention of each and every master construct in its social-cognitive category (Figure 4.3). Clearly 'effort and commitment' was mentioned most; it is followed by 'expectation and value',

'employment-related goals', 'learning approach', 'employment factor' and 'cognitive ability', and so forth.

Figure 4.2 Distribution of Key Factors
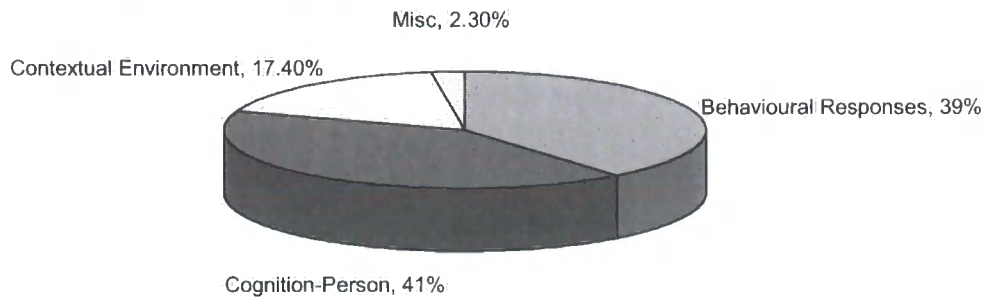
So far we have been able to make general statements about the sample as a whole, classifying the total 305 constructs elicited in the interviews according to the social-cognitive categories. While categorising master constructs, comparisons were made with relevant literature, and preliminary conclusions drawn as to whether western literature satisfactorily accounts for the constructs developed from the data. At this point of the analysis, frequency of mention is an important indicator because it captures the extent to which a certain factors are mentioned when interviewees were thinking about motivation. However, the procedure has not used any of the ratings of elements on constructs available in the original grids.   In the next section, ratings of individual grid will be considered in order to analyse how much value the interviewees attached to the constructs.

Figure 4.3   Master Constructs by Frequency Count
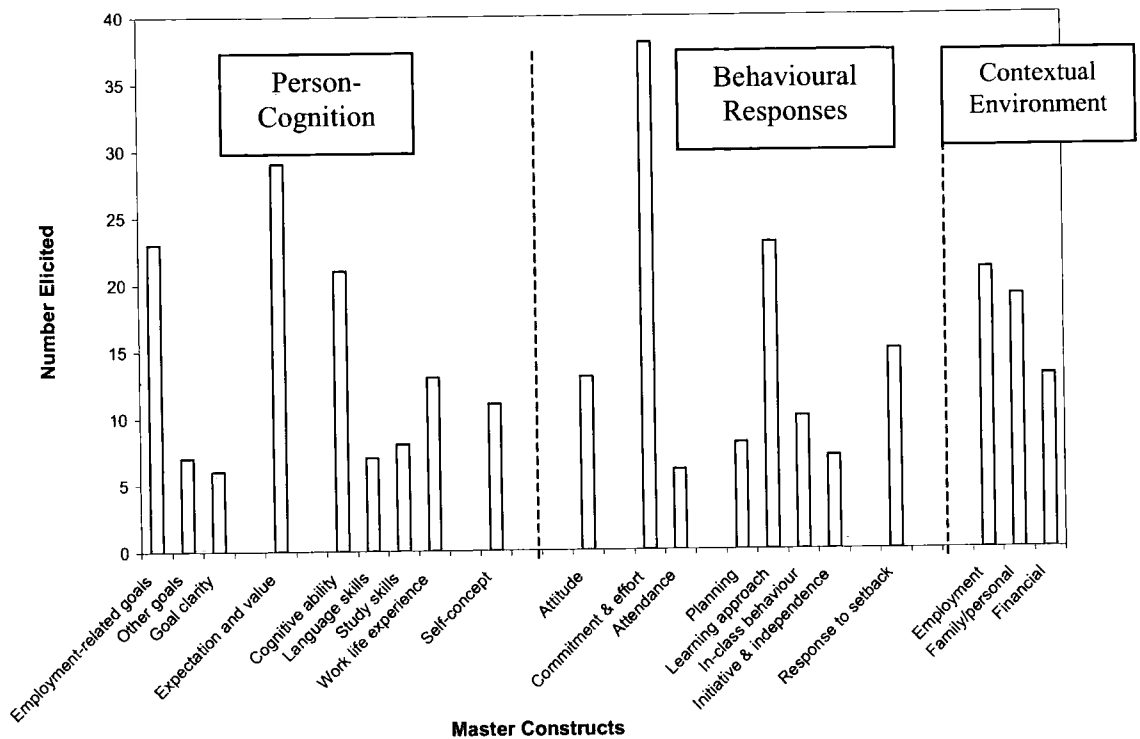
4.4   **Content Analysis of Individual Grid**

In this analysis, results of every repertory grid interview, in the form of individual personal metric, are analysed. Two sets of data are generated from the individual personal metric analysis. First, the % similarity score – an index that shows how similar are the constructs when compared with the supplied construct "Overall a more motivated student – overall a less motivated student"[8]. The higher the % similarity score, the more a given construct is closely related to the overall issue the interviewee had in mind when thinking about motivation. Second, the individual's H-I-L index, which sets the constructs into three almost-equal parts of value. This 'top-and-tail data' is necessary because % similarity scores are relative, since different people have different ranges of % similarity scores for motivation. As well as noting their actual percentage value, the value is placed among the high, the intermediate or the low (H-I-

[8] The % similarity score is derived from the difference score between a particular construct and the supplied construct. The process is explained in Section 3.5.10.1 of the Methodology chapter.

L) value for that particular individual. Table 4.7 provides an example of the personal metric.

The grid example shows that three constructs (2, 3, and 12) are closely related to the supplied construct (construct 14 - Overall a more motivated student - Overall a less motivated student). The constructs with the highest % similarity scores as well as High values include construct 2 - 'total commitment, serious vs. no commitment, no planning', construct 3 - 'passion for continuous learning vs. superficial learning, cannot do without tips', and construct 12 - 'hard working vs. less hard working'. In other words, the personal metric analysis identifies three most important constructs for this particular interviewee when she was thinking about motivation of part-time adult students. Hence, in the mind of this individual, a motivated student is committed, serious and hardworking; he or she also has a passion for learning. Put it another way, commitment, attitude and effort are considered important in motivating adult students in part-time degree study. Constructs with intermediate (I) values are related to expectations (construct 5), response to setback (construct 6), confidence (construct 7), planning (construct 10), and language skills (construct 11). For the remaining constructs, although they have been mentioned, yet they have low value in motivation. As such, this interviewee perceives employment-related goal (construct 1), financial factor (constructs 4 and 8), family factor (construct 9) and intelligence/cognitive ability (construct 13) less related to motivation.

In summary, taking both indices (% similarity and the H-I-L index) into account, it is clear that constructs about commitment, hard work and a passion for learning match highly with the supplied 'overall' construct. It means that they represent what this particular interviewee felt and thought, overall, very well. Constructs with 'L' indices match far less with the 'overall' construct. In this case, constructs about study for employment prospect, financial factor as well as the intellectual ability to learn do not represent what the individual felt and thought about the topic, overall, strongly. It can be seen that the interview data of respondents are in effect their personal theories of motivation. The analysis demonstrates that constructs are organised into a system, with

some constructs being superordinate to others. Some constructs are crucial and central to the individual's knowledge and views about the topic, while others, while relevant, are somewhat more peripheral.

Table 4.7   Personal Metric – An Example

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
1	Study for job security & prospect - Study for self-actualisation, self-proof	1	1	5	4	3	3	2	1	6.25	L
2	Total commitment, serious - No commitment, no planning	1	2	4	1	5	5	4	4	93.75	H
3	Passion for continuous learning - Superficial learning, cannot do without tips	1	2	3	1	5	5	4	5	93.75	H
4	Self-financed - Family financed	2	2	3	3	3	5	5	1	43.75	L
5	Aim for high marks - Quite happy with marginal pass	1	2	4	3	5	5	4	5	75.00	I
6	Persistent to tackle problem - Complain a lot but take no action	2	2	1	1	5	5	5	4	75.00	I
7	More confident - Less confident	1	2	2	2	5	4	5	4	75.00	I
8	Financial difficulty - Financial security	3	3	5	5	4	3	3	1	0.00	L
9	A lot of domestic responsibilities - Less family obligations	4	1	3	3	5	5	4	2	50.00	L
10	Good time management - Poor time management	1	2	2	2	5	2	4	5	62.50	I
11	Good English skills - Poor English	1	2	2	2	5	2	4	5	62.50	I
12	Hard working - Less hard working	1	2	3	2	5	5	4	5	87.50	H
13	Smart, learn and respond fast - slow, doesn't want to think	2	2	2	2	4	1	4	4	50.00	L
14	Overall a more motivated student - Overall a less motivated student	1	2	3	1	5	5	4	4		

A complete display of personal metrics of all the 27 interviews can be found in Appendix 3. Included in each individual personal metric are % similarity scores,

indicating the construed relevance of a particular construct against the supplied construct (Overall a more motivated student - Overall a less motivated student); as well as the H-I-L index, indicating the strength of a particular construct when matched against the supplied construct. In effect, each personal metric represents each of the 27 interviewees' individual theory about achievement motivation of part-time adult students. While individual personal metrics can be insightful and interesting in understanding how a person construes motivation, still they need to be analysed in aggregates in order to generate a total picture of the sample. The next step analyses the meaning and value of master constructs for the sample as a whole for a more coherent view, and the total picture will be presented in 4.6.

4.5 Content Analysis of Master Constructs

4.5.1 Aggregate Meaning of Master Constructs

Honey's content analysis is used to aggregate different constructs across the sample while making use of the individual meanings conveyed by each person's ratings (Honey, 1979). The procedures involve an analysis of the individual personal metric (explained in 4.4) and an analysis of master constructs (described in 4.2 and 4.3).

In the analysis, the aggregated set of constructs for the sample as a whole represents the categorised views of all the individuals in this research. At the same time, information about each individual's views is also preserved, in terms of how he or she severally and personally thought about motivation. The complete list – each with % similarity score[9] and an H-I-L index, across the sample is detailed in Appendix 2. A part of the Appendix is extracted here for illustration (Table 4.8).

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[9] The % similarity score, as discussed in 3.5.2.2, refers to the extent which a particular construct is correlated to the supplied construct "overall a more motivated student – overall a less motivated student". The higher the % similarity score, the more closely the construct is related to the interviewee's personal theory of motivation.

Table 4.8   An example of Honey's Content Analysis

Master Construct	No., %	Interviewee, order in grid	Constructs	% Similarity	H-I-L Index
Other goals	7, 2.3%	D2, 7	*Study for self-esteem* *- Study for trend*	75	H
		D3, 3	*Want to learn* *- Want a degree for decoration*	75	H
		M1, 13	*Always want to be the best* *- Want the diploma, don't care about learning*	68.75	I
		D5, 11	Driven by fear of failure, loss of face - Driven by self fulfilment	37.5	I
		D5, 13	Strive to meet personal expectation - Study for the sake of meeting others' expectation	37.5	I
		M8, 9	Want social acceptance as knowledgeable - Indifferent to recognition	31.25	I
		M8, 8	*A degree enhances life experience* *- A degree means recognition*	18.75	L
			Average % similarity score	*49.11*	

Table 4.8 introduces the master construct 'other goals', in which seven constructs (2.3% of total), have been elicited, with details in columns 3-6.   Column 3 identifies the individual who elicited the construct; D2 is an identification code of the interviewee and 7 means the 7[th] construct elicited in D2's grid.   At the bottom of column 5 is the average % similarity score that is derived by dividing the sum of all the % similarity scores by the number of constructs in this category.   In this example, this average score 49.11 refers to a mean importance score of this master construct.   When considering the sample as a whole, the average scores indicate comparative importance of each master construct.

A graphic presentation of the average % similarity scores is shown in Figure 4.4 to highlight master constructs that were perceived to be of higher value.   According to the chart, all except one (initiative and independence) master constructs classified in behavioural response are thought to be rather closely related to motivation.   In the person-cognition domain, only 'goal clarity' is perceived to be relevant, and the interviewees did not seem to think that external environment was highly relevant.

Average scores of all the 305 constructs grouped in 21 master constructs are detailed in Appendix 2. While the average scores indicate comparative importance of each master construct, the scores do not pinpoint relevance, or value of individual constructs elicited by individual interviewees. The second part of the content analysis involves identification of preferred constructs that are valued by the sample.

Figure 4.4 Master Constructs – Average %Similarity Scores
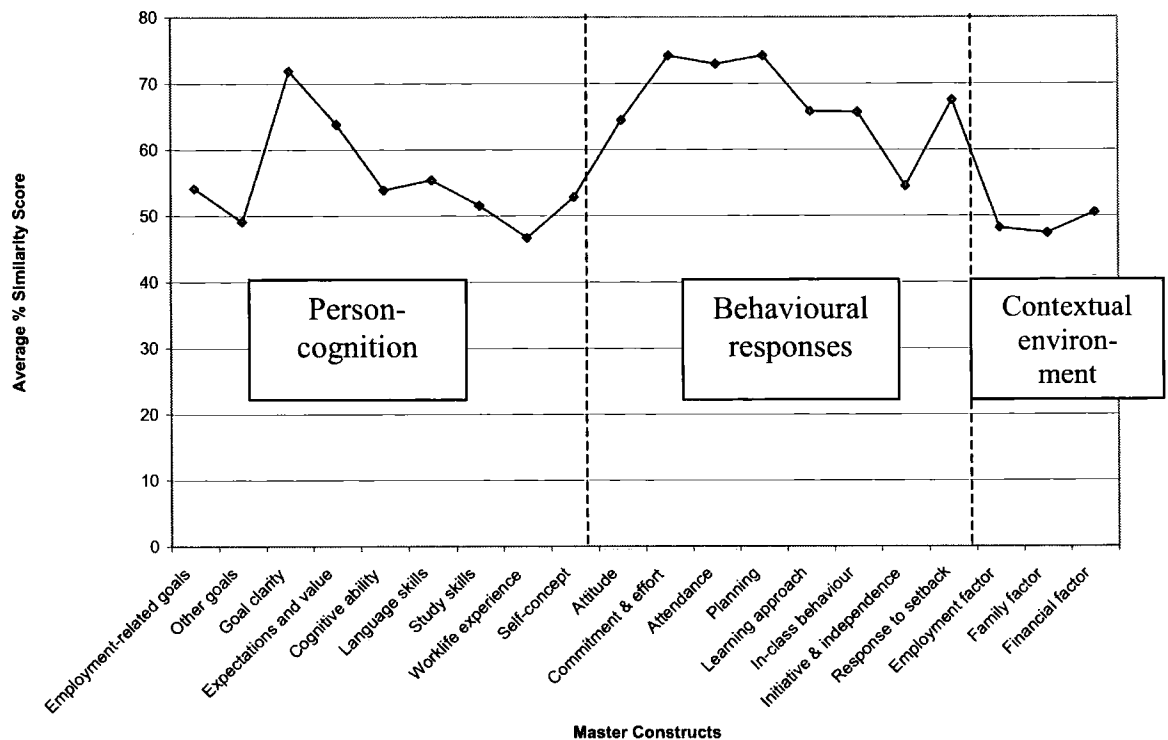
Master Constructs

4.5.2 Construct Preferences

At this point, it should be remembered that our analysis of master construct so far has resulted in two outcomes – frequency count of each master construct (discussed in 4.2) and the relative importance of each master construct in terms of average % similarity scores; this was discussed in 4.5.1. The analysis now turns to identifying the relative value of each master construct. In order to determine constructs that are valued by the sample as a whole, individual perception of their private meaning of each construct must first be analysed before they can be aggregated. The following explains how

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preferred constructs are analysed using one master construct 'other goals' as an example.

The constructs of 'other goals' (which was used to explain Honey's content analysis of aggregate meaning in section 4.5.1, see Table 4.8) are arranged in order from top to bottom with respect to the H-I-L index. It is recalled that the H-I-L index indicates the strength of a particular construct when matched against the supplied construct (overall a more, or less motivated student). In general, if the H-I-L indices are high, the idea behind that particular construct is important for the people in the sample. And if the frequency of mention is also high, then this master construct is definitely saying something about the thinking of the sample as a whole as well as each individual interviewee. On the other hand, if the H-I-L indices are mixed, the idea behind that particular master construct reveals no particular consensus. In the sample as a whole, there is a certain ambivalence about the construct's relevance or importance to motivation. If the H-I-L indices are low, it would imply that the sample as a whole agree that the master construct does not relate particularly well to motivation in general. In the case of 'other goals' (table 4.8), the H-I-L indices are fairly mixed. It can be seen that the goals for studying a part-time degree (other than employment or career related goals) range from recognition to pleasing others. However, given that there is only one 'L' score, the majority of interviewees in this category seem to agree that 'other goals' can be quite important in affecting one's motivation.

Attention is drawn to the first two constructs with an 'H' score. The high % similarity scores of these two constructs mean that they are important in the minds of interviewees D2 and D3 when they were thinking about motivation. For D2, people who follow the crowd blindly with no clear purpose are closely related to less motivated students. For D3, people who study for the sake of decorating their business cards, CVs or office walls are closely related to students who are less motivated. Because of their high % similarity score and high on the H-I-L index, these constructs are identified as *preferred constructs*, which will be discussed in the next section. Details of % similarity scores

and H-I-L indices of 305 constructs are tabled in Appendix 2.

In analysing constructs across the sample, it becomes inevitable that some detail in each of the grids need to be sacrificed while focusing on salient trends and patterns that are common to all. By selecting constructs with high % similarity and 'H' scores, we can focus on constructs that appear more important to the interviewees than others. After all, a grid is the mental framework that a particular individual constructs for him- or herself. The analysis would be meaningful only if constructs that matter to the interviewees' personal meanings are analysed.

By matching constructs of high % similarity scores with the H-I-L indexes in the individual grids, one hundred and four (104) constructs are selected as preferred constructs, which are detailed in Appendix 4. What can be said about the preferred constructs is that they represent opinions that individual interviewees construed as important factors to motivation in part-time degree studies. These constructs need to be differentiated from master constructs that were discussed in terms of their frequency of mention in section 4.3. Details of the preferred constructs, i.e. constructs that are construed as highly relevant to motivation, as shown in Appendix 4 will be summarised for discussion using the social-cognitive framework. The following discussion will be targeted at each domain of the social-cognitive model, identifying similarities of and differences from achievement goal theory. For easy reference, the initial 20 master constructs are grouped in their corresponding social-cognitive categories (see table 4.6a, 4.6b, 4.6c for the categories) to show the aggregated number of preferred constructs (figure 4.5).

Figure 4.5   Preferred Constructs
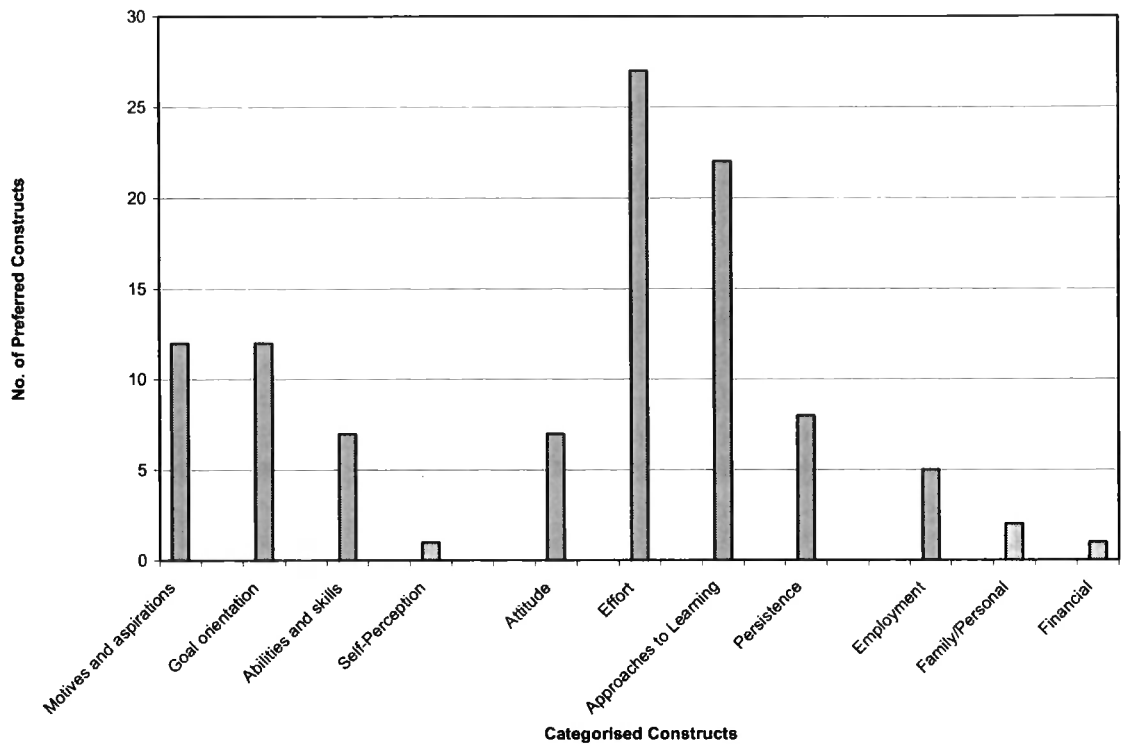
4.6   Interpreting Preferred Construct

4.6.1   Person-Cognition

In terms of personal cognition, several types of goals were perceived important by the interviewees; these goals range from the need for employment and career prospect (or the fear of being left out), social recognition to personal interests. It is interesting to note that, while there seems to be a widely recognised assumption about adults' voluntary decision to continue studying (Knowles, 1989; Wlodkowski, 1999), not every one considers the choice an act of willingness. Some of the interviewees spoke of adult students who 'have no goals, they just don't want to be left out", "feel coerced to have a degree for employability", and "follow the crowd without specific goals". Goal clarity was also considered important for the adult learners. There seems to be quite a strong feelings that if "people don't know why they study; chances are they don't know or don't care what they want from the process".

Of more direct relevance to the goal theory is the category 'expectations and value', which more specifically implies students' goal orientation. A mastery orientation is evident in constructs such as "knowledge is important, passing is assumed", "want to learn", "strive for improvement". A performance approach orientation can be seen in constructs like, "want high marks", "strong need for recognition", "grades matter, and want to perform". A performance avoidance goal is indicated by constructs such as "want minimum learning material, pass is enough", "want easy pass", "don't care about improvement, just pass".

At a glance, the preferred constructs on motives and aspirations and goal orientation seem to share some similarities with the achievement goal theories. Without investigating the relationship of goal orientation and motivational outcomes, such as academic performance and behavioural patterns, since this is beyond the scope of this research. There is clear evidence of goal identification in the mastery, performance approach and avoidance orientations. However, an eyeball analysis of the preferred constructs in goal orientation (or expectations and values as a master construct) from Appendix 4 indicates that performance goals in both approach and avoidance modes (8 constructs) exceed mastery goals (4 constructs) by 100%. Further, in exploring the motives and aspirations for adults entering part-time degree studies, findings point to an emphasis of extrinsic factors that is employment related or recognition driven with the future in mind. Students motivated by extrinsic reasons, according to achievement motivation theory, are expected to adopt performance goals in either an approach or avoidance mode (Dweck & Leggett, 1988; Elliot & Harackiewica, 1994); they are more likely to exhibit maladaptive behaviour when they experience setback (Grant & Dweck, 2003). In this case, adult learners who choose to study part-time because of a concern for employment stability and prospect can be looked upon as an avoidance goal, and should therefore exhibit maladaptive behaviour. Although a consensus is yet to be reached with regard to the relationship between goal orientation and motivational outcomes, and research is still ongoing; issues of extrinsic goals, avoidance goals and

behavioural patterns will be explored further in the next section and in the focus group discussion.

The second category involves abilities and skills defined in terms of intelligence, language and study skills, and work life experience. In the minds of the interviewees, having competent skills and abilities is one of the reasons that explain academic performance and motivation to achieve. Collectively there are seven preferred constructs, far less than those discussed earlier on goals and expectations. The meaning and significance of this finding will be further discussed together with the preferred category of constructs 'effort'.

The last category 'self-concept' has only one preferred construct. It means that either the sample as a whole did not think much about self-efficacy, self-worth or self-perception, or the idea never really occurred to them as an important factor. This finding indicates a significant gap with the social-cognitive theory, which believes that individuals possess self-beliefs that enable them to control their thoughts, feelings and actions (Bandura, 1986). Whether the finding is unique to this sample or generalisable to the wider population warrants further investigation in the focus group discussions.

Briefly our interpretation of preferred constructs in the person-cognition domain can be summarised as follows:

- Consistent with the previous interpretation of master construct (section 4.3.1.1), goal clarity was perceived to be a highly important factor in terms of achievement motivation for adults in their part-time studies; and this factor is not addressed explicitly in western goal theory.
- There was a preference for extrinsic, fear of employment insecurity motives.
- There was a preference for performance avoidance goals over mastery goals.
- Innate ability such as intelligence and skills (language skills, study skills and work life experience) were moderately preferred.
- Self-perception was not considered an important factor of adults' achievement

motivation; yet this is positioned as a core construct in western goal theory.

4.6.2　　　Behavioural Responses

Figure 4.5 shows that two categories in the behavioural domain, 'effort' (with 27 preferred constructs) and 'approaches to learning' (with 22 preferred constructs) turn out to be much more highly preferred than the other two categories, attitude and persistence. In fact, these two categories exceed every single construct category in the findings.　During the interviews, the kinds of statement that were referred to high motivation consist of "willing to make effort to approach problems", "serious and committed, hardworking", and "spend a lot of time studying".　Judging from the construct statements (Appendix 4), it is not difficult to see that there is a definite tone of acknowledgement of hard work.　This finding also suggests that the great majority of our interviewees attributed motivation to effort and commitment. At the same time, respondents were also attributing the lack of effort to students with low motivation. Constructs like "study in the last minute", "missed deadlines, no submission", and "minimum effort, plagiarise" matched closely to poor motivation.

The second most preferred construct category 'approaches to learning' consists of constructs relating to levels of learning (deep vs. surface learning), planning, behaviour in the classroom, and initiative and independence.　According to the interviewees (Appendix 4), highly motivated students were construed to "study with broad perspective", "seek to understand", "like challenges", "be focused", "have good planning", "take active initiative to ask teachers questions", and "take personal responsibility".　All the above-mentioned constructs can be effectively classified as adaptive behaviour in which students engage in deep learning (Vermunt, 1998) and self-regulating strategies (Zimmerman, 1989).　Maladaptive patterns in the forms of failure avoidance behaviour noted in less motivated students include "superficial learning", "don't care about understanding", "passive, want to be told", "no planning, no focus", "no responsibility, rely on others for help", and "silent and withdrawn".

Based on this analysis, making effort, taking personal responsibility, facing up to challenges, seeking understanding and focused planning are examples of adaptive behaviour pattern. According to western literature, such adaptive behaviour are generally found in students with mastery goals and an incremental view of ability (Ames & Archer, 1988; Grant & Dweck, 2003); or in students with performance approach goals (Harackiewicz et al., 2002; Midgley et al., 2000). However, our previous analysis of motives, aspirations and goal orientations show that adult learners were primarily driven by extrinsic goals and motives, such as employment security, career prospect and social recognition. In this case, we should expect to see more of maladaptive behaviour. Yet, findings so far indicate a clear preference of effort attribution and self-regulating strategies in pursuing extrinsic goals. In assessing transferability of western school children motivation theory, there appear some discrepancies between alignment of goals and behaviour.

In interpreting constructs preferred against the behavioural response domain, it can be summarised that:

- Effort was the most preferred factor. It was most closely related to achievement motivation of part-time adult students.
- Adaptive self-regulatory learning was also construed to be highly related to achievement motivation.
- There is a mismatch between high value of effort and self-regulatory learning and the interviewees' strong preference for extrinsic and avoidance goals (discussed in 4.6.1) since Western literature posits that belief in effort and adaptive learning behaviour are related to approach goals in either mastery or performance orientations.

4.6.3   Contextual Environment

Out of the total of 54 constructs that were mentioned in the contextual domain, only eight were identified as closely related to achievement motivation of adults. With

reference to figure 4.5, preferred constructs relating to employment, family and financial situation also turn out to be the lowest compared with the other two domains. According to the reciprocal interaction of the social-cognitive model, this finding suggests that contextual environmental component has the weakest influence on personal and behavioural components.

4.7   Overall Discussion of Repertory Grid Interview Findings

The last section of this chapter wraps up results from the repertory grid interviews and discusses the overall findings.   First there is a quick review of the somewhat complicated data analysis procedures.   This is followed by a comparison of two sets of data generated in the content analysis (constructs elicited and their frequency and constructs preferred).

4.7.1   Summary of Data Analysis Process

In this chapter, a series of content analyses was carried out to investigate 305 personal constructs elicited from 27 repertory grid interviews.   First, all the constructs were organised into 20 master constructs according to their meanings.   Categories in association with achievement goal theory in the social-cognitive model were further assigned to the 20 master constructs.   The master constructs were then counted for the frequency of mention scores, which represent the number of constructs that were mentioned by the sample.   Then, constructs elicited by individual interviewees were analysed to identify constructs that were highly valued (H-I-L index) and highly relevant (% similarity score) to motivation of part-time studies.   Individual analysis (H-I-L indices and % similarity scores) of the 27 grids were sorted and grouped according to the master construct categories.   From the grouping the aggregate meaning (which combines all the individual indices and scores) of each master construct became more apparent.   Instead of analysing every single construct, further analysis was conducted to identify 104 preferred constructs.   The procedure involves matching constructs with only high rating in the H-I-L indices with high % similarity scores.   After this analysis

based on frequency, a second analysis based on preference was carried out. The preferred constructs, which represent the sample's view about important factors in adult motivation adult, were analysed to explore transferability of western achievement motivation theory. See figure 4.1 for a summary of the analysis flow. In the following discussion, data generated from the frequency count and construct preference are referred to for an overall analysis.

4.7.2 Comparison of Elicited and Preferred Constructs

Figure 4.6 displays a summary of constructs elicited by frequency (total 305) and constructs preferred (total 104). It can be seen that constructs with high frequency of mention do not necessarily match with constructs with high preference. Very large differences are found in constructs in the personal and contextual domains. For comparison, more details are found in Table 4.9.

Several patterns are observed from Table 4.9. First, constructs within the person-cognition domain have the highest frequency of mention, yet their values are far below constructs found in behavioural responses; only 25.6% were valued compared with 53.3% in the latter domain. Of particular interest are constructs related to *abilities and skills*. It appears that abilities such as intelligence, comprehension, language, study skills and work life experience do not really matter very much in explaining motivation. *'Self-perception'*, given its low frequency of mention and low value, turns out to be very different from the western theory, which postulates self beliefs as a central construct in achievement motivation.

Second, master construct 'goal clarity' seems to be assumed but not discussed at length in western theory, yet for those who gave it some thought, this construct was highly valued. Among the six constructs that were mentioned relating to goal clarity, four emerged as closely related to motivation. Third, behavioural category *'effort'* has consistently emerged as a significant factor across the sample. When it is considered with *'abilities and skills'* together, the sample seems to be saying that ability is

something that is nice to have (based on its frequency of mention), yet whether one is motivated to achieve or not is dependent on how much effort is exerted and how committed the student is. This sounds very much like the traditional Chinese saying about how hard work can compensate for deficiency.

Lastly, contextual factors such as employment, family and financial situation were mentioned the least as well as valued the least. Preferred constructs only accounted for 14.8% of the total mentioned. The data seemed to suggest that heavy workload, family burden and financial difficulty may be perceived as important factors that affect adults' motivation to achieve, yet compared with personal and behavioural factors external factors were not really very significant.

Figure 4.6   Constructs Elicited vs. Constructs Preferred
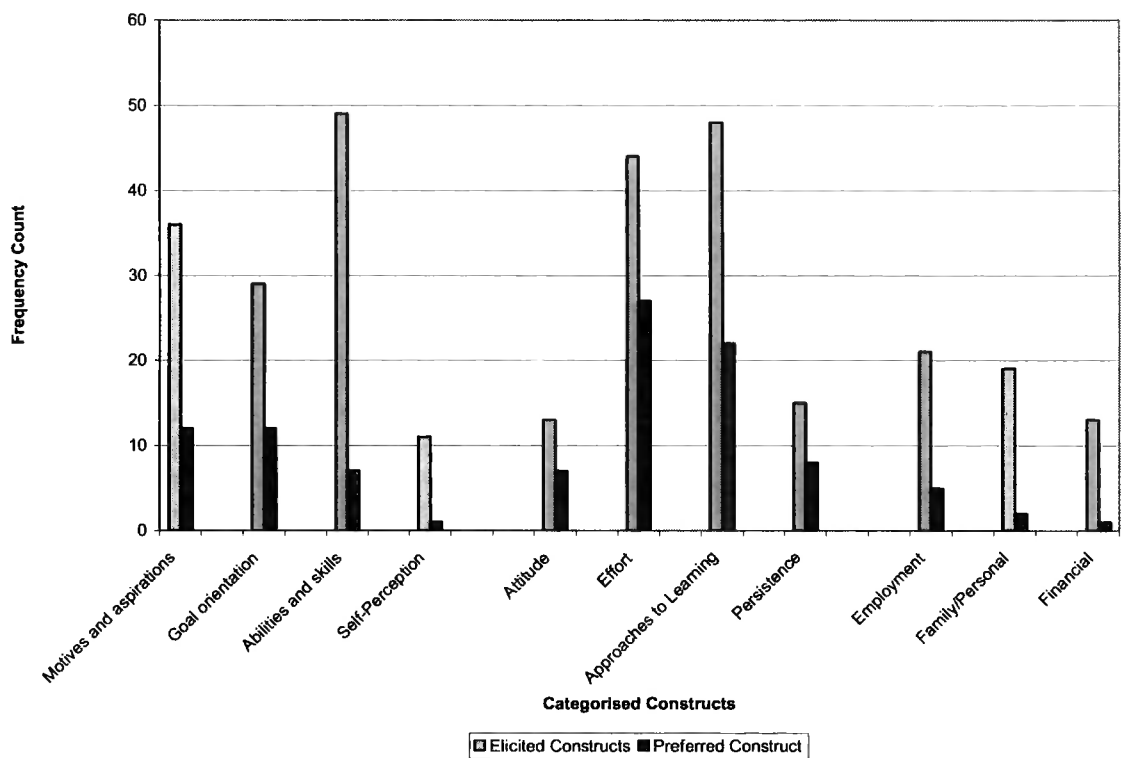
Table 4.9   Elicited Constructs vs. Preferred Constructs

Social Cognitive Category	Master Constructs	Elicited Constructs	Preferred Constructs	% of elicited constructs
Person-Cognition				
Motives & aspirations	1. Employment-related goals	23	6	26.1%
	2. Other goals	7	2	28.5%
	3. Goal clarity	6	4	66.6%
Goal orientation	4. Expectation and value	29	12	41%
Abilities & Skills	5. Cognitive ability	21	3	14%
	6. Language skills	7	1	14%
	7. Study skills	8	1	12.5%
	8. Work life experience	13	2	15.3%
Self-perceptions	9. Self-concept	11	1	9%
		125	*32*	*25.6%*
Behavioural Response				
Attitude	10. Attitude	13	7	53.8%
Effort	11. Commitment & effort	38	24	63.2%
	12. Attendance	6	3	50%
Approaches to learning	13. Planning	8	6	75%
	14. Learning approach	23	10	43.5%
	15. In-class behaviour	10	4	25%
	16. Initiative & independence	7	2	28.6%
Persistence	17. Response to setback	15	8	53.3%
		120	*64*	*53.3%*
Contextual Environment				
Employment	18. Employment factor	21	5	23.8%
Family	19. Family/personal factor	19	2	10.5%
Financial	20. Financial factor	13	1	7.7%
		53	*8*	*15.1%*
	21. Misc.	7		
	Total	*305*	104	

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4.7.3   On Theory Transferability

The main objective of this chapter is to evaluate whether western achievement motivation theory can satisfactorily explain Chinese adult motivation in part-time degree studies. At this point, it should be remembered that correlations of achievement goals, motivational behaviour and performance outcomes are not intended in this research. The focus is on investigating theory transferability by analysing students' concepts of motivation and considering the relationship with western theory concepts. The analysis of repertory grid data indicates that there is only limited degree of transferability. This conclusion is drawn upon a series of analyses of the repertory grid data. For easy reference of analyses of master constructs (section 4.3) and construct preferences (section 4.6), key findings are summarised in table 4.10.

In addressing issues regarding theory transferability, the repertory grid data were analysed against three major areas within the social-cognitive framework. On factors against the person-cognition domain, it was found that western theory failed to explain two factors from the data, goal clarity and work life experience. These two factors were brought up in the repertory grid interview and goal clarity was considered very closely related to part-time adults' motivation. Another deviation was found in an important factor, self-perceptions, which was postulated as a core construct in western achievement theory. Self-perceptions, according to data of this study, played a much less prominent role in adults' achievement motivation.

On behavioural patterns, the adult sample made strong attribution of motivation to effort and hard work. With an affirmed belief in effort, abilities and skills turned out to be relatively insignificant. Further, adaptive behaviour such as self-regulating strategies and deep learning was also attributed to motivation. The data indicating preference for adaptive behaviour and performance avoidance goal were incongruent according to western theory, which relates adaptive behaviour to mastery approach goals.

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Table 4.10   Summary Findings of Repertory Grid Analyses

	Master construct analysis (by frequency count)	Construct preference analysis (by important constructs that are closely related to achievement motivation)

Person-cognition	▪ Frequent mention of employment-related goals – indication of concern for job security and fear of failure motive
	▪ Absent from western literature:
	  - Goal clarity
	  - Work life experience as an ability
	▪ Self-perceptions: important in literature but data showed very low frequency
		▫ High preference for goal clarity, extrinsic and performance avoidance goals
		▫ Less preference for ability and skills
		▫ Low preference for mastery goals and self-perceptions

Behavioural responses	▪ High frequency count:
	  - Patterns of adaptive and maladaptive behaviour
	  - Effort
	▪ 'Effort' had the highest frequency count
		▪ High preference for effort, adaptive behavioural patterns and persistence
		▪ Literature does not explain preferred behavioural patterns with associated extrinsic motivation and performance avoidance goals

Contextual environment	▪ Absent from western literature:
	  - Employment factor
	  - Family factor
	  - Financial factor
	▫ Important in literature but absent from data:
	  - Teacher and learning environment
		▪ Employment, family and financial factors had the weakest influence on motivation

Lastly, the contextual environment was construed to comprise of employment, family and financial status. Not only were these factors found to have very little influence in the motivation process, but the sample also did not make reference to two key factors in western theory: teachers and the learning environment.

Achievement goal theory has put forward a strong case for developing and facilitating mastery learning and performance approach goal in students for two main reasons. First, empirical evidence with children in the western cultures suggests that students oriented to approach success tend to adopt an incremental view of abilities; as a result they persist in the face of setback. Second, empirical evidence has also shown that such

students would have a higher tendency to espouse adaptive learning strategies, which in turn would lead to satisfaction and performance. Yet, the repertory grid data here appear to be suggesting a different scenario. The Chinese adult learners' decision to study part-time is because of fear. It is not fear of failure, as suggested by achievement goal theorists, but fear of losing employability. In order to avoid being passed over for promotion or job opportunities, many of them study hard, plan well and stay focused, with an incremental belief that effort can compensate for the lack of abilities. Above all, many downplay hardships such as demands from work and family for the degree.

In summary, discrepancies are found between the repertory grid data, which are literally personal theories of the interviewees, and achievement goal theories. There are also issues central to the literature but have not been dealt with satisfactorily. Some of those issues require exploration and explanations, such as the low value of self-perception, the ultra high value of effort and learning approaches, and the low value of external factors.

4.8   The Next Step

While the personal theories of informants are able to explain how and why adult students are motivated in part-time studies, they also raised questions and issues as highlighted in the previous paragraphs. In order to address the research question of this study and to probe the issues further, two focus group discussions were conducted with individuals who had participated in the repertory grid interview. The purpose was twofold. First, to present results of the research in which they collaborated, and solicit feedback to the results. Second, to generate discussions and address issues that has not been adequately dealt with. The next chapter presents findings of the focus group discussion.

Chapter 5   Focus Group Discussion – Findings and Analysis

5.1   Introduction

Phase one of the current study involves using the repertory grid technique to collect interview data from 27 part-time adult learners in Hong Kong. Findings and analysis indicated similarities and gaps between theoretical underpinnings of western achievement motivation and how Chinese adult learners construed motivation. This was reported in the previous chapter. While there was evidence of some analogy in the achievement goals and behaviour in the motivation process, gaps between the repertory grid data and theory were identified; a summary was presented in Table 4.10.

The repertory grid, as an exploratory research technique, has been able to elaborate and identify motivational domains from the interviews. We now know *what* is important for the Chinese adults in their motivation to study a part-time degree. For validation of the repertory grid data, phase two of this study involves focus group discussions as triangulation of the sources of data for further exploration of *why* certain factors are more or less important,. Two focus groups were conducted to solicit comments, expand and follow up on issues already identified as well as issues that were under-explored in the repertory grid interviews. In the emic perspective, the focus group approach is adopted to make probes for description and interpretation of a less well-understood area, i.e. motivation of part-time adult learners. Upon completion of the discussion analysis, it is believed that the research question – 'to what extent can achievement goal theory be transferred to explain motivation of part-time adult learners in Hong Kong' can be addressed in greater depth.

5.2 Nature of the Focus Group Discussion

5.2.1 The Purposes

The purposes are twofold; to seek group members' personal views and comments about the repertory grid interview findings, and to explore variables that have not been addressed adequately in the repertory grid interviews. More specifically for this research, this semi-structured discussion is arranged to seek cultural consensus on the interview findings. It will be recalled that the rationale for adopting focus group discussion in the heuristic approach was explained in 3.1 of the Methodology chapter. Through group dynamics, it is hoped that new thinking can be generated about adult learners, which will result in a much richer discussion of the topic. The focus groups are conducted to elicit information that helps to confirm motivation factors identified in the master constructs. Data collected will be analysed in order to explore the extent to which western achievement goal theory can be applied to adult students in Hong Kong, which is characterised by the Confucian Heritage Culture (CHC)[10].

5.2.2 The Participants

Two focus group discussions were conducted. Only interviewees of the repertory grid exercise were invited since they had first-hand experience in the interviewing process. More importantly, they could comment and reflect on their own and other interviewees' inputs to the interview results in a dynamic face-to-face interaction.

In organising part-time adult students to participate in focus group discussion, individuals of the first group (group A) happened to be over forty years of age without conscious planning. In the process of the discussion, group members unanimously felt that their views would only apply to older adult students, and that younger adults would have quite different views. Therefore, the second group (group B) was organised with

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[10] Confucian Heritage Culture refers to those countries (e.g. China, Taiwan, Hong Kong, Singapore, etc.) that are under the influence of Confucian ethics. See section 2.4.1 of the Literature Review.

age in mind; and only those under forty were invited. The demographic profile of both groups was displayed in table 3.2 of section 3.9.2 in the Methodology chapter. Grouping by two age groups, as a result, may be able to differentiate two generations – the baby boomers in the 40+ age range and the Generation X in the 24-39 range. Members' brief profile is included in the findings and analysis sections; 5.3.1 for Group A and 5.4.1 for Group B.

5.2.3   The Process

Soon after the interview data was compiled and analysed, an e-mail was sent to all the interviewees who had participated in the repertory grid interview for their participation in a focus group discussion. Response from the 40-plus group was positive and the first discussion was arranged quite swiftly. On the other hand, trying to organise a discussion with the Generation-X turned out to be less smooth; and it took a while to organise the discussion. The procedures were discussed in 3.9.2 of the Methodology Chapter. To recall, the researcher, who followed the Discussion Guide outlined in 3.9.2, assumed the role of the moderator.

The discussion began by the researcher presenting summary findings (Appendix 5) of the repertory grid interviews, highlighting the differences between frequency of mention and preferred constructs. A brief description of the master constructs was attached for their reference (Appendix 6). The discussion was guided by a series of questions on issues that were either intriguing or issues that required probing, on the basis of the repertory grid data. Particular attention was drawn to master constructs with large gaps between the frequency of mention and value; and those with very high or very low ratings. The questions were:

1.   How important are employment-related goals in motivation?
2.   How realistic is a learning goal (wanting to learn knowledge)?
3.   Is there a relationship between goals and expectations?
4.   Is self-perception related to motivation?

5. Does ability matter a lot in motivation?

6. Which is more important? Ability or effort?

7. What kind of students is likely to have good learning approach? i.e. good planning, deep learning, high priority to attend classes and study, active participation, etc.

8. What kind of students responds to difficulty (failure, poor performance) more persistently?

9. What are the reasons for the low value of employment, family and finance in motivation?

10. Does culture matter? Are Western adult students different from us in terms of the way they are motivated?

The questions were taken in order but certain questions generated more discussion than others. For example, questions that related to achievement goals, ability, effort, the workplace and family (questions 1, 2, 3, 5, 6 and 9 respectively) were responded to with high enthusiasm and longer discussion. Each focus group discussion lasted approximately 100 -120 minutes; and was audio recorded. As explained in 3.9.2 of the Methodology Chapter, the recordings were transcribed and analysed with a coding procedure in order to categorise common themes. The discussions revealed many similar and different perceptions and experiences between and among the two age groups, although, at times, an issue applied to one person only. Findings are grouped in six recurring themes, which are associated to key concepts of achievement goal theories. They are: (1) achievement goals, (2) ability and effort, (3) self-perceptions, (4) approaches to learning, (5) persistence, and (6) external factors. Since the themes are closely related, there may be overlaps in the discussion. For example, discussion of achievement goals may be brought up again in approaches to learning and persistence because of the interrelationships.

5.3   Findings and Analysis of Group A

5.3.1   Group members' profiles

Group A represents views and comments of five part-time learners in their 40s and 50s. Here is a brief background of these individuals.

1. A1 is a DBA candidate in her mid-50s, and single. Prior to retirement two years ago, she was General Manager for a multinational corporation in the South China Region. She is currently involved with church related activities.

2. A2 is a DSocSc candidate in her mid 40s. She is married with a 15-year old daughter. Her career is built around the disciplinary forces. Currently she is Senior Inspector in a disciplinary force.

3. A3 is a MBA graduate in her late 40s and single. She is the manager in charge of a local office affiliated to an UK Business School.

4. A4 is an EdD candidate in her mid 50s. She is married with an 18-year old daughter. She teaches part-time at several local and overseas universities.

5. A5 is an MSc student in his late 40s. He is married with a 19-year old son. He is the owner of a medium-sized security service company.

5.3.2   Achievement Goals

The latest interest in achievement motivation research suggests that people are motivated by the desire to experience and develop competence or to avoid experiencing incompetence (Elliot & Dweck, 2005), as explained in Section 2.3 of chapter 2, the literature review. Little evidence about the desire to learn and develop competence was found from the discussion data. This is observed from members' emphasis on the

extrinsic value of a degree. According to A4 (an EdD student), "for the younger generation, this piece of paper is an admission ticket to the job market. I must make sure that my daughter has a degree, has her graduation photo taken so I have something to show our relatives and friends. Regrettably, learning is relatively irrelevant for me, as a parent, but not as an educator". What A4 implied was that the degree was the only thing that mattered for two reasons: to gain admission to the job market and to gain acceptance in the society. So much so that the desire to approach and develop competence was only considered secondary.

The approach to mastery was not found in the group, with A5 being the only exception. According to A5, "I love to learn and I want to see if I can become a better, wiser and more knowledgeable person when I finish." While A5's mastery goal was genuinely admired by the focus group, other members admittedly confessed that the certificate meant more to them than learning. In response to the high frequency of mention of employment-related goals, group members felt that adults in junior positions would perceive a degree with great instrumental value such as career prospect, employment stability and marketability (Husman & Lens, 1999). In general, the discussion data suggested strongly that adults were oriented to the failure avoidance motive.

It can be argued that achievement goals of full-time university students are often influenced by their families, who emphasises on results more than the process (Biggs, 1996). As such, full-time university students (usually in their early 20s) may be steered towards an avoidance goal. They may feel compelled to have a degree otherwise their future looks grim. For the mature adults (like this 40+ group) who are independent and not immediately concerned with employment, they should logically adopt a learning goal. Yet this focus group did not seem to be intrigued by the challenge of learning as a moral striving for self-perfection (Li, 2002). Members spoke of personal goals that are primarily extrinsic and as symbols of recognition, for example, "a doctorate degree means another milestone in my life", and "giving myself another option upon retirement". In other words, the degree qualification was perceived to have great future

instrumental value, whether it was for personal growth, social recognition or career prospect.

Another view worthy of mention is the generally held avoidance orientation of mastery goals. The view is most succinctly reflected by A1 who said, "The degree has very little practical value since I am retired. The only reason that I'm still here after six years is simple – I cannot afford not to succeed!" According to the 2 x 2 achievement goal model, she was motivated by the desire to avoid experiencing incompetence (Elliot, 1999, 2005; Pintrich, 2000). Such a focus was about worrying not completing the task, or avoiding not mastering task. Her worries included not reading the right references, not writing her thesis correctly, and missing deadlines. Although the initial goal trichotomy – mastery approach, performance approach and performance avoidance, has been researched extensively, to date mastery-avoidance goals have been largely neglected in research (Cury, Da Fonseca, Elliot & Moller, 2006). Yet this data have clearly pointed to adults' preference of a mastery avoidance goal.

Beyond the 2 x 2 goal model, there is evidence of social solidarity goal in which students have a greater sense of responsibility to others for their achievement outcomes. One member described a colleague who "needs to have a doctorate because all his brothers and sisters are PhDs"; and several (jokingly) spoke of the need for degree so they can stand up and face the ancestors with pride.

Within the 2 x 2 goal model, no evidence of performance-approach goal (a concern for appearing superior) was found. Group members did not see the need to compare with nor outperform peers. While they did not rule out cases where a small minority of individuals might be concerned with looking smart, on the whole they were in the opinion that only children would bother with such immature behaviour. Furthermore, there was evidence of goal flexibility and goal shift when students pursued multiple goals. A2 remarked that "most part-time students would like to have everything, knowledge, good marks, and of course the piece of paper (certificate)." In pursuing a mix of mastery goals, performance goals and even social solidarity goal in the multiple

goal perspective (Pintrich, 2000), students prioritised their goals according to their constraints. In order to maintain equilibrium between work, personal life and academic studies, they exercised flexibility in shifting goals in case of a change in environmental favourableness. Focus group members agreed that goal orientation suggested by the repertory grid results had a direct relationship with motives and aspirations, but only to some extent. It is only logical to see that people with a mastery goal expect to learn and be excited by learning. Yet the reality of part-time study is that ultimately everyone aims to graduate, with or without flying colours; with or without learning. Although many students would like to learn, yet, should circumstances interfere with learning, such as family, job, personal health and so forth; they would effectively shift strategy to do whatever it takes to pass.

In summary, discussion data indicated no evidence of an approach orientation of achievement goals; there was, however, strong evidence of an avoidance approach, especially in mastery goals. There was also indication of social solidarity goal and the need to exercise flexibility in goal adoption that had not been addressed explicitly in the western literature.

5.3.3 Ability and Effort

This theme refers to how students attribute success and failure according to their personal theories of intelligence and ability. The implicit theories of intelligence, as a major construct in achievement goal motivation research, offer two views of ability (or intelligence). According to Dweck (1986, 1999), an entity view assumes that ability is a stable, uncontrollable trait that cannot be changed. On the other hand, an incremental view suggests that ability is unstable and controllable – hard work and practice can improve ability. The group was unanimous in recognising effort as *the* most important factor in all types of academic studies in any format, schools, universities, part-time, full-time, distance or classroom. The popular Chinese saying "hard work can compensate for a lack of ability" was cited several times in the discussion. There was no question in group members' minds that effort, diligence and commitment emerged as

the highest ranking master construct in the repertory grid results. Clearly ability was perceived as malleable, "anyone who believes that ability was fixed was saying it to cover his or her laziness and poor performance", commented A3.

Contrary to how intelligence was defined according to the implicit theories of intelligence (as analysed in Section 2.3.1.3.1), which implied IQ, members had rather different views about ability, which includes intelligence, language skills, study skills and work life experience, as defined by the master construct in Section 4.3.1.3). Intelligence, in particular, was considered somewhat like a double-edged sword. On the one hand, appropriate use of intelligence could result in good performance. On the other hand, smart people could get away easily by not studying because "they have certain charm to lure course mates to help them out just before exams. And because they are smart, they can quickly absorb the materials in one evening and still pass", remarked A5. Moreover, the group felt that intelligent people were sometimes the hardest to motivate. This was because they knew exactly what they wanted from a course, for instance, an average pass, so they were just not motivated to try harder or to learn more. According to A2, "if I know exactly what I want, (which is) 10 bars of chocolate, I would not be tempted if you offer me 20." In general, group members appreciated hard work much more than innate ability even when hard work only produced mediocre results.

In echoing the weak relationship between innate ability and motivation, A1 felt that opportunities in higher education were so great that, regardless of ability, there was always a place for people who wanted a degree. She said "for those with abilities, there is Oxford and Yale, or the HKUST (Hong Kong University of Science and Technology). For the less able, there are always the lower ranked universities. It is important to self-evaluate their own abilities and students should not push themselves to challenge something that is beyond their abilities." The point referred to the need for having a clear and realistic picture about one's own ability, and matching the level of ability with appropriate level of studies for optimal outcomes. In short, goal clarity and appropriate action were prerequisites to achievement.

Group members were very certain that effort was directly related to academic performance. They consistently made effort attributions for academic success rather than to both effort and ability as do Western students (Salili, 1996). This could also be the philosophical base of the contention that Asians are "effort oriented" people (Stevenson & Stigler, 1992).

With the discussion of ability and effort, we can begin to address the research question regarding transferability of western theory. The strong value group members attached to effort in their motivation to achieve implies an incremental view of intelligence; which, according to the implicit theories of intelligence (Dweck, 1986; 1999; Heymen & Dweck, 1998), is likely to be found in students who adopt mastery-approach goals (see Table 2.3 in 2.3.1.3). Since the analysis of focus group A so far indicates a strong association of an incremental view of intelligence and avoidance goals, clearly there appears a mismatch with the theoretical propositions and our data.

5.3.4 Self-perceptions

Due to the exploratory nature of this research, the term was defined as a somewhat global construct that comprises of self-confidence, self perceived competence, self-efficacy and self worth. In the social-cognitive model of achievement goal theory, self-perception is posited as a mediator which influences behaviours such as persistence, effort and choice of task (Bandura, 1986, 1993). In general the group believed that there was a relationship between self-perceptions and achievement motivation. Members saw the relationship much clearer in the way negative self-perception affects performance. "Those who don't believe in themselves won't do well, even when they are well prepared". Yet the group was not sure if high self-perception was related to adaptive behaviour such as self-regulating learning strategies. A5 cautioned, "self-efficacy and confidence without effort is useless. Sometimes too much confidence can be destructive." Contrary to the social cognitive theory, which emphasises the need for developing high self-efficacy, this focus group saw the role of 'self' in the middle way –

too much or too little self-perception can be damaging; only a moderate level is optimum.

The group questioned if self-perception was as important as the other factors, for instance, effort and approaches to learning, in understanding motivation. Members felt that although self-perception affects goals, beliefs and behaviours to a certain extent, yet it was the commitment to the goal that had a more significant effect on achievement. Further, group members questioned the relevance of self-perception in the collectivistic value of Chinese culture. In a collective culture, what the individual sees and thinks of him- or herself is not all that important. According to A4, "what really matters are the outcomes, such as being a degree holder, as recognised and judged by others, like family, friends and the community". This collective orientation shapes achievement goals of Chinese students for the recognition and glory of the collective whole (Salili, 1995). In the social solidarity perspective, family and group goals are often given higher priority than individual goals (Hui, 1988).

While achievement goal theory posits self-perception as a mediator that affects an individual's goal orientation, behavioural patterns and academic outcomes, the discussion data suggest otherwise. On cultural differences, A3 offered her views on the Americans, who "like to show all their cards on the table, and talk a lot about themselves. Often the noise is louder than action." Group members agreed that the Chinese are expected to keep what we think and believe about ourselves private because in this society, we are not judged by how much self-efficacy, self-esteem, or self-perceived competence we have. Rather, we are judged by achievements that are tangible and measurable, like a degree in the visible form of a piece of paper. It seems that humility as a basic orientation toward learning in the Confucian thinking (Li, 2002a, 2002b) is implied here.

In a nutshell, while this focus group acknowledged self-perception as an essential factor in motivation, yet members did not see it as highly important. A moderate level of self-perception was deemed appropriate; too much of it could be deleterious given the

widely endorsed value of modesty and humility in Chinese culture. This view is clearly different from the Western literature, which posits self-perception at the centre of a person's cognition.

5.3.5 Approaches to Learning

This theme makes reference to behavioural responses in the achievement motivation process. Goal theorists suggest that students with mastery-approach goals are likely to achieve a deeper level of understanding, use more cognitive and metacognitive strategies, perform better academically, and have a higher level of intrinsic motivation (Ames, 1992; Dweck & Leggett, 1988; Grant & Dweck, 2003; Meece et al., 1988; Pintrich, 2000). Like mastery goals, performance-approach goals are found to be positively associated with persistence, effort and academic performance (Harackiewicz et al., 1998). On the other hand, research suggests that the avoidance forms of performance goals predict lower intrinsic motivation and performance (Grant & Dweck, 2003); and are more vulnerable to maladaptive behaviours such as self-handicapping, withdrawal of effort in the face of failure (Ames & Archer, 1988; Elliot & Church, 1997).

According to the earlier analyses, the discussion data indicate that Chinese adult learners have the tendency to adopt mastery-avoidance goals, yet they make strong effort attributions to achieving the degree qualification highly valued in the society. It has been pointed out that there appears to be some deviation from the connection between goal orientation and effort-ability attributions. Further analysis of approaches to learning suggests yet another departure from the achievement goal theory.

On the whole, the group perceived a causal relationship of self-regulating learning strategies and good performance and motivation. Basically, group members felt that good planning and systematic revision produce good performance, which results in motivation. Yet adopting the right approach does not equate mastery or performance approach goals. A1 spoke of her experience while studying for her Chartered

Accountant examination - "I hated accounting, I took a turn in my career at the age of 35 because I was in Canada and unemployed; at the time, accounting offered a more promising career. But I had good study skills and exam skills. I was really motivated when I saw the exam results in flying colours. Frankly I was never motivated to master the subject". In a nutshell, goal orientation was perceived irrelevant to learning strategies. A3 added that "all our lives we have been told to plan ahead, exercise strict discipline and develop organising habit. These are the right ways to study". Basically what these two group members were saying was that goal orientation is irrelevant to learning strategies because Chinese students are expected to do the right things. For those students who demonstrate maladaptive behaviour such as self-handicapping, learned helplessness or defensive mechanisms, they "don't know what they want and they are plain lazy". There is considerable discrepancy between members' views and the literature, which suggests positive relationships between the approach orientations, an incremental view of intelligence, intrinsic motivation, persistence in the face of setback and seeking challenging tasks (Dweck, 1986; Dweck & Leggett, 1988; Dweck, 1999). In general, the group failed to see the linear relationship in the approach orientations, an incremental view of ability and intrinsic motivation.

Issues on deep and surface learning strategies triggered some interesting discussion from a cultural perspective. It has been said that the 'heart and mind for wanting to learn' is culturally rooted in the Chinese learners (Li, 2002a, 2002b). Yet, Members thought that Western students had a stronger 'heart and mind for wanting to learn' than the Chinese. According to A4, who has many years of experience teaching Chinese and Western adult students, "Westerners question every thing, sometimes they even challenge the instructor. They are driven by the need to know. Chinese students are much more pragmatic. They are not as knowledge driven; rather they are more concerned about how they can meet requirements in assignments and exams." According to this group member, western students behave more aggressively in the classroom and they tend to be more outspoken than the Chinese. It appears that Chinese students tend to adopt approaches that are either surface (driven by a performance avoidance goal) or achieving (driven by a performance approach goal) (Biggs, 1987,

1993). The phenomenon is quite typical in Hong Kong, where "no one will hesitate to say that the general expectation from either parents or the community is high marks and top school," said A2. Inevitably, an emphasis of such extrinsic factors is responsible for students to learn by rote in order to avoid failure, or searching strategically for cues to approach and maximise performance (Entwistle, 1988; Biggs, 1993). In terms of the previous analysis of Chinese adults being mastery avoidant, there is consistency with their preference to learn on the surface or to learn strategically, both with the aim to avoid doing the wrong thing rather than to master learning.

It summary, Chinese adult students tended to adopt a surface approach to learning because it emphasised tangible results that were valued in the social culture of Hong Kong. The approach was consistent with an avoidance orientation to achievement. The group also felt that the learning approach students adopt was irrelevant to their goals since they were taught to adopt adaptive behaviour (such as time management, prioritising studies) regardless of goals. The separation of behaviour and goals clearly deviates from the western literature, which posits relationships between approaches to learning and goal orientations.

5.3.6   Persistence

Realistically, the key to completion of part-time degree programme is persistence. Research shows that persistence in the face of setback as an adaptive behaviour pattern is found in students with intrinsic motivation and an incremental view of ability (Ames, 1992; Dweck, 1999). On this note, the focus group had a somewhat different view; and considered goal clarity more relevant to persistence. Group members felt that people were most vulnerable to challenges when they were not clear about their goals in taking a part-time degree course. Some members doubted if all the adults in continued education really knew what their goals were. For example, A3 noted that the "participation rate in continued education has been rising was partly a result of the herding behaviour". Many working adults were driven by the herding instinct to enrol when every other person around them was studying part-time. Then they had a reality

shock when they began the studies and found out that "everything is in English!"; "the boss gives me a nasty look when I leave the office at 6"; "writing a 5000-word assignment can be so daunting", commented A5. Members also commented that, in addition to knowing exactly what one wanted, a clear goal also required a realistic evaluation of one's ability and immediate environment. A4 opined that "by knowing your limitations, you can prepare yourself for the challenge." Quite simply, the data did not concur with achievement theory about persistence as a factor of intrinsic motivation and implicit theories of intelligence. Instead, knowing exactly what we wanted could strengthen our commitment to achievement even in difficult times.

The level of persistence was found to be quite different depending on the level of studies. The higher the level, e.g. postgraduate or doctorate studies, the more persistence was required. A1 added her experience as a doctorate candidate: "the key to success in studying a doctorate degree is neither intelligence nor hard work. It is persistence. I thought about quitting many times not because it was hard, rather it was the length of time involved. But after six years I'm still here for a simple reason - I can't accept myself failing. I have never given up on anything without giving my full effort and I am certainly not going to quit now". Clearly, A1's persistence was driven by an avoidance goal. However, avoidance was not her initial motive, nor was fear of failure; initially she wanted to learn, to perform and to achieve. For some reason her passion diminished but she persisted out of fear of embarrassment. Group members agreed that the hope for approaching success was perfectly clear in their minds. But over time the goal was shifted to a multiplicity of learning and performance goals along the approach and avoidance orientations. A4 summed up persistence, mastery avoidance orientation and the need for flexibility very well by saying, "I know very well that I want this EdD no matter what. In the beginning I had noble ideals about mastering knowledge, creating knowledge and so forth. But I can't indulge myself in this never-ending journey while time is running out. So I regress to finishing with just mediocre work, in any case I persist until I complete the degree; just need to be realistic and flexible, that's all".

Briefly, this focus group suggested that persistence was very important in their pursuit of a higher degree. However, persistence was considered a function of goal clarity, instead of mastery goals as posited by goal theorists.

5.3.7 External Factors

Social cognitive theory is a contextual view because it posits that behaviour represents an interaction of the individual with the environment. The theory assumes triadic reciprocity among personal factors, behaviours, and environmental influences as they interact with and affect one another. While effects of teachers' planning and activities, the school and learning environment have been extensively researched, not a single school-related factor was brought up in the repertory grid data. Instead, employment, family and financial factors emerged but their relevance to motivation was deemed fairly weak.

Group members were surprised since they expected to see external factors to be quite significant in adult learning. They then reasoned that external reasons were only excuses for not performing or failing. In reiterating the importance of goal clarity and self-evaluation, members felt that one should have a clear picture about the feasibility of studying part-time. In coping with obstacles beyond our control, A4 cited an example of a student who was made redundant at work soon after she started a course. "She continued the study, hoping that she would find employment soon. By the end of semester two, she was still jobless. It was time to make another payment and she decided to stay on the programme with her savings." It was "persistence and self-determination" that made her graduate "with distinction". In reality, the decision to study part-time was a trade-off in life; A1 added, "In times of financial difficulty, it is a matter of prioritising your different needs. You can spend a good part of your savings to maintain a high quality of life, or you can pay tuition with the savings and enjoy less gourmet dining". With clear goal and determination, external factors could have an effect only in extreme circumstances such as poor health, job relocation or serious family problems.

Discussion about external factors appeared to have two implications for achievement motivation. First, favourable conditions in employment, family and financial situation were essential in enabling adults to maintain their motivation to study. However, they were not crucial to achievement. It was goal clarity and persistence that really mattered should external conditions become unfavourable. Second, external constraints were expected in part-time learning that was characterised by hardship, diligence and perseverance, not enjoyment. This is consistent with traditional Chinese conceptions about learning; as the ancient Chinese idiom goes, "to be able to endure the hardship makes you a better man".

5.3.8 Summary of Group A

The following sums up key findings of focus group A:

- Effort and hard work was firmly endorsed and highly valued, implying strong Confucian cultural influences.
- Both innate and acquired ability were considered relatively unimportant because of the incremental belief in ability.
- There was a distinct preference for mastery-avoidance goals, which was incongruent with the strong effort attributions made to achievement motivation. Western theory on the other hand postulates a relationship between avoidance goals and an entity belief of intelligence.
- There was indication of a social solidarity goal that is not addressed explicitly in the western literature.
- A positive and moderate self-perception was deemed appropriate. Contrary to western theory, strong self-perception was perceived as deleterious.
- Approaches to learning were considered irrelevant to achievement goals, whereas relationships were identified in the western literature.
- Persistence was strongly related to goal clarity rather than mastery goals as postulated by western theory.

- Contextual factors such as employment, family and financial situations did not affect motivation in a significant way. Teachers and learning institutions were not mentioned in the discussion.

Findings of focus group A suggest that there is a mismatch with western achievement theory. It should be remembered that members of group A comprised of mature students[11] (40+ years of age), and whether their views can be generalised to a wider population requires further investigation. With this in mind, the second focus group was organised to include younger adult students (24 to 39 years of age).

5.4   Findings and Analysis of Group B

5.4.1   Group members' profiles

Four part-time learners participated in Group B. Their profile is as follows:

1. B1 is a BBA student in her late 20s and single. She is the human resource officer of a quantity surveyor consulting firm.

2. B2 is a BBA student in her mid 30s. She is married with an 8-year-old daughter. She has just changed employment and is currently the Administration manager of a multinational insurance company.

3. B3 is a BBA graduate in her early 30s and single. She works for the Hong Kong Jockey Club as an accountant.

4. B4 is a social science graduate in his early 30s and single. He is the recruiter of an Executive Search firm.

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[11] The age factor was not accounted for in the initial design of focus group discussion. Refer to 3.9.2 in chapter 3 for discussion of group membership.

The same six recurring themes are analysed as follows.

5.4.2 Achievement Goals

Discussion data show that there is evidence of two out of the four achievement goals identified in the 2 x 2 model.

For adults who returned to school after working for some time, the group unanimously agreed that the driving force was career and employment. B1 commented that "a degree does not guarantee employment", yet "you can't even get an interview without a degree". Group members felt quite strongly that in Hong Kong, a degree was "fundamental to employment" in the sense that it was "an admission ticket" to work. The future perspective of goal is plainly demonstrated in members' repeated use of the term "admission ticket" throughout the discussion. From the strong emphasis on studying in order to avoid employment insecurity, it was evident that group members endorsed the avoidance motive much more than the approach motive. With reference to the 2 x 2 achievement goal model, the performance-avoidance goals were implied in general terms.

A concern for outperforming others in the form of performance-approach goal was not perceived to be common in part-time adult learners compared with full-time traditional university students. Members mentioned how they used to compare marks and be competitive while studying full-time, but they could not be bothered with ego now because "it is difficult for us to manage so many different demands from work, family and study. There are other things to worry about", said B4.

On mastery goals, members felt that for part-time students who were in their early stages of a career, adopting a mastery goal was unrealistic. According to B4, "With limited work experience and financial resources, why would they want to commit a large sum of money (as tuition fees) for knowledge?" The opinion was supported by B1, who added, "It's a matter of analysing the costs and benefits and making sure that

the investments justify the economic returns". Apparently, the perceived extrinsic side of motivation outweighed the intrinsic value to the extent that learning goal was considered "unrealistic". Such an unflattering view may be rationalised by referring to the cultural characteristics of Hong Kong, as B3 noted, "Hong Kong is a pragmatic society in which people are constantly weighing and balancing their inputs and outputs". B2 added that, "if I want to study for the sake of learning, I would attend short courses that are less expensive and less time consuming".

An approach to mastery, on the other hand, could be found in older learners who had less need for the 'admission ticket'. It would then make sense to pursue mastery goals. This assumption can be seen in B2's remarks, "for the older students, a degree is no more than just icing on the cake. If I still choose to study ten years from now, knowledge and learning would definitely be my only goal". As shown in group A's analysis, this assumption is highly debatable. It is recalled that discussion data of group A had clearly indicated a tendency towards avoidance goals. Specifically, mastery-avoidance goals were found in group A, which comprised of adults in their forties and fifties. However, there were differences with respect to avoidance goals; group A revealed a sense of reluctance when they felt they were 'compelled ' to adopt an avoidance approach because they could not afford the time for mastery-approach goals (see 5.3.2). On the other hand group B seemed to voluntarily opt for an avoidance approach because they felt 'pressured' to complete the study so they could 'get on' with their careers. Nevertheless, the group did not think that they were totally driven by fear of failure. In fact mastery-avoidance goals are noted when B2 said, "I am quite happy with a B, a C is also OK, as long as it's not a D". In other words, there were standards to be compared with and the goal was not to perform below that self-set standards.

Beyond the four achievement goals posited in the 2 x 2 model, social solidarity goal was noted when B2 made the comment that, "Full-time students have one single responsibility - that is to study. They should aim for high marks. Otherwise how could they face themselves and their parents?" The last sentence has an underlying

implication of social solidarity goal (Hui, 1988; Maehr, 1989), which emphasised the obligation to please the parents.

In summary, there was indication of mastery-avoidance goals because members only wanted to make sure that they did not perform too badly. An approach orientation, in both performance and mastery goals, was perceived as unlikely. The data also suggested a fairly strong sense of pragmaticism in goal adoption; educational achievement was pragmatically perceived in terms of economic returns.

5.4.3   Ability and Effort

Similar to the 40+ group, this group was almost universal in emphasising effort as a prime factor in motivation. The general consensus was that innate ability such as intelligence was nice to have, but it was not crucial. B3 made her point very clearly and said "reliance on intelligence alone cannot lead to success". In the case of a student with below average intelligence, "consistent hard work may not make a substantial difference, but this student will at least pass", added B2. Members' faith in effort attribution was eloquently expressed in a number of ways. B1 remarked, "Given time, abilities, including language skills, can be improved if you are willing to work hard". On English proficiency as a language skill, B3 asserted, "If you choose a programme that is delivered in English, you should take some English courses beforehand"; and "If you know that your English level is not up to standard, then you should prepare in advance so you can understand the lecture better". On work life experience as an ability, members in general felt that it could help making connections of theories with realities; in the absence of this ability, or those who had less of it, hard work would be the only way.

It can be seen that effort as a virtue is deeply rooted in the Chinese culture. Clearly, the concept is still going strong even in the younger generation. The belief was so strong that ability, intelligence and skills were almost perceived in a negative way. In fact, some members thought that intelligence, as a desirable ability was arguable. B1

remarked, "only smart people can think of many ways to be lazy and still pass the subject." In response to the question "what do you prefer to be praised for, smart or diligence?" the answer was unmistakeably "diligence". The group felt that, realistically, most people were not born with high intelligence. For the majority with average intelligent, the only way to differentiate the excellent from the poor was hard work.

On the whole, data about effort and ability are consistent with Group A; both groups confirmed hard work and effort as a significant criterion for educational achievement. When this view is analysed in the context of avoidance goals, a gap is identified since western theory clearly postulates a relationship between a belief that ability can be improved with effort and an approach orientation to goals.

5.4.4 Self-Perceptions

The group concurred with the repertory grid data of both low frequency count and value in self-perception as a master construct. Similar to Group A, members continuously referred to the high end of self-confidence and self-perceived competence and saw only the negative implications in affective terms such as arrogance, self-centredness and rigidity. This reaction can be interpreted in their emphasis on collectivistic value in the Chinese culture (Salili, Chiu, and Lai, 2001).

On the mediating role of self-perception, the group acknowledged the impact of self-perception to achievement motivation in several ways. According to B1, "people with low self-perceptions and self-confidence react to failure in two different ways; they either give up, blame others or they try again and again." In other words, negative self-perception was related to two contrasting behavioural patterns; the negative patterns were characterised by maladaptive behaviour such as self-handicapping and learned helplessness; the positive pattern was continued hard work. B2 added that "people with high confidence can also behave in two different ways, either they use their confidence to plan well and study deeply, or they let their confidence take over and undermine the

studies." Thus, both adaptive (e.g. deep learning approach) and maladaptive (e.g. being lazy) forms of behaviour were possible with positive self-perceptions.

Central to this personal 'theory' of Group B is the notion of effort. Members were certain that effort held the key to success, regardless of the state of self-perception. In essence, discussion data indicated that self-perception was not very important to adults' motivation to achieve. The focus group's view could be summed up by referring to B3's comment, "it's okay if you lack a bit of belief in how well you could perform in the course, things will be alright as long as you work hard".

Again, findings of Group B were quite similar to Group A. Both groups tended to view self-perceptions as peripheral to motivation, rather than as a central core as posited by western theory. However, each group made different rationalisation for a peripheral role; group A believed that goal clarity was more important than self beliefs because self perceived competence alone would not be enough if one was not clear about the goal. Group B's rationale was based on an emphasis of effort, which was believed to have the ability to compensate for a lack of self-perception.

Further, group B offered an additional observation about self-perceptions, suggesting possible adaptive and maladaptive behaviour that may result from either positive or negative self-perceptions. This observation is similar to Group A's view about taking the middle way – too much or too little could have negative effects on motivation. Along the line of this view, differences were found when compared with western literature. First, the literature argues for classroom intervention to develop positive students' self-perceptions because positive relationships had been found with regard to an approach for success and adaptive behavioural responses (Dweck, 1999; Valle et al., 2003). The middle-way is a traditional Confucian thinking that emphasises taking everything in a moderate manner; hence, the Chinese may not readily receive western theory that advocates high and strong self-perceptions. Second, with respect to possible positive and negative behavioural outcomes as remarked by Group B, the view extended self-perception theories beyond the current propositions. While related

literature, such as that dealing with self-efficacy and competence perception, often pointed to the need to be positive, the Chinese seemed to adopt a contingent perspective, suggesting that there were no absolutes. In short, gaps were identified with western theory of self-perceptions.

5.4.5   Approaches to Learning

Empirical and theoretical discussion in this theme suggested a relationship between resource-intensive, self-regulatory practices and mastery and performance approach goal; whereas learning by rote and surface level learning were related to performance avoidance goals (Biggs, 1987; Dweck, 1986; Vermunt, 1998). This group seemed to believe that many younger adult learners in part-time studies, because of their avoidance motive, tended to opt for performance-avoidance goals, and therefore they were expected to adopt surface level learning in their studies. In fact, deep approaches to learning, wide reading, and striving to seek meanings were thought to be impractical. The focus group resolved that this would be just an ideal. This view was in alignment with the group's comment about mastery goals for being unrealistic. To group B, Hong Kong students were seen as pragmatic, exam-focused and they "won't waste time on brainstorming and testing possibilities", noted B4. On pragmaticism, B2 made a comment about how Hong Kong students like to put on a busy business-like outlook; "they'd arrive the classroom, sit down for discussion and keep reminding others to 'get to the point'". B1 added that "they look for very specific information that is related to exam or assignment writing"; and "some would be absent 80% of the time but they would make every effort to show up for the last lecture for exam cues". Based on the discussion data, the surface approach to learning clearly emerged as a preferred approach because of its practicality. Surface learning also aligned well with avoidance goals and extrinsic motivation, as suggested by western literature.

An interesting observation was made when members talked about learning approaches. Some made a point to acknowledge the importance of systematic planning and time management not because of their relationship with intrinsic motivation. Rather, these

were perceived as effort, which could compensate inability. B1 referred to "making a conscious effort to organise systematically" since "planning is a means and a tool to get better results".

The group was not able to comment on cultural differences in learning behaviour since members did not have the opportunity to study with Western students. However, the general impression was that Westerners seemed keener on learning and that they tended to adopt a deep learning approach.

Compared with results of group A, this group shared the views of a general tendency for adult students to adopt a surface approach to learning. There was also basic agreement with the literature with regard to relating surface learning to avoidance goals. However, different patterns of relationships were noted - group A endorsed the value of self-regulatory and deep learning, whereas group B plainly asserted that deep learning was impractical.

5.4.6 Persistence

Persistence in the face of set back is an adaptive behaviour found to be related to intrinsic motivation, students with mastery goals and an incremental belief of intelligence (Ames, 1992; Dweck & Leggett, 1988; Dweck 1999). However, for this focus group, persistence was attributed to extrinsic factors, which primarily included financial commitment made to the study programme. A1 noted that for practical reasons, "I wouldn't quit if tuition fees have been paid up. I would repress my feelings, bear the hardship and force myself to persist". Another type of students who were persistent was those who were sponsored by the company; A4 remarked, "they do not have the freedom to withdraw because the consequences would be serious." They would be denied further development opportunities and their future in the organisation was extremely bleak. In order to avoid being labelled incompetent, these students had no choice but to persist. In short, it was fear that made these students persistent; the

fear of losing the money already paid for or the fear of losing future prospect in the employing organisation.

Another factor affecting persistence was goal priority. A reality of the part-time adult learner was striking a balance with multiple goals. It was a matter of making adjustments and prioritising while meeting different goal requirements. While generally persistence was found in students who were committed to their goals, intrinsic and extrinsic goals alike, yet their commitment could be affected by changes in employment and sponsorship. B3 cited an example of a student who quit as soon as she made a career change, in which the degree was perceived irrelevant to her new career. Similarly, priority of matters could also be changed at different stages in the study. At the beginning of a course, most students were energised by the motive to approach success. Whether one persevered in the period of 2-5 years depended on continuous effort. According to B1, studying part-time was like "running the marathon; at the beginning everyone wants to cross the finish line. Whether you can persist until the end depends on commitment and effort". Once again, effort is attributed to persistence.

The theme of persistence was represented by two different views from two focus groups. As discussed in 5.3.6, group A attributed persistence to goal clarity; it was believed that having clear goals enabled students to set directions and focus. Group B had a much more pragmatic view; persistence was perceived to be determined by financial and organisational commitments. In this case, the relationship was drawn with some external factor - fees already paid and company sponsorship. Nevertheless, the data indicated that persistence had little to do with intrinsic goal or an incremental theory of intelligence, as proposed by achievement goal theory.

5.4.7 External Factors

In the social cognitive framework, the contextual environment consists of family, teachers, the classroom environment and school. These factors interact in shaping a student's learning attitude. In the analysis of adult students, work and family elements

have been identified in the repertory grid interviews. The group was not surprised to see the perceived low value of external factors from the repertory grid data. Similar to group A, this group justified that people only made excuses with heavy workload, family obligations and financial problems. Unless these factors become severely critical, they have low significance to achievement motivation.

On the other hand, members felt that the learning environment could be an important factor for non-distant undergraduate studies. The learning environment consisted of two variables, lecturers and peers. The ability of a lecturer to transmit knowledge and facilitate learning was perceived only somewhat important to motivation of part-time adults. B4 explained the reality of part-time studies quite well, "a good lecturer can definitely motivate learning, but how often do we get a really good one? I only look at it as a bonus; most of the time, I rely on myself." This somewhat pessimistic view was shared by B1, who said "I can live with a boring lecturer as long as (s)he is responsible and knowledgeable. Too bad there aren't too many around. In some courses, I literally had to figure out everything by myself without any help from the lecturers."

Peers were considered somewhat important since their learning attitudes could be contagious. B2 offered her opinion, "A group of lazy classmates is very unmotivating. I would be tempted to be absent once or twice if everyone has a casual attitude". Members added that depending on the type of studies and the level, sometimes peers would be irrelevant, for example in distance learning courses. Further, in graduate studies, students were expected to be independent and often they studied on their own without many interactions. B4 added his views about graduate studies, "There are 25 students in my class and we meet one weekend every six weeks or so. It's been nine months and I only know the names of ten of them."

To sum up, similar to group A, this group suggested low importance of external factors to motivation. Only lazy students would use employment, family and financial situation as excuses for failing or not performing. Group B also added data that were not found in either the repertory grid data or group A. The roles of teachers and peers were

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brought up in the discussion. Yet contrary to western theory, their roles were deemed quite marginally because adult students were expected to be self-reliant.

5.4.8 Summary of Group B

Key findings of group B can be summarised as follows:

- Extrinsic, employment-related goals were perceived more important than learning goals.
- Part-time adult students in Hong Kong were very pragmatic; they tend to view education based on an analysis of cost-and-benefit.
- Effort and diligence were strongly endorsed as a significant factor to academic achievement and self-regulating learning.
- There was a clear preference for avoidance goals, especially mastery-avoidance goals, which did not match the strong effort attribution made to achievement. Goal theory proposes a relationship between approach goals and belief in effort.
- Contrary to social-cognitive theory, self-perception was considered peripheral in adults' motivation.
- Contrary to self-theories which propose high and positive self perceptions, discussion data suggested possible negative outcomes with positive self-perception.
- There was some theoretical consistency with behavioural patterns and goals; surface learning aligned well with avoidance goals.
- Variance was found in the theoretical assertion of persistence, discussion data suggested external factors as important determinants of persistence, instead of mastery goals and an incremental belief of intelligence.
- Similar to group A, external factors were perceived relatively unimportant. Contrary to western literature, the roles of teacher and peers in the learning environment were marginalised since adult learners were expected to be self-reliant.

5.5 Overall Discussion

So far results and analyses of both groups A (age 40+) and B (24-39 years of age) have been presented separately. Salient factors had been discussed in the six recurring themes respectively. The focus now turns to consolidating both discussions and addressing the question relating to transferability of western theory.

5.5.1 Summary of Findings

The following presents key findings of the six recurring themes against three theoretical domains of the social-cognitive framework.

5.5.1.1 Person-cognition

Motives and Aspirations. For adult learners in Hong Kong, their motive to study part-time was based upon anticipated negative consequences of fear. The negative consequences had different meanings for different people. For those who needed a degree for employment reasons, it was fear of uncertainty. Data suggested that this particular motive was emphasised by younger adults who were at the starting point of their career. For those who needed the degree for social solidarity or personal reasons, it was fear of embarrassment - failing meant disappointing the significant others and the self. This motive was more apparent among mature adults who might have fewer concerns for employment security. Compared with the notion of fear of failure that is commonly referred to in the western literature, the focus group data have suggested an area that differentiates Chinese adult learners from school children in the West.

Goal orientations. The theoretical association of motive and goals was noted in the data, which indicated a strong preference for mastery-avoidance goals. Performance-approach and mastery-approach goals were not found; in fact, the highly pragmatic younger adults from group B perceived the latter unrealistic. For the mature adults, mastery-approach goals were thought to be an ideal that was difficult to maintain. Data

also suggested that the adult sample was future-oriented; part-time studies were instrumental to future goals that were related to job or personal interests. Moreover, achievement goals were not perceived as static; part-time learners needed to exercise flexibility and shift goals depending on external factors. The data suggested that most adult learners hoped for success in the early stages of their studies, but many decided to shift towards the avoidance dimension when they found it difficult to cope.

Ability and Skills. Intelligence and other forms of ability, such as language skills, work life experience, were deemed incremental, given time and effort. Both groups made strong effort attributions to success and failure in part-time studies. As such, abilities and intelligence were dismissed as essential factors in higher learning. Effort, hard work, and commitment were construed to be accountable for every facet of achievement motivation, from systematic planning and organising one's learning tasks to persistence, success or failure.

Self-Perceptions. The concept of 'self' was downplayed by both groups. The data indicated that having too much or too little self-efficacy, self-confidence and self-perceived competence could be deleterious. A moderate level of self-perception was considered just right by the Chinese. Contrary to the literature, self-perception was not perceived to have any major impact on achievement.

5.5.1.2   Behavioural Responses

Learning approaches.   Although both groups agreed that self-regulatory learning strategies were important behavioural patterns, yet Chinese part-time adult learners were seen to prefer surface approaches to learning. Contrary to the literature, the data indicated that approaches to learning had no apparent relationship with goal adoption. Group A opined that such an approach was driven by an social-cultural emphasis on tangible educational achievement; whereas group B plainly affirmed its practicality and discredited deep approaches for being unrealistic.

<u>Persistence.</u> While Western literature has made clear assertions about the effects of an approach motive, positive self-perceptions and an incremental belief of ability to persistence; no such relationships were found in our data. According group A, persistence was about having clear goals, knowing exactly what one wants that make a person persevere. Group B related persistence to one's vested interest in tangible terms such as money and employment prospect; persistence was strong when fees had been paid up and weak when the job no longer required further studies.

5.5.1.3 Contextual Environment

<u>External factors.</u> Both groups agreed that conditions in the workplace, at home and personal finance had no direct effect on achievement motivation, unless in extreme cases. Favourable conditions were deemed advantageous but their presence did not equate motivation. Similarly, teachers and peers in the learning environment would be beneficial yet they had no direct impact since adults were self-reliant.

<u>Cultural differences.</u> Western learners were thought to have stronger minds and hearts for wanting to learn; members from both groups perceived them to be more aggressive, outspoken and inquisitive. Chinese adult learners were described as pragmatic and exam-driven primarily due to the much emphasised degree-job prospect value that was an integral part of the social norms.

On the whole, there was general consensus of both groups from the focus group findings. The majority of Chinese adult learners in Hong Kong, regardless of age, seemed to be motivated by avoidance motives and goals. They tended to take the middle way, de-emphasising self-perceived competence, and to make strong effort attributions to success and failure. Generally they adopted surface approaches to learning and held down constraints in employment, family and financial difficulty. However, there were areas where age seemed to differentiate certain discussion findings. For example, data indicated that young adults tended to be more pragmatic in terms of their rationale for adopting avoidance goals, surface learning approaches and

persistence. Since the current investigation was not designed to explore the age factor in achievement motivation, further analysis will not be attempted. The next section focuses on the key research question of this study, which is on transferability of western theory to Chinese adult learners.

5.5.2   On Theory Transferability

Findings of the focus group discussions disclose further aspects in the achievement motivation of Chinese adult learners. In our analysis against western achievement goal theory and other related literature, similar to the repertory grid interview results, the focus group data suggested limited theory transferability.

There are, however, areas in the data that concur with the literature in general. Firstly, the focus group data had shown that implicit motives were directly related to achievement goals (Schultheiss & Brunstein, 2005). The predominant avoidance motives based on fear were related to an emphasis on avoidance goals. Similar to young learners, adults were found to be future oriented; they perceived the instrumentality of part-time studies for some highly valued future goals. As suggested by the future time perspective theory, the importance of the personal future in terms of employment or personal goals and the utility of the learning task were emphasised in the motivation process (Simons et al., 2000). The data also showed that adults also adopted multiple goals; i.e. they adopted both mastery and performance goals. However, these goals were not complementary in the way that they coexisted simultaneously (Seifert, 1995; Valle et al., 2003). In fact, only two types of avoidance goals were apparent from the data – performance avoidance and mastery avoidance goals.

The following describes areas where discrepancies were found between our data and western theory. In the avoidance goals dimension, achievement goal theory predicts a tendency of the students to adopt maladaptive learning strategies since they are more likely to believe that intelligence is fixed, and that they may have a lower self-

perception (Dweck, 1999; Dweck & Leggett, 1988; Elliot & Church, 1997; Grant & Dweck, 2003; Pintrich, 2000). However, the focus group data indicated quite a remarkable pattern – adult students with avoidance goals adopted a distinctive and firm incremental belief in effort to the extent that effort was construed to be directly connected to self-regulating learning, persistence and ultimately success. These cognitions and behaviours, according to Western theory, should be found in students with a mastery and performance-approach orientations. Other findings at variance included the low significance attached to self-perceptions – a key construct in the social cognitive theory; and the perceived irrelevance of persistence and learning strategies in goal orientations. It might be that "traditional measures of self-efficacy may be less valid for this (collectivist) population" (Eaton & Dembo, 1997, p. 224). Clearly, there are considerable deviations between our findings and what western theory proposes and predicts.

The picture in brief suggests that, given the attention and research effort committed to achievement goal theory in the west, its ability to explain adult achievement motivation in the Confucian Heritage Culture is rather weak. Theoretical discrepancies found in this exploratory study with a small sample may be able to shed light on further study in areas of adult learners' motivation across cultures or life span.

The next chapter presents general discussion of the research results. It addresses the limitations and the strengths of the study and discusses the theoretical and practical implications of the findings.

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Chapter 6   Discussion and Conclusions

6.1   Introduction

In chapters 4 and 5 major findings generated from the Repertory Grid techniques and focus group discussions were presented. Effort was made to interpret the findings against literature on achievement goals situated in the West, learning in Chinese culture and adult learning. Analyses of research findings have led to a preliminary conclusion that indicated that western achievement goal theory was able to explain achievement motivation of part-time adult learners in Hong Kong to a limited extent. This chapter will address analyses from both research methods and discuss key issues surrounding the focus of the current study. Conclusions and implications of the findings will also be presented in this chapter. In particular, the conclusion presented in this chapter very much centres around the research question and the formulations of the previous five chapters.

In the process of data analysis, several issues have emerged from both repertory grid and focus group data that may shed light on how and why Chinese adult learners are motivated in their pursuit of their part-time degrees. These are the factors that distinguish them from young learners in the West from a social-cognitive perspective. The next section presents an overall picture of part-time adult learners' achievement motivation in Hong Kong. Aspects that can or cannot be explained by the Western theory will be highlighted. It is on the basis of features in the overall picture that the research question on theory transferability will be formally concluded.

6.2   Achievement Motivation of Part-time Adult Learners in Hong Kong

The current study is summarised and represented in three major themes that characterise achievement motivation of adults in Hong Kong - the fear factor, effort supremacy, and goal realism. Our findings show that, in general, the Chinese adults are primarily

motivated by the fear factor; in their minds there is nothing more important than effort for achieving the degree; and the bottom line to achievement is being realistic.

6.2.1 The Fear Factor

The analyses of both sets of research data suggested that respondents showed a preference for achievement goal adoption in the avoidance form. As discussed in chapter 4, the repertory grid respondents reported a strong concern about being disadvantaged in employment. They were of the opinion that many adults believed a degree could add value to their employability and hence guard against job loss or pay cut. Judging from the high frequency of mention of employment-related goals (7.5% of total constructs elicited), this concern indicated quite an explicit motive based on fear (see Table 4.5 in section 4.2.3). On the other hand, positive aspects of a success-approach (nAch) motive were not prominent in both our findings. Two particular fear factors[1] are identified - fear of uncertainty and fear of embarrassment.

6.2.1.1 Fear of Uncertainty

Fear of failure has been described (Conroy, 2001; Conroy, Willow & Metzler, 2002) as a multidimensional construct that is linked to various aversive consequences because of failing. One of the dimensions of general fear of failure includes fear of an uncertain future, which matches closely with the respondents' concern for the lack of employment stability. Results of the focus groups also suggest that age can be a factor that differentiates the fear factor between younger and more mature adult students. The data revealed that younger adults in their late twenties and early thirties have a much stronger fear of an uncertain future while older adults in their forties and fifties have a greater concern for not performing up to their own expectations.

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[1] As discussed in section 2.3.1.1, fear of failure is a motive to avoid failure.

6.2.1.2 Fear of Embarrassment

Another fear of failure (FF) dimension refers to fear of experiencing shame and embarrassment. This fear has been found to be a distinct concern in the focus group with more mature adults, who related perseverance with a fear about not meeting their own standards. It will be recalled that one focus group participant (A1) said, "The only reason that I'm still here after six years is simple – I cannot afford not to succeed!" (see 5.3.2) What it means is that the fear of embarrassment to this individual is so great that this respondent did not allow herself to give up. This feature supports the suggestion of fear of embarrassment as a more relevant performance-avoidance goal for part-time adult students (Sachs, 2001).

6.2.1.3 Double Avoidance Goals

Whether it is fear of uncertainty or fear of embarrassment, findings clearly demonstrate an avoidance orientation among Hong Kong Chinese adult students' achievement goals. It might even be said that these adults adopt a double-avoidance goal since very little evidence was found with respect to the approach orientation in both mastery and performance goals. From the 2 x 2 achievement goal perspective, removing two approach goals leaves only two avoidance goals, i.e. mastery-avoidance and performance-avoidance goals. Adult students in this study whose performance goals were grounded in avoidance have been described as adopting maladaptive patterns of learning such as avoidance in seeking help, distraction, disorganised studying, less-regulated learning, self-handicapping, surface process of information and reduced intrinsic motivation. Data from both data sets in the current research indicated that younger adults had a tendency to adopt performance-avoidance goals while older adults showed a more distinct preference for mastery-avoidance goals.

6.2.1.4 Developmental Issue

The absence of performance-approach achievement goals in the current study may be attributed to developmental factors, which differentiate adults from children. The respondents felt that a performance-approach goal was more common among full-time students who studied in a more competitive environment. According to the focus group data, the working adults were not particularly concerned with the idea of outperforming peers and proving their competences because studying was only one of many other different concerns in their lives. Similarly, a mastery-approach goal was also perceived to be unrealistic because the busy adults could not afford to commit all their resources to just studying and learning; they needed to balance every aspect of their lives in order to maintain optimal equilibrium.

In focus group A which comprised of older part-time students, participants mentioned on more than one occasion their needs for not performing worse than their usual levels. They did not expect to excel and master knowledge, they only wanted to make sure that they were able to perform at their usual level. As such, they could avoid the fear of embarrassment to themselves. In this sense, mastery-avoidance goals were focused on avoiding self-referential competence. That is, the goals entail striving to avoid losing one's skills and abilities, misunderstanding material, or leaving the study incomplete. The concern of *"not losing to yourself"* clearly supports Elliot's hypothesis that mastery-avoidance goals may be more common among elderly individuals who find their physical and cognitive abilities to be in decline and encounter difficulties carrying out the activities of their youth (Elliot, 1999; 2005). However, it should be remembered that mastery-avoidance goals, as the latest addition to the 2 x 2 goal model, have not been fully tested. Thus, achievement motivation theory, which is developed with young learners in mind, seems inadequate in explaining adults' tendency towards avoidance in their goal orientation.

6.2.1.5 Cultural Attributes

It is perhaps common for Chinese to display higher levels of fear of failure and adopt more avoidance strivings. Research in cross-cultural studies has shown that Asians are more inclined to regulate towards goals in an avoidance manner (Eaton & Dembo, 1997; Zusho et al., 2005). Based on the previous discussion, fear of failure seems to energise behaviour and biases Chinese adults toward the pursuit of avoidance achievement goals.

From the discussion of fear as a major characteristic identified in adults' achievement motivation, age has been found to moderate avoidance goal orientations. According to the findings, younger adults tend to adopt performance-avoidance goals that are associated with fear of uncertainty, while more mature adults tend to adopt mastery-avoidance goals linked to fear of embarrassment. Further analysis of the Confucius Heritage Culture (CHC) also suggests that old age is synonymous with authority, knowledge and competence. For elderly persons to experience low performance or failure implies a high degree of face loss. The embarrassment would be so intense that they opt for avoiding not losing to themselves. In addition to attributing age to the avoidance tendency, the CHC may be able to offer another dimension that explains mastery-avoidance goals.

In summary, only the avoidance forms from the 2 x 2 achievement goal model can satisfactorily explain goal orientation of the Chinese adult learners. The avoidance tendency has been analysed as a factor of cultural as well as developmental influences. The predominant factor of fear that was found to energise adult learners in Hong Kong revealed a phenomenon not accounted for in western achievement goal theory. The argument for an unlikelihood of mastery-approach goals is presented in a later discussion about pragmatism and goal realism in 6.2.3.

6.2.2 Effort Supremacy

Effort, hard work, diligence and commitment were consistently emphasised in the current research. From the Repertory Grid data, effort and commitment emerged as a single construct that was construed as most important for adults in achievement situations (see constructs preferred in figure 4.6). The importance of effort was confirmed, elaborated and further emphasised by the focus groups as an essential construct in Chinese adults' achievement motivation. To demonstrate the supremacy and versatility of effort, this construct will be discussed in terms of how adults' make attribution to success and failure, in relations to self-regulatory learning and with respect to competence perception.

6.2.2.1 Effort Attributions to Academic Success

Findings of this study demonstrated unanimous agreement on effort as the most critical factor for academic success or failure. There was a clear indication that Chinese adult students believed that effort was indeed controllable and malleable. Contrary to the Western view of effort and ability as compensatory in achievement situations, the Chinese considered effort much more important than ability. In other words, Chinese adult learners in this study subscribe to an incremental theory of ability – the belief that hard work, study or practice can improve ability. Since acquiring knowledge does not happen overnight, rather it is a slow process requiring much hard work, effort attribution for academic success seems logical.

6.2.2.2 Intelligence – Less is More

Corresponding with the incremental view of ability, innate ability such as intelligence by itself is not believed as something relatively fixed, but rather it is something that can be improved by hard work. The current research findings indicate that intelligence was something nice to have, but it was by no means the most important criterion. In fact,

intelligence and smartness were construed in a somewhat negative way. In respondents' language, smart students were described as slick, cunning, manipulating and mischievous in the way they always managed to get away without making any effort (e.g. passing exams and assignments, missing classes). It will be recalled that during the focus group discussion, all the participants in Group B responded to the question "What do you prefer to be praised for, smart or diligence?" with the answer 'diligence' with no uncertainty (see 5.4.3). Data from both Repertory Grid and focus group suggested that a person would be admired and respected for his or her hard work despite hardship (including less than average intelligence) much more than would someone who was intelligent but not hard working. In short, the respondents believed that, if one was not born with average intelligence, less of it was more desired than more of it on condition that the individual was willing to work hard. The rationale is grounded on the firm belief of effort, which can compensate for almost every kind of inability.

6.2.2.3   Effort is the *Way*

Another way to demonstrate the versatility of effort is through respondents' conceptualisation of learning strategies. While goal theorists postulate that an approach orientation to achievement goals results in adoption of cognitive and metacognitive learning strategies, adult learners in this study have a completely different view. According to their personal theory, effort was construed as the right way to study in all academic achievement situations, thus adaptive strategies such as time management and deep learning were only possible when one exerted effort in planning. It follows that achievement motivation would be realised when good performance was attained as a result of applying appropriate learning strategies. In their theorising of achievement outcomes, it appears that effort is positioned at the core of the process as an independent variable; contrary to achievement goal theories, which posit effort (as noted in the implicit theories of intelligence) as an intervening variable. Explicitly and implicitly, respondents repeatedly asserted that the right way to study and to learn lay in diligence, hardship, steadfastness and concentration. Adopting cognitive and metacognitive strategies merely demonstrated the right way of learning, which involved primarily

effort. In short, adult learners in this study seem to be saying 'with effort you shall find the way to success.'

6.2.2.4 Self-perceived Competence Does Not Matter

Adult learners in this study did not see how self-perceived competence[2] could affect academic achievement in any significant ways. According to their personal theories, very high perceived competence is deleterious; respondents related people with high self-perceived competence to arrogance, complacency, over-confidence, closed-mindedness, self-centredness and subjectiveness. Contrasting with the view that optimistic efficacy beliefs produce superior functioning such as perseverance, resilience and task choice (Bandura, 1997), this research data suggested that adult students needed to be realistic and should never over-estimate their ability. On this note, the same principle of *less is more* applies to competence perception as well. Too much or too little of it can be destructive, a moderate level of self-belief would be just right. In the event when students have a problem sustaining a moderate belief, a lower level of perceived competence is also acceptable because after all, effort will compensate for the lack of competence belief.

6.2.2.5 Developmental Issues

It has been shown that effort is firmly believed by the Chinese adult learners to be a fundamental core to achievement motivation. Yet such a strong belief is not unique in adults, Chinese children have also been found strong in all the characteristics discussed above. According to the literature relating to student motivation in the Chinese context (sections 2.4.1.2 to 2.4.1.4 of the literature review chapter), research has shown that Chinese children in Confucian Heritage Culture (CHC) are brought up in an environment where effort and hard work are emphasised (Chen, Lee & Stevenson, 1997). Since childhood the idea of education as a moral striving for self-perfection is continuously reinforced at home and in the social and learning environment. The belief

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[2] In this study, self-perceived competence includes concepts such as self-efficacy, self-confidence, and self-concept.

in a positive relation of effort to ability has been supported by research with Hong Kong Chinese children (between 7 to 15 years old) (Hong, 2001). The lower self-perceived competence was noted in a comparative study of high school students which also found that Hong Kong Chinese students had lower self-efficacy (Salili et al., 2001).

It appears that lifespan development has no particular influence on the strong belief in effort. Empirical evidence has clearly pointed to an equally deep faith in effort among children and adolescences. Rather, culture is believed to have a more dominant role in this respect.

6.2.2.6 Cultural Attributes

There is ample evidence from cross-cultural motivation research to support a strong attribution made to effort for academic achievement or setback in the Confucian Heritage Culture (Grant & Dweck, 2001; Hau & Salili, 1997; Lee 1996; Chiu, 1987; Lee & Stevenson, 1997). Findings of the current study further reinforce the high value of effort from the perspective of adult students.

Confucian ethics places great emphasis on education, effort and will power. Accordingly, if everyone is educable, then failure is due to a lack of effort. In CHC countries, there is also a de-emphasis on innate ability, whereas effort and ability are viewed as compensatory in the West (Covington, 1992). Since childhood, Chinese are reared in an environment where effort, endurance, and hard work are emphasised. They are taught to work hard even when the probability of success is low. There are many Chinese proverbs to keep us on track. For example, "a slow bird should make an early start", "if one keeps on grinding, one can turn an iron pillar into a needle" and "if one has the perseverance, one can even remove a hill, the symbolic obstacle, by carrying away the sand with baskets". These sayings emphasise the importance of effort rather than ability. People who attempt tasks beyond their ability are admired and commended rather than being laughed at. "Knowing the impossibility of accomplishment but still

working hard" is a highly praised virtue. Findings from this research clearly show that this thousand-year-old tradition is still very much alive in Hong Kong today.

With respect to the low perceived significance of competence perception and efficacy belief, cultural research also suggest that Asian students tend to be lower in efficacy belief whereas Western students are found to be over-confident and optimistic in some cases (Klassen, 2004; Salili & Lai, 2003). The cultural differences can be attributed to a predominant collective-oriented culture and an emphasis of humility in the Asian culture. Compared with many European and Americans, Chinese have a tendency for modesty and self-criticism, while the Western students display a tendency for self-enhancement (Eaton & Dembo, 1997; Salili et al., 2001). Further, a lower self-perceived efficacy does not predict poor performance; rather, Asian students often outperformed the more confident Western peers (Klassen, 2004; Salili et al., 2001).

In summary, data from this study have revealed a very strong belief in effort in academic achievement. Clearly, Chinese adult students conceptualise effort to be crucial to achievement motivation. The role of effort, hard work and diligence was construed to be at the heart of the achievement process to the extent of marginalising ability and competence perception. Such a deep conviction challenges Western achievement goal theory in a number of ways. First, intelligence and effort are not compensatory, research data in this study indicate that intelligence is considered somewhat peripheral. Second, behavioural responses in terms of learning strategies are not affected by one's goal orientation; instead it is effort that determines the will to behave in an adaptive manner. Third, modesty rather than having high competence perception is culturally and socially acceptable and expected in Hong Kong; effort speaks louder than perceived competence. Based on this analysis, there appears to be considerable gaps between our data and the proposed reciprocal relationships according to western literature. As discussed in section 2.3.1.3 of the literature review chapter, self-beliefs about competence and effort are postulated as mediators of goal orientations, and an individual's goal affects the choice of learning strategies. In a

nutshell, this research data indicate otherwise – it is the belief in effort that determines goals and learning strategies.

6.2.3 Goal Realism

From the previous discussions about strongly held traditional values of humility and hard work, one would expect to find similar classic Confucius scholarly behaviour and attitude in adult students in Hong Kong. Based on adult students' firm belief in effort and their incremental theory of ability, the implicit theories of ability would predict that these adult students would adopt an approach orientation in achievement goal, be intrinsically motivated, and persevere in the face of setback (Dweck, 1999). On the contrary, none of these predictions was found in this study. Rather, adult students were found to be extremely pragmatic in their approach to achievement.

6.2.3.1 Extrinsic Motivation

With the exception of a handful of respondents, all the adult students who were personally involved or cited in this study emphasised extrinsic goals in their pursuit of a part-time degree. Extrinsic goals include, for example, trying to get the degree for employment security or better career prospect, recognition, decoration on the wall, or social trend. Most adults have tangible reasons for studying and many carefully evaluate the costs and benefits before making the decision. They would investigate, survey and compare institutions, programmes, fees, assessments and then meticulously weigh all the options as if an accountant would with a balance sheet. Most adult students assess their achievement outcomes by referring to the amount of work required to obtain average results; and this refers to assignment difficulty, stringency of assessment systems, and assessors' leniency. A few may include the learning environment such as peers and instructors in their assessment. On the whole the general picture seems to suggest that achievement outcomes are measured in terms of tangible elements in the achievement situation. The bottom line is, realistically, passing and getting the award

within the estimated time frame and budget. Clearly, adult students are attracted to study by extrinsic rewards much more than a passion for knowledge.

6.2.3.2 Goal Clarity

For the majority of adult students in this study, part-time studies are considered instrumental to a highly valued extrinsic goal, i.e. future career or employment prospect. In the future time perspective theory, perceived instrumentality has been shown to influence educational achievement and cognitive engagement (Husman & Lens, 1999). However, this is based on the assumption that students are clear about the future value of the degree in terms of how it will benefit them in specific terms. For example, they are certain that a degree will deliver tangible benefits with respect to employability and career growth in a not too distant future. If perceived instrumentality is inaccurate or misinformed, students may be guided by the herding instinct and blindly follow the crowd, not knowing exactly what and how a degree might benefit them. Data from this study indicate that students who are not clear about their goals tend to adopt performance avoidance goals and maladaptive learning strategies; they are also easily frustrated by setback. Although goal clarity as a master construct was not mentioned frequently according to the Repertory Grid data (the frequency of mention was only six, see table 4.7), yet it was in fact the most preferred and closely related to overall motivation (66.6% of the six constructs elicited by respondents were highly related to overall motivation, see table 4.7 in 4.6.2). Clearly for those respondents who mentioned goal clarity during the Repertory Grid interviews, this was construed to be highly important. Further reference to goal clarity was made with respect to challenges in the external environment (e.g. employment, family and financial status), which were deemed insignificant according to the data. Focus groups justified the view by suggesting that if students were clear about their goals, they would find a way to deal with obstacles in the external environment.

6.2.3.3 Mastery-approach Goals?

With extrinsic goals explicitly in mind, there should be no surprise that mastery-approach goals were absent from the findings. But there are two perspective of this pragmatic view, the reluctant perspective and the purposive perspective. For those adults who have a genuine desire for learning, at the beginning they may spend hours reading, pondering, reflecting and finding pleasure in their mastery journey. Yet when they realise that time is running short and assignments due dates are closing in, they have no choice but to reluctantly forsake the mastery-approach goal. This observation also implies that goals are not static. Focus group data suggested that most students set out to study with good intention to learn, like the marathon runner who aims to finish the race. But when they find themselves having difficulty to cope, they waste no time in shifting goals and changing strategies. Adult students believed that one had to be flexible in order to be realistic. Another perspective is purposive pragmatism, which is quite typical among part-time adult students. Their rationale is that they are here for a specific goal - the degree, and they are only willing to input a set amount of time and money for the award. With this view, a mastery-approach goal is construed to be very time consuming and unrealistic because adult students need to think about the costs and benefits. Knowledge as an intangible commodity is perceived as having little direct effect on their extrinsic goals.

6.2.3.4 Cultural Attributes

While Confucian ethics is still a dominant source of influence on child rearing practices in Hong Kong, exposure to Western culture through travel and the mass media has led to the development of some Western values by younger generation Chinese. Although there seems little disagreement with classifying Hong Kong as collective on any cultural dimensions (e.g. Hofstede, 1980), yet one wonders if the degree of collectivism might have shifted towards the individualism pole since Hofstede's data were collected some 25 years ago. The observation is supported by the way academic achievement is viewed by the respondents. Considering the overwhelming concern for employment and career

cited by the adult respondents, a degree is an individualistic achievement. As shown in the current study, such an individualistic concern has outnumbered collectivistic concerns for social recognition or family pride.

From a more contemporary perspective, the culture of Hong Kong is often characterised by its adaptability and pragmatism. Such an attribute has prevailed throughout Hong Kong society (Liang, 2006) for decades. The people of Hong Kong are proud to be known for their result-focused pragmatic approaches in managing all aspects of life, from businesses, the government, international trade to education and learning. From the way focus group members talked about cost-and-benefit analysis in their approach to studying, it is clear that many adult students adopt a similar keen sense of striking the balance between maximum results and minimum costs as they would with other things. Of relevance to academic achievement, the pragmatic orientation also transcends to the herding instinct as remarked by a focus group participant. The fact that studying for a part-time degree has become a popular after-work activity for many working adults was an effect of push-and-pull factors. On the one hand, the decision to return to school is pulled by the alleged need for lifelong learning and continuous learning that have been relentlessly promoted by both the government and tertiary institutions. On the other hand, few pragmatic Hong Kong adults would like to be left out in the race; the herding instinct pushes them to study so they will not be disadvantaged. Although the push-and-effort factors may not apply to all adults, some adult do genuinely have a passion for learning, nevertheless, it is believed that individualistic realism quite appropriately describes the contemporary culture of Hong Kong.

In summary, part-time adult students are found to be very realistic in their approaches to educational achievement. Being realistic means that they are primarily driven by the need for extrinsic tangible rewards, rather than some intrinsic ideals like mastery-approach goals. At the same time, being realistic also means having clear goals, which can help students cope with external challenges realistically. Goal realism appears to be a unique feature among Chinese part-time adult students; a feature that is not commonly identified with young learners in the West. In the western literature, students are

believed to have both intrinsic and extrinsic motivation; intrinsic motivation is valued and nurtured. Consequently, mastery-approach goals are believed to be most beneficial in terms of students' achievement processes and outcomes (Ames, 1992; Church et al., 2001; Dweck, 1999; Dweck & Leggett, 1988). Goal shifts are recognised in the multiple goal perspective (Pintrich 2000) but only in terms of alternating between mastery-approach (for understanding) and performance-approach goals (for exams). Goal clarity is not featured prominently in the literature since students are assumed to have a clear idea of what they want, which basically refers to a striving for experiencing competence or avoiding incompetence. The effects of goal clarity or the lack of it are not explored thoroughly in western theories.

Achievement goal theories considered in this thesis[3], as discussed in section 2.3 of the literature review chapter, with extensive empirical evidence drawn from a wide population from pre-school to full-time college students, are able to offer relevant theoretical frameworks for explaining motivation of younger learners. According to the discussion presented in this section, the current investigation of achievement motivation of Chinese adult students in Hong Kong reveals distinct patterns that have not been accounted for in western theories.

6.3   Implications

Achievement goal theories built under the social-cognitive framework have significant relevance for teachers and schools in helping students' learning by identifying and explaining adaptive (e.g. regulatory learning) and maladaptive (e.g. self-handicapping) patterns in achievement motivation. Because of positive empirical results with young learners in the West, classroom interventions are recommended to encourage students to adopt mastery goals and an incremental belief of intelligence. This was discussed in sections 2.3.1.2.6 and 2.3.1.3.1 of the literature review chapter. However, findings of this exploratory study revealed that, culturally and developmentally, Chinese adult

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[3] For example, the goal trichotomy model (Elliot & Harackiewicz, 1996); implicit theories (Dweck, 1999); competence perception (Elliot, 1999; 2005); multiple goals theory (Pintrich, 2000); and future time perspective theory (Husman & Lens, 1999).

learners demonstrated quite a different pattern. The patterns discussed in the previous section highlighted (1) fear and avoidance which energised adults' achievement motivation; (2) the perceived supremacy of effort to the extent of marginalizing ability, self-perceived competence and the effect of external factors; and (3) the significance of maintaining realism, flexibility and clarity in achievement goal adoption for optimal achievement outcomes, which are measured in terms of tangible, extrinsic rewards such as passing the course and receiving the degree within a set time frame. With our findings in mind, two implications are drawn. The first one relates to teaching of part-time adult students and the second one refers to re-examining avoidance motivation for adult students.

6.3.1   Implications for Teaching Part-time Adult Students

Current findings can have significant implications on teaching of part-time adult students by making challenges to the western view of effective teaching. First, the promotion of intrinsic motivation and mastery goals for facilitating pleasure of learning does not seem likely to be successful due to adults' lack of intrinsic motivation and mastery-approach goals. Our research data indicated that adult learners were driven by extrinsic motivation and avoidance goals. Second, the multiple goals perspective is also challenged for similar reasons – the absence of mastery-approach and performance-approach goals. Mastery-approach goals were deemed unrealistic and performance-approach goals were believed to be irrelevant by the adult learners.

Given the ultra high value adult students placed on effort and the low significance of perceived competence, adult educators may consider incorporating assessment of effort in course work. Since the belief in effort is deeply rooted in the Confucian Heritage Culture, assessing effort is in fact acknowledging this virtue. Further, effort can compensate not only for a lack of ability, but also a lower perceived competence. Instead of promoting an optimistic and individualistic view of self-competence as suggested by Western theories (e.g. Bandura, 1997), adult educators could perhaps turn to a focus on effort coupled with a realistic view of competence (Klassen, 2004) in the

assessment process. In other words, accepting Chinese learners' tendency to be modest while recognising their hard work might benefit them in their part-time studies.

6.3.2 Rethinking Avoidance Motivation

Contrary to widespread views, our analysis finds that motivation based on avoidance characteristics may not be all bad. Realistically, only in an ideal learning environment where there are no deadlines, no assessment and no competition, could an individual spend all of his or her time developing their knowledge, not having to worry about passing assignments and exams. But this is not the case. No matter how much enjoyment students receive from their learning, in most educational systems they must unavoidably perform and pass in the midst of deadline threats and competition in order to persevere. They most definitely face some anxiety and fear about not performing up to standards (the university's as well as their own) and study based on avoidance motivation in order to prevent failing (performance-avoidance) or losing to themselves (mastery-avoidance). In Hong Kong, not many adults study for a degree part-time for the sole purpose of expanding their knowledge. For those who have employment or social goals in mind, pursuing a degree part-time is a long-term goal that involves stress, anxiety and sometimes failure as well. Avoidance goals are likely to lead to completion of course work and actually benefit the student in the long run.

6.3.3 Implications for Further Research

Findings revealed in this exploratory study should be regarded as suggestive only. Given the complexity of the issue investigated in this exploratory study, it is necessary for the findings reported in this thesis to be validated through further research. The results of this study suggest that cultural and developmental factors may have been the reasons for the weak transferability of achievement goal theory to Chinese adults. There is definitely a need for more theorising in order to refine and improve achievement goal theory.

The findings in this study, although exploratory, also provide a rich basis for a range of further studies testing hypotheses via survey questionnaires and employing more sophisticated statistical analysis. For example, a possible extension to the current investigation worth pursuing is the application of the generated constructs – bi-polar dimensions, which are very much in the language of the natives, and apply them onto a questionnaire design and solicit a larger pool of perceptions of how achievement motivation is construed. Since the questionnaire is written in a language that adult students can understand, this makes answering questionnaires more meaningful, less time taken to complete them and a higher response rate. Since the current study was not designed to establish relationships between personal, behavioural and environmental factors, further research into measuring correlations of the reciprocal interactionary relationships between could be another area worth exploring.

6.4   Conclusions

6.4.1 Conclusion About Each Research Question

In exploring the transferability of western theory, the social-cognitive framework was investigated, first by a review of relevant literature and then by two qualitative research methods, the repertory grid technique and focus groups. Research data presented some very intriguing findings that are particularly significant because they represent personal theories of adult students against a well developed western theory. Before the primary question is concluded, three affiliated questions will be addressed as follows. A summary of key propositions of achievement goal theory, key findings of the repertory grid data and focus group is presented in table 6.1 for easy reference.

1.   Does achievement goal theory satisfactorily explain achievement motivation of Chinese adult learners with respect to personal factors?

The results of this study clearly showed that Chinese adult learners perceived personal factors such as achievement motives, goal orientation, ability and effort, and self-

concept very differently compared with western literature. As discussed in the analyses of the Repertory Grid data and focus group discussions, adult students in this study had a tendency to prefer only one end of such personal factors[4]. For instance, our data indicated that they were energised by extrinsic motivation, and fear and avoidance (columns 7 and 8, table 6.1); there was little evidence that showed a clear preference of intrinsic motivation, and approach for success. While this finding could be rationalised by referring to adults' personal preference; discrepancies were found when these preferences failed to show cognitive patterns predicted by the western theories. Goal theories in the West postulate that students with a fear of failure motive and an avoidance orientation tend to have lower level of efficacy belief, or competence perception (column 6, table 6.1). Although this prediction was supported by the findings, yet our analyses suggested that this was more a cultural influence than a personal issue. Since traditional Chinese culture has always emphasised humility and modesty as a virtue, to display high perceived competence is socially and culturally undesirable.

Goal theorists also predict that students with characteristics shown by adults in the current study (e.g. avoidance driven and extrinsically motivated) tend to adopt an entity theory of ability. The Western literature posits that such students tend to believe that ability and intelligence are fixed and no major improvement can be possible no matter how hard they try (columns 4 and 6, table 6.1). A gap was found when data throughout this study showed otherwise. Chinese adult learners in this study confirmed in the most definite manner that hard work, diligence and effort can lead to substantial improvement, given their avoidance orientation. Another gap was found in the definition of ability, which implied mostly intelligence (Dweck, 1999). Ability in the present study was defined by respondents in terms of intelligence, language skills, study skills and work life experiences; and our data showed that all these skills were considered relevant to achievement motivation.

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[4] Personal factors in goal theories are generally viewed as dichotomies, e.g. fear of failure vs. approach for success; extrinsic motivation vs. intrinsic motivation; incremental theory of ability vs. entity theory of ability; high self-concept vs. low self-concept. The exception is goal orientations which are viewed in a 2 x 2 model; however, achievement goals can still be viewed broadly with an approach vs. avoidance orientation.

Because of the obvious gaps between theory and data our findings for this question, achievement goal theory does not satisfactorily explain achievement motivation of Chinese adult learners with respect to personal factors. Now we turn to the second question.

2.   Does achievement goal theory satisfactorily explain achievement motivation of Chinese adult learners with respect to behavioural patterns?

Behavioural patterns refer to achievement-related behaviours that students display during the achievement process. According to western achievement goal theory, how students behave in their approach to studying, whether they study deeply, use self-regulatory strategies, and persevere when things get tough are affected by the achievement goals they adopt. Data from both the Repertory Grid study and focus group discussion clearly endorsed behavioural patterns in the adaptive form (columns 7 and 8, table 6.1). Good planning, help-seeking behaviour and taking personal responsibility were construed as highly relevant to achievement motivation. On persistence in the face of setback, findings from focus groups suggested a mixed view. One group (group A) attributed persistence to goal clarity while the other (Group B) attributed persistence to not wanting to forsake financial payment already made to the study. In either case, persistence was not attributed to mastery goals as proposed by goal theory (Dweck, 1999). The largest gap found between research data and goal theories lies in the connection between effort, learning approaches and goal orientation. Whereas achievement goal theories believe that mastery-approach goals are related to persistence, self-regulatory learning approaches and an incremental view of effort (column 3, table 6.1), yet findings revealed a close linkage of avoidance goals, self-regulatory learning approaches and an incremental view of effort.

Due to the exploratory nature of this investigation, research was not designed to establish causal relationships between behavioural patterns, personal and environmental factors. However, our findings did find differences in the connection between

behavioural patterns and personal factors contrary to the literature. Thus, it is concluded that achievement goal theory cannot satisfactorily explain achievement motivation of Chinese adult learners with respect to behavioural patterns.

3. Does achievement goal theory satisfactorily explain achievement motivation of Chinese adult learners with respect to contextual environment?

While in general, respondents of both the Repertory Grid study and focus group discussion recognised that contextual environment could affect adults' motivation to achieve, yet according to our data, environmental factors were found to depart from the literature in two ways. First, findings indicated differences in the content of contextual environment. Adult students in Hong Kong did not acknowledge factors that were emphasised in the West; teachers, peers, the school, and family in the context of parental expectations were barely mentioned in this study. Instead, situations at the workplace, family, health and financial status were mentioned (last row, table 6.1). The deviation can be attributed to developmental issues – as discussed in section 2.5.4 of the literature review chapter, adult learners have a much more complex contextual environment. Second, despite the high frequency of mention, adult students believed that such external factors would not make a significant impact on achievement motivation. They reasoned that favourable conditions at work and home, for instance, light work load, regular hours, less domestic obligations or a supporting family would be ideal, but it did not mean that students would be motivated. Our findings indicated that perseverance in unfavourable conditions, such as busy work load, regular overtime, constant overseas travel, financial difficulty and heavy domestic responsibility, depended on the individual's effort, determination and goal clarity. Once again, effort has been attributed to the relative insignificance of environmental constraints; a distinct characteristic that can be explained by cultural uniqueness. In the view of the reciprocal and interactional nature of the social-cognitive framework, findings of the present study suggested that, of the three factors that influence one another, contextual environment had the least impact on personal factors and behavioural patterns; much less than the western literature based on children.

Findings to this question revealed another gap in the literature. It is therefore concluded that achievement goal theory cannot offer a satisfactory explanation of achievement motivation of Chinese adult learners with respect to contextual environment.

6.4.2 Conclusion About The Primary Research Question

In Western achievement motivation literature, the achievement goal theory is considered the most influential and generative among other approaches in the conceptualisation of achievement motivation (Elliot, 1999). The theory proposes that students' motivation can be understood as attempts to achieve academic goals. Within a social-cognitive framework, the theory has been developed to emphasise the importance of how students interpret achievement situations, their expectations, their goals and self-perceptions that mediate and regulate behaviour. The theory also emphasises the interactions of personal factors, behavioural patterns and the contextual environment and their effects on achievement motivation. Research on achievement goals has flourished in educational psychology and has been the foundation for much applied work in school settings in the West. Further, extensive efforts in empirical research have tested, revised and extended goal theories with full-time students from pre-school to college as subjects of investigation in the USA and Western Europe over the years. Our understanding of how western young learners interpret success, challenges, effort, competences and the like has been enriched and enlightened by a large body of well developed achievement goal theories.

Having said that, a review of the literature related to students' achievement motivation in the Confucian Heritage Culture and adult learners revealed a gap. The gap appeared on two dimensions; first, spurred by a growing interest in cross-cultural research, Chinese culture studies demonstrated distinct differences in terms of how Chinese students interpret achievement, effort and competence perception; this was discussed in 2.4 in the literature review chapter. Second, there appeared an absence of theory that explained achievement motivation of adult learners; much of what was researched about

adult learners emphasised on their concerns in continued education and learning strategies; this was discussed in 2.5 in the literature review chapter. It was based on these gaps that this research inquired into the extent to which achievement goal theory can be transferred to explain part-time adult learners in Hong Kong.

The current investigation is the first of its kind in eliciting the cognitive perceptions of Hong Kong Chinese part-time adult students on achievement motivation. The results of this exploratory study in this respect reveal new light on how adults are motivated in their achievement of a part-time degree. Based on the discussion of characteristics of adult learners at the beginning of this chapter, analyses of data suggested that they were 1) primarily driven by fear in their pursuit of a part-time degree; 2) convinced that effort was the key to ultimate success; 3) highly pragmatic in the goals they adopt. In the course of subsequent discussion that addressed the three affiliated questions set out in this study, western achievement goal theory was found to be inadequate for our understanding of Chinese part-time adult learners. We now return to the primary question raised at the beginning of this thesis:

> To what extent can achievement goal theory be transferred to explain part-time adult learners in Hong Kong?

To recall, discrepancies were identified in all three areas in the social-cognitive framework. Specifically, western achievement goal theory failed to account for our findings of:

1. the linkage of avoidance goals and an effort attribution to achievement;
2. the low relevance of self-perceptions;
3. the lack of connection between persistence and an incremental theory of ability;
4. the significance of goal clarity; and
5. the relative insignificance of contextual environment.

It is therefore concluded that western achievement goal theory has limited transferability to explaining part-time adult learners in Hong Kong. There was, however, an important finding that is definitely worth exploring – the mastery-avoidance goals. In the literature, three types of achievement goals[5] are highlighted because they are presumed to be the most prevalent forms of competence-based goals in a majority of achievement settings, at least for the populations typically studied in the literature (grade-school and college-age full-time students). The fourth type, mastery-avoidance goals, has recently been proposed and hypothesised to be relevant for older adults (Elliot, 1999, 2005). In exploring transferability of Western theory, our data revealed an apparent bias for mastery-avoidance goals among the older adult students as hypothesised.

Like many motivation theories that aspire to universal relevance, achievement goals have been conceived and studied almost exclusively in Western settings (culturally western people groups such as American, Canadian, Western European and Australian) with little attention paid to people with non-Western cultural backgrounds. As motivation theorists make progress and develop reasonable generalisations about students' learning and performance, one must nevertheless consider the extent to which these generalisations truly capture the experience of all students from different cultures, or Chinese culture in our case. Theories of achievement goal motivation are rooted in individualism and may have validity primarily for Western cultures. Findings of the present exploratory research suggest that the achievement goal models elaborated in the "children" motivation literature may require some modification when applied to the study of achievement strivings among adult learners. These modifications require sensitivity to the cognitive maturity and cultural identity of research subjects. It does not make much sense, for example, to predict satisfaction and acceptance of an education intervention to promote a mastery orientation among part-time adult students in Hong Kong if they do not perceive mastery-approach goals as something meaningful and practical.

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[5] They are mastery-approach goals, performance-approach goals and performance-avoidance goals. See 2.3.1 in the Literature Review.

Table 6.1   Summary of Theory and Research Findings

		Western Achievement Goal Theory				Research findings - Chinese adult learners	
						Repertory Grid data	Focus group data
Person-cognition	Motives	Intrinsic Motive to approach success (nAch)	Extrinsic Motive to approach success (nAch)	Extrinsic Motive to avoid failure (Fear of failure)	Extrinsic Motive to avoid failure (Fear of failure)	Extrinsic Fear of employment insecurity	Extrinsic Fear of embarrassment Fear of uncertainty
	Goal orientation	Mastery-approach goal	Performance-approach goal	Mastery-avoidance goal	Performance-avoidance goal	Performance avoidance goal	Mastery avoidance goal
	Self-perception	Incremental belief of intelligence / High efficacy belief	Entity belief of intelligence / High efficacy belief	?? (untested) / ?? (untested)	Entity belief of intelligence / Low efficacy belief	Incremental belief of intelligence / Low value of competence perception	Incremental belief of intelligence / Low value of competence perception
Behavioural responses	Adaptive/maladaptive Behaviour	Adaptive behaviour Persistent	Adaptive behaviour Low persistence, vulnerable to helpless pattern	?? (untested)	Maladpative Low persistence, vulnerable to helpless pattern	Adaptive behaviour, self-regulatory learning & deep approach are related to motivation	Recognition of adaptive behaviour & self-regulatory
	Approaches to learning	Self-regulatory Deep learning	Self-regulatory Strategic learning	?? (untested)	Self-handicapping Surface learning		Preference for surface learning & strategic learning
Contextual Environment	External Environment	Teachers, school, learning environment, family, culture				Employment, family, financial	

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6.5 Strengths and Limitations of the Study

The perceived strengths are addressed and then followed by a discussion of the assessed limitations.

6.5.1 Repertory Grid Interview Study

6.5.1.1 Strengths

1. Structured Interview - The repertory grid can be viewed as a special type of structured, in-depth interview which has the advantages of gleaning data in the interviewee's own words (thus reducing interviewer bias) and employing a tightly structured recording system (Stewart & Stewart, 1981).

2. Systematic Data Analysis - Because data generated from repertory grid interviews are systematically recorded and presented in a standardised format they can be analysed by using frequency counts and content analysis. Repertory Grid also generates data which may be framed in other methods (such as the traditional one-to-one interview or focus group discussion) to facilitate further probes. Furthermore, it gives the researcher confidence that the key issues identified by the respondents are addressed, helps identify significant areas of interest for inclusion in the focus group discussion and allows group participants to use the language of the respondents.

6.5.1.2 Limitations

1. Non-Random Sample - The sample employed in this study was a purposive one and was therefore non-random. This creates two major limitations. First, the selection of interviewees may have been subject to researcher bias and second, it restricts the generalisability of the findings. While mindful of these disadvantages the author considered the use of a purposive sample acceptable because of the exploratory nature of the study, the impracticalities of identifying the actual population of part-time adult

students and the logistical problems of randomly selecting an accessible sample who was willing to participate in indepth interviews that lasted 60 minutes.

2. Chinese Language Interviews - While all interviews were conducted in the Chinese dialect, Cantonese, yet all the achievement goal terminologies are in English. Not every word or expression in Chinese has a parallel counterpart in English, or vice versa. In interpreting the interviews, the author may not have captured the true meaning in English accurately. An example is the term self-efficacy to which there is neither direct translation nor Chinese words that are readily comprehensible. After many attempts to explain the term, it was still considered synonymous with self-confidence. In coping with possible loss in translation, extra care was exercised during the interview to check and double confirm intended meaning from the respondents. Although the writer did not experience any major problems in the interpretation, the inherent limits of language imply that the respondents' constructs may not have always been accurately verbalised.

3. Master Constructs - In this study 305 bi-polar constructs were elicited. To reduce the number of constructs to a manageable level constructs were sorted into 20 master constructs. This process assumed that the master construct labels accurately reflected the meaning given to each individual construct. It also posed the risk that the author construed the meaning of others. Although recognised as a methodological issue corrective measures were undertaken (reliability check with a colleague) and consequently may not have affected the findings reported in this study.

4. Data Analysis - Raw data of the interviews were content analysed manually according to Jankowicz's (2004) guide. More sophisticated analyses (e.g. cognitive maps, super grids and loading analysis) would be possible with repertory grid software packages. Due to the exploratory nature of the study, a simpler manual approach was deemed appropriate.

6.5.2 Focus Group Discussion

6.5.2.1 Strengths

1. Data Richness - A well recognised advantage of focus groups is that they produce very rich, deep data. It is the interaction between members of the focus group that produces such richness of data. With participants bouncing ideas off each other, comments being confirmed, contradicted, and reflected upon within the actual staging of the focus group, the richness of data comes from the dynamic interaction between participants. In addition, focus groups allow for the elicitation of multiple perspectives on issues relating to achievement motivation according to members' personal experiences and observations. Moreover, focus groups elicit information in a way which allows the researcher to find out why an issue is salient, as well as what is salient about it. The stories of individual members are compelling evidence which informs their personal theory.

2. Data Triangulation - Instead of relying on one single form of findings from the repertory grid interviews, focus groups were used to check validity. In collecting emic concepts that arise from the group interaction, both the interpretation and interaction angles were captured. Through convergence of data, information obtained from the focus groups validates adult students' personal theories of achievement motivation.

6.5.2.2 Limitations

1. Sample - This study was limited to only two groups of adult students whose diverse education, occupations and personal background suggested that the generalisability of the findings to the general population may be limited. On a practical note, focus groups can be difficult to assemble. Substantial difficulty was experienced in arranging a mutually convenient time for the discussion.

2. Restricted Subject Group - Both focus groups share a common feature; all the participants fit the general description of a typical 'good' student. They quite consistently produce high to very high performance outcomes throughout their academic studies. They are always in the top ten percentile in most of the courses. Arguably their views may well represent the good students but cannot be generalised to other sub groups.

6.6   Closing Remarks

Throughout the course of this doctoral thesis, much has been learned about getting knee deep in research work. The need to make a thorough review of the literature to identify research questions, to demonstrating a detailed understanding of the methodology, to ensuring the data collected were based on what we wanted to investigate and more, all accounted for a very stimulating and learning experience. This coupled with the fact that constant referrals back and forth with the literature and the field was in itself a demanding and challenging task and a test of our ability to stay focused and with the end in mind. A further great deal of learning was experienced in the administration of the grid technique and focus groups with real subjects, who themselves shared their invaluable experiences and frustrations with part-time learning. These face-to-face encounters brought life to the literature; sometimes confirming, sometimes disagreeing, sometimes adding to what has not already been documented.

While mindful that this investigation cannot be generalised to a wider population due to the exploratory nature of the research with only a small sample, it is believed that findings of the present study have made a head start in questioning the relevance of western achievement goal theories across cultures and the lifespan. Further research as suggested in 6.3.3 could contribute to theorising achievement motivation of adult learners.

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Appendix 1
Computer Generated Charts of 27 Interviewees

U1 – Display Grid

Display U1

Left statement	1	2	3	4	5	6	7	Right statement
Subjective, won't accept other views	1	5	1	4	3	1	1	3	Open to other views, willing to share
Like to ask questions, even challenge the teacher	1	4	1	2	5	3	4	5	Self reliant, doesn't ask teacher all the time
High marks mean superiority, are important,	1	4	1	5	3	3	2	3	Knowledge is important as high marks
No planning, review notes just before exam	5	4	3	5	3	1	3	1	Planning well ahead
No idea, don't want to be left out, follow the crowd	5	4	3	5	1	1	1	3	Study for career prospect
Don't care if no understanding, passing is enough	5	4	5	5	1	1	1	1	Understanding is important
Strong commitment, spend lots of time studying	1	3	3	2	5	5	4	5	No consistent commitment, motivation declines quickly
Smart, can consolidate info effectively	1	3	2	1	4	5	5	5	Comfortable with spoon feeding
Rich working experience, can think widely	2	1	3	1	5	3	5	2	Limited work experience, narrow views
Many family obligations	5	4	3	4	2	1	4	2	Supportive family
Always make excuses for poor performance	5	5	3	3	1	1	2	1	Proactive and positive in dealing with failure
Accept failure, don't move forward	5	5	3	4	1	1	1	2	Evaluate failure, forward looking
Overall a more motivated student	1	2	3	2	5	5	4	4	Overall a less motivated student

E8 A student gives up easily
E7 A student with less self confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self confidence
E2 A hard working student
E1 A student with good marks

U1 – Focus Grid

Focus U1

U1 – Principal Component Grid

PrinGrid U1

Self reliant, doesn't ask teacher all the time
No consistent commitment, motivation declines quickly
Many family obligations
Always make excuses for poor performance
No planning, review notes just before exam
E8 A student gives up easily

Comfortable with spoon feeding
Don't care if no understanding, passing is enough
E5 A student with below average marks

Overall a less motivated student
E6 A lazy student
No idea, don't want to be left out, follow the crowd
Accept failure, don't move forward
E7 A student with less self confidence
Limited work experience, narrow views
Subjective, won't accept other views
High marks mean superiority, are important,
2: 16.6%

Open to other views, willing to share
Knowledge is important as high marks
E2 A hard working student
Rich working experience, can think widely
E4 A student who doesn't give up easily
Study for career prospect
Evaluate failure, forward looking
Overall a more motivated student
1: 69.6%
Proactive and positive in dealing with failure
Supportive family Understanding is important
Smart, can consolidate info effectively
Strong commitment, spend lots of time studying
Planning well ahead
E1 A student with good marks
Like to ask questions, even challenge the teacher
E3 A student with self confidence

U2 Display Grid

	1	2	3	4	5	6	7	8	
Simple life experience 1	2	2	4	4	2	2	1	1	1 Diversed & rich life experience
Less confident in problem solving 2	3	3	6	4	2	2	1	1	2 More confident in problem solving
Conservative, study the safe way 3	4	4	6	4	2	1	1	1	3 Open minded, taks risk in studying
Less demanding job 4	4	4	4	6	2	2	2	1	4 More demanding job
Want a degree for trend 5	4	4	6	6	1	1	3	1	5 Want a degree for career prospect
Better time management 6	1	1	1	1	4	6	4	6	6 Poor time management
Good common sense 7	2	2	1	1	4	4	6	6	7 No logical thinking
Better study skills 8	1	1	1	1	4	4	4	4	8 Poor study skills
More family obligations 9	4	4	4	2	2	3	3	1	9 Less family obligations
Financially unstable 10	4	4	4	6	3	3	3	1	10 Financially stable
Less available time for study 11	4	4	4	4	2	2	2	2	11 More available time for study
Overall a more motivated student 12	2	2	1	1	4	6	3	6	12 Overall a less motivated student
	1	2	3	4	5	6	7	8	

8 E8 A student who gives up easily
7 E7 A student with less self-confidence
6 E6 A lazy student
5 E5 A student with below average marks
4 E4 A student who doesn't give up easily
3 E3 A student with self-confidence
2 E2 A hard working student
1 E1 A student with good marks

U2 – Focus Grid

Simple life experience	1	2	2	1	2	2	4	4	Diversed & rich life experience
Less confident in problem solving	1	2	2	1	3	3	6	4	More confident in problem solving
Conservative, study the safe way	1	1	2	1	4	4	6	4	Open minded, taks risk in studying
No logical thinking	1	2	2	1	4	4	6	6	Good common sense
Less demanding job	1	2	2	2	4	4	6	6	More demanding job
Less available time for study	2	2	2	2	4	4	4	4	More available time for study
Poor study skills	2	2	2	2	6	6	6	6	Better study skills
Poor time management	1	1	2	2	6	6	6	6	Better time management
Overall a less motivated student	1	1	2	2	4	4	6	6	Overall a more motivated student
Want a degree for trend	1	1	1	3	4	4	6	6	Want a degree for career prospect
Financially unstable	1	3	3	3	4	4	4	6	Financially stable
More family obligations	1	3	2	3	4	4	4	2	Less family obligations

E4 A student who doesn't give up easily
E3 A student with self-confidence
E1 A student with good marks
E2 A hard working student
E7 A student with less self-confidence
E5 A student with below average marks
E6 A lazy student
E8 A student who gives up easily

U2 – Principal Component Grid

More family obligations
Less available time for study
E5 A student with below average marks
Overall a less motivated student
E6 A lazy student
Want a degree for trend
Poor study skills
Poor time management
E8 A student who gives up easily
Conservative, study the safe way
No logical thinking
Less demanding job
E7 A student with less self-confidence
Financially unstable
Less confident in problem solving
Simple life experience

Diversed & rich life experience
More demanding job
More confident in problem solving
Good common sense
• E4 A student who doesn't give up easily
• E3 A student with self-confidence
Financially stable Open minded, taks risk in studying
1 (87.7%)
Better study skills
Want a degree for career prospect
Better time management
Overall a more motivated student
E1 A student with good marks
E2 A hard working student
More available time for study
Less family obligations

2 (4.8%)

224

U3 – Display Grid

Display U3
"Identifying motivating factors in part-time learning"

		1	2	3	4	5	6	7	8		
Want to perform better than others	1	2	1	4	3	3	2	3		1	Set high personal standard, doesn't compare
Study for the qualification	2	5	6	4	6	1	1	4	1	2	Want the degree as well as knowledge
Satisfied with pass marks	3	5	6	5	6	1	1	4	1	3	Want high marks
Superficial learning to get by	4	5	6	3	6	1	1	1	1	4	Indepth learning
Make every effort to attend class	5	1	1	1	6	4	1	3		5	Make excuses for not attening class
Attentive in class	6	1	1	4	2	5	4	6		6	Daydream and sleep in class
Memorising without understanding	7	4	6	4	4	1	1	2	1	7	Effective study skills
Active participation	8	1	1	2	1	6	4	4	4	8	Quiet, passive, no ideas
Willing to make effort to approach problems	9	1	1	2	1	4	4	4	5	9	Wait for others solve the problem
Willing to assume responsibility for study	10	1	1	3	2	5	4	4	5	10	Tend to make excuses to avoid responsibility
Less family obligations	11	2	1	3	1	1	2	3	4	11	More family obligations
Seek to understand, ask questions	12	1	1	1	5	6	4	2	6	12	Don't care about understanding, no questions
Overall a more motivated student	13	1	1	2	1	5	4	3	6	13	Overall a less motivated student
		1	2	3	4	5	6	7	8		

8 E8 A student who gives up easily
7 E7 A student with less self-confidence
6 E6 A lazy student
5 E5 A student with below average marks
4 E4 A student who doesn't give up easily
3 E3 A student with self-confidence
2 E2 A hard working student
1 E1 A student with good marks

U3 – Focus Grid

Focus U3
"Identifying motivating factors in part-time learning"

		1	2	3	4	5	6		
Less family obligations	1	2	1	3	2	1	4		More family obligations
Want to perform better than others	1	2	3	4	2	3	3		Set high personal standard, doesn't compare
Make every effort to attend class	1	1	1	1	4	6	3		Make excuses for not attening class
Indepth learning	1	1	1	3	6	6	6		Superficial learning to get by
Attentive in class	1	1	2	4	4	5	6		Daydream and sleep in class
Willing to assume responsibility for study	1	1	2	3	4	6	6		Tend to make excuses to avoid responsibility
Willing to make effort to approach problems	1	1	2	4	4	4	6		Wait for others solve the problem
Active participation	1	1	2	4	4	6	4		Quiet, passive, no ideas
Overall a more motivated student	1	1	2	3	4	6	6		Overall a less motivated student
Seek to understand, ask questions	1	1	1	2	4	6	6		Don't care about understanding, no questions
Want high marks	1	1	1	2	6	6	6		Satisfied with pass marks
Want the degree as well as knowledge	1	1	1	2	6	6	6		Study for the qualification
Effective study skills	1	2	2	2	6	6	6		Memorising without understanding

100 90 80 70 60

E8 A student who gives up easily
E5 A student with below average marks
E6 A lazy student
E7 A student with less self-confidence
E3 A student with self-confidence
E4 A student who doesn't give up easily
E1 A student with good marks
E2 A hard working student

U3 – Principal Component Grid

PrinGrid U3
"Identifying motivating factors in part-time learning"

E7 A student with less self-confidence
Set high personal standard, doesn't compare
More family obligations
Daydream and sleep in class
Tend to make excuses to avoid responsibility
Superficial learning to get by
Wait for others solve the problem
Quiet, passive, no ideas
E8 A student who gives up easily
Memorising without understanding
Overall a less motivated student
E6 A lazy student
Don't care about understanding, no questions
E5 A student with below average marks
Satisfied with pass marks
Study for the qualification
Make excuses for not attening class

Make every effort to attend class
E3 A student with self-confidence
Seek to understand, ask questions
Want high marks
Want the degree as well as knowledge
Overall a more motivated student
1 (86.4%)
Want to perform better than others
E1 A student with good marks
Less family obligations
E2 A hard working student
Indepth learning
E4 A student who doesn't give up easily
Attentive in class
Effective study skills
Willing to assume responsibility for study
Active participation
Willing to make effort to approach problems
2 (7.4%)

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U4 – Display Grid

Left									Right
Sharp, good comprehension	2	3	1	3	3	3	3	4	Not so smart
More job responsibility, more senior	2	1	2	3	3	3	4	4	Less job responsibility
Concerned about job prospect	3	3	3	1	5	2	2	5	Satisfied with present, job prospect not an issue
Need to look after family	1	2	3	1	5	2	4	5	Single, no domestic obligations
Want a pass	4	5	4	3	1	3	2	1	Want to succeed with good grades
Study for exam, last minute rush	5	5	4	3	1	3	2	1	More concerned about learning knowledge
Poor language skills	5	4	4	3	1	3	3	3	Good language skills
Considerate boss, more available time	1	1	2	2	1	3	1	4	High work pressure
Serious attitude, well prepared	1	1	2	2	5	3	3	5	Not serious, lazy
Take personal responsibility to study	1	1	2	2	5	3	3	5	Rely on others for group work, free rider
Overall a more motivated student	1	1	2	2	5	3	3	5	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self-confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self-confidence
E2 A hard working student
E1 A studnet with good marks

U4 – Focus Grid

```
                                    60
                                    70
                                    80
                                    90
                                   100              100  90  80  70
```

Left									Right
Considerate boss, more available time	1	1	2	2	3	1	1	4	High work pressure
Sharp, good comprehension	3	2	1	3	3	3	3	4	Not so smart
More job responsibility, more senior	1	2	2	3	3	4	3	4	Less job responsibility
Want to succeed with good grades	1	2	2	3	3	4	5	5	Want a pass
More concerned about learning knowledge	1	1	2	3	3	4	5	5	Study for exam, last minute rush
Take personal responsibility to study	1	1	2	2	3	3	5	5	Rely on others for group work, free rider
Serious attitude, well prepared	1	1	2	2	3	3	5	5	Not serious, lazy
Overall a more motivated student	1	1	2	2	3	3	5	5	Overall a less motivated student
Good language skills	2	1	3	3	3	3	5	3	Poor language skills
Need to look after family	2	1	3	1	2	4	5	5	Single, no domestic obligations
Concerned about job prospect	3	3	3	1	2	2	5	5	Satisfied with present, job prospect not an issue

E8 A student who gives up easily
E5 A student with below average marks
E7 A student with less self-confidence
E6 A lazy student
E4 A student who doesn't give up easily
E3 A student with self-confidence
E1 A studnet with good marks
E2 A hard working student

U4 – Principal Component Grid

E7 A student with less self-confidence
High work pressure
Less job responsibility
Want a pass
Study for exam, last minute rush
Poor language skills
Not so smart

Concerned about job prospect
E4 A student who doesn't give up easily
E6 A lazy student
Overall a more motivated student
Need to look after family

E8 A student who gives up easily
Not serious, lazy

E5 A student with below average marks
Rely on others for group work, free rider
Overall a less motivated student
Single, no domestic obligations
Satisfied with present, job prospect not an issue

Good language skills
Take personal responsibility to study
Serious attitude, well prepared
1: 78.4%

E1 A studnet with good marks
E2 A hard working student
More concerned about learning knowledge
Want to succeed with good grades
E3 A student with self-confidence
More job responsibility, more senior
Sharp, good comprehension
Considerate boss, more available time

2: 9.5%

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U5 – Display Grid

Display U5

Good comprehensive ability	1	4	1	3	4	4	4	4	Less comprehensively ability
Can apply learning to everyday life	1	3	1	3	4	4	4	4	Rote learning, unable to apply
Care about what is learnt	1	1	1	1	1	5	4	5	Don't care about learning, just want to pass
Make effort to study despite busy schedule	1	1	1	1	2	5	3	4	Unwilling to put effort
Serious and focused	1	1	1	1	3	5	3	5	Not serious, cannot focus
A can-do approach to problems	2	3	1	2	3	2	5	2	Pessimistic
Mature, pragmatic and stable	1	2	1	2	2	2	5	3	Over-nervous
Less demanding work & family	5	4	3	4	1	1	1	1	Demanding work & family
Study for trend	5	2	3	4	3	1	2	2	Study for practical application at work
Actively seek help to solve problems	1	1	1	1	2	4	4	4	Passive, no initiative
Willing to take responsibility in group work	1	1	1	1	3	4	5	5	Unwilling to take responsibility in group work
Higher marks	1	1	1	2	4	4	4	5	Lower marks
Overall more motivated	1	1	1	3	5	4	5		Overall less motivated

A student who gives up easily
A student with less self-confidence
A lazy student
A student with below average marks
A student who doesn't give up easily
A student with self-confidence
A hard working students
A student with good marks

U5 – Focus Grid

Focus U5

A can-do approach to problems	1	2	2	3	3	5	2	2	Pessimistic
Mature, pragmatic and stable	1	1	2	2	2	5	3	2	Over-nervous
Care about what is learnt	1	1	1	1	1	4	5	5	Don't care about learning, just want to pass
Overall more motivated	1	1	1	1	3	4	5	5	Overall less motivated
Serious and focused	1	1	1	1	3	3	5	5	Not serious, cannot focus
Make effort to study despite busy schedule	1	1	1	1	2	3	4	4	Unwilling to put effort
Actively seek help to solve problems	1	1	1	1	2	4	4	4	Passive, no initiative
Willing to take responsibility in group work	1	1	1	1	3	5	5	4	Unwilling to take responsibility in group work
Higher marks	1	1	2	1	4	4	4	4	Lower marks
Can apply learning to everyday life	1	1	3	3	4	4	4	4	Rote learning, unable to apply
Good comprehensive ability	1	1	3	4	4	4	4	4	Less comprehensively ability
Study for practical application at work	3	1	2	4	3	4	4	5	Study for trend
Demanding work & family	3	1	2	2	5	5	5	5	Less demanding work & family

A lazy student
A student who gives up easily
A student with less self-confidence
A student with below average marks
A hard working students
A student who doesn't give up easily
A student with good marks
A student with self-confidence

U5 – Principal Component Grid

PrinGrid U5
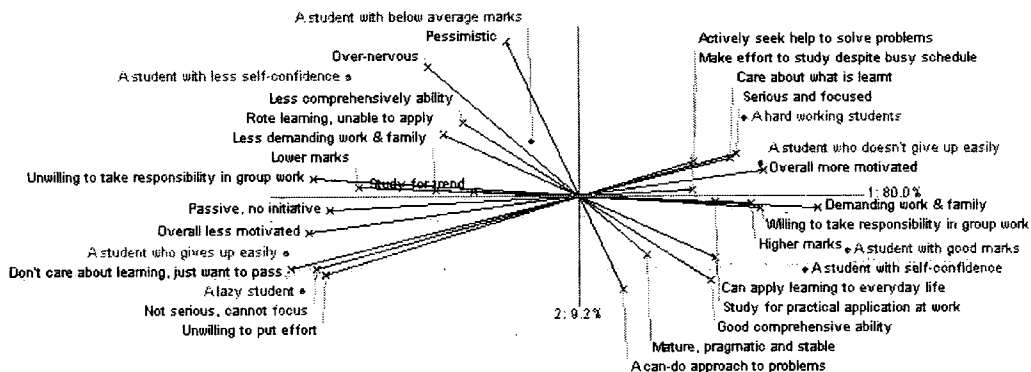
U6 – Display Grid

		1	2	3	4	5	6	7	8		
Rich work experience & exposure	1	1	3	1	2	5	2	2	2	1	Limited experience & exposure
More intelligent	2	1	3	1	2	5	1	4	5	2	Less intelligent
Active, constructive, inspiring ideas	3	1	5	1	1	5	1	5	5	3	Quiet and passive
Want qualification for employment security	4	4	3	4	5	1	1	1	1	4	Want to learn for self-improvement
Happy with pass grade	5	5	5	5	5	2	2	2	1	5	Want good grade
Unwilling to put effort, leisure comes first	6	4	5	4	4	2	1	2	1	6	Willing to put effort
Less family obligations, single	7	4	3	3	3	1	1	2	3	7	More family obligations, mortgage, $, time
Marginal pass	8	4	3	3	5	2	2	1	2	8	Above average grades
Not serious, happy go lucky	9	4	5	4	5	1	1	2	1	9	Serious, well prepared
Demanding job, irregular hours, OT	10	1	3	1	2	5	5	5	4	10	Less demanding job
Less secured employment	11	2	5	4	2	4	2	4	2	11	Secured employment
Overall a more motivated student	12	1	2	1	1	4	5	4	5	12	Overall a less motivated student
		1	2	3	4	5	6	7	8		

8 E8 A student who gives up easily
7 E7 A student with less self-confidence
6 E6 A lazy student
5 E5 A student with below average marks
4 E4 A student who doesn't give up easily
3 E3 A student with self-confidence
2 E2 A hard working student
1 E1 A student with good marks

U6 – Focus Grid

Quiet and passive	5	1	1	1	5	5	Active, constructive, inspiring ideas
Less intelligent	5	1	2	1	3	4	5	5	More intelligent
Limited experience & exposure	4	4	4	1	3	4	5	Rich work experience & exposure
Less family obligations, single	1	3	2	1	3	3	4	More family obligations, mortgage, $, time
Less demanding job	1	2	1	2	3	5	5	Demanding job, irregular hours, OT
Overall a less motivated student	1	1	2	2	4	5	5	Overall a more motivated student
Happy with pass grade	2	1	2	2	5	5	5	Want good grade
Unwilling to put effort, leisure comes first	1	1	2	2	5	4	4	4	Willing to put effort
Not serious, happy go lucky	1	1	2	1	5	4	4	Serious, well prepared
Want qualification for employment security	1	1	1	1	3	4	4	Want to learn for self-improvement
Marginal pass	3	2	1	2	3	5	4	2	Above average grades
Less secured employment	4	3	2	2	5	5	2	4	Secured employment

E3 A student with self-confidence
E1 A student with good marks
E4 A student who doesn't give up easily
E2 A hard working student
E5 A student with below average marks
E7 A student with less self-confidence
E8 A student who gives up easily
E6 A lazy student

U6 – Principal Component Grid

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U7 – Display Grid

	1	2	3	4	5	6	7	8	
Active participation, initiate ideas 1	2	4	1	4	5	5	3	6	1 Passive, no participation
Open to suggestions 2	4	2	6	3	2	2	1	3	2 Subjective, unwilling to accept others' opinion
Set low standard 3	4	6	5	6	1	1	2	1	3 High standard, want high grades
Don't care about improvement 4	5	3	6	5	1	1	3	1	4 Strive for improvement
Learned helpless, that's the way I am 5	4	3	4	6	2	1	3	2	5 Want performance, self-proof
Greater financial burden 6	1	3	6	2	3	6	4	3	6 Financial flexibility
Demanding job, 10-12 hours work 7	2	3	3	1	4	2	4	4	7 Less demanding job, regular hours
Put more effort and time 8	1	3	3	2	3	6	3	4	8 Put less time and effort
Want qualification for employment prospect 9	4	6	6	5	1	1	2	2	9 Want knowledge
Employment security depends on degree 10	5	5	2	6	2	1	2	1	10 Employment doesn't require degree
Less intelligent 11	5	3	4	3	1	1	3	2	11 More intelligent
Less enthusiastic about study 12	6	4	4	4	2	1	4	2	12 More enthusiastic about study
Overall a more motivated student 13	1	2	2	1	4	6	3	6	13 Overall a less motivated student
	1	2	3	4	5	6	7	8	

8 E8 A student who gives up easily
7 E7 A student with less self-confidence
6 E6 A lazy student
5 E5 A student with below average marks
4 E4 A student who doesn't give up easily
3 E3 A student with self-confidence
2 E2 A hard working student
1 E1 A student with good marks

U7 - Focus Grid

	1	1	3	2	2	4	5	
Passive, no participation	1	1	3	2	2	4	5	Active participation, initiate ideas
Open to suggestions	2	3	1	3	3	4	6	Subjective, unwilling to accept others' opinion
Less demanding job, regular hours	4	2	2	3	6	4	3	Demanding job, 10-12 hours work
Financial flexibility	1	3	3	3	3	4	6	1	Greater financial burden
Put less time and effort	1	3	3	3	3	4	6	3	Put more effort and time
Less intelligent	1	1	2	3	3	3	4	More intelligent
Learned helpless, that's the way I am	1	2	2	3	5	4	4	Want performance, self-proof
Overall a less motivated student	1	2	1	3	6	6	4	Overall a more motivated student
Don't care about improvement	1	1	1	3	6	5	6	Strive for improvement
Set low standard	1	1	1	2	6	6	6	High standard, want high grades
Want qualification for employment prospect	1	1	2	2	6	5	4	6	Want knowledge
Employment security depends on degree	1	2	1	2	5	6	2	Employment doesn't require degree
Less enthusiastic about study	1	2	2	4	4	6	4	More enthusiastic about study

E3 A student with self-confidence
E1 A student with good marks
E4 A student who doesn't give up easily
E2 A hard working student
E7 A student with less self-confidence
E8 A student who gives up easily
E6 A student with below average marks
E6 A lazy student

U7 – Principal Component Grid

E7 A student with less self-confidence
Financial flexibility
Less demanding job, regular hours
Put less time and effort
Learned helpless, that's the way I am
Employment security depends on degree
Less enthusiastic about study
Overall a less motivated student
E8 A student who gives up easily
E6 A lazy student
Set low standard
Don't care about improvement
Want qualification for employment prospect
E5 A student with below average marks
Less intelligent
Passive, no participation
Open to suggestions

E3 A student with self-confidence
Active participation, initiate ideas
Subjective, unwilling to accept others' opinion
More intelligent
Want knowledge
Strive for improvement
High standard, want high grades
1 (72.9%)
Overall a more motivated student
E1 A student with good marks
E4 A student who doesn't give up easily
Want performance, self-proof
Employment doesn't require degree
More enthusiastic about study
Put more effort and time
E2 A hard working student
Greater financial burden
Demanding job, 10-12 hours work

2 (11.8%)

U8 – Display Grid

Display U8

Persistent, want good results	2	3	4	1	4	5	5	5	Low expectation, just want to pass
Want knowledge, wide reading	1	1	3	2	3	5	5	5	Want certificate, study notes only
Independent, manage time well	2	3	3	1	3	4	4	3	Rely on others and deadlines, passive
Matured, wider work experience	1	2	3	1	4	3	4	4	Younger, narrow work experience
Don't trust own ability, rely on others to do work	3	5	3	4	2	1	2	2	Confident with own ability, always take on more work in group work
Enrol for social reasons, too much idle time	3	5	4	4	2	3	3	2	Need a degree to be more competitive
Satisfied with the present, no future planning	2	5	2	4	1	2	2	1	More ambitious, has clear goal for future
Quite lazy, sluggish, give as little as possible	4	4	3	4	2	2	3	2	Serious, compensate inability with hard work
Understanding is important	1	1	2	2	3	3	3	3	Doesn't bother him if no understanding
Single, has plenty of time	1	2	1	5	1	4	2	1	Preoccupied with new baby
No financial difficulty	5	1	2	3	1	2	2	1	Was unemployed for 1 year, quite difficult
Stable employment, regular working hours	3	1	2	5	1	5	4	1	Lots of ups and downs in employment
Better English language ability	2	1	2	4	5	3	4	3	Weak in English language
Overall a more motivated student	2	2	3	1	5	5	5	5	Overall a less motivated student

E8 A studnet who gives up easily
E7 A student with self confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self confidence
E2 A hard working student
E1 A student with good marks

U8 – Focus Grid

Focus U8

No financial difficulty	2	2	1	1	2	5	1	3	Was unemployed for 1 year, quite difficult
Stable employment, regular working hours	5	5	1	1	2	3	1	5	Lots of ups and downs in employment
Single, has plenty of time	5	2	1	1	1	1	2	5	Preoccupied with new baby
Satisfied with the present, no future planning	2	2	1	1	2	5	5		More ambitious, has clear goal for future
Want certificate, study notes only	1	1	1	3	3	5	4	4	Want knowledge, wide reading
Overall a less motivated student	1	1	1	3	4	4	5		Overall a more motivated student
Low expectation, just want to pass	1	1	2	2	4	3	5		Persistent, want good results
Rely on others and deadlines, passive	2	2	3	3	3	3	5		Independent, manage time well
Younger, narrow work experience	3	2	2	2	3	4	4		Matured, wider work experience
Quite lazy, sluggish, give as little as possible	2	3	2	2	3	4	4	4	Serious, compensate inability with hard work
Don't trust own ability, rely on others to do work	1	2	2	3	3	5	4		Confident with own ability, always take on more work in group work
Enrol for social reasons, too much idle time	3	3	2	2	4	3	5	4	Need a degree to be more competitive
Doesn't bother him if no understanding	3	3	3	4	4	5	4		Understanding is important
Weak in English language	3	2	1	4	4	5	2		Better English language ability

E4 A student who doesn't give up easily
E2 A hard working student
E1 A student with good marks
E3 A student with self confidence
E5 A student with below average marks
E8 A studnet who gives up easily
E7 A student with self confidence
E6 A lazy student

U8 – Principal Component Grid

PrinGrid U8

E3 A student with self confidence
Understanding is important
Stable employment, regular working hours
Single, has plenty of time
Better English language ability
No financial difficulty
E2 A hard working student
Satisfied with the present, no future planning
Need a degree to be more competitive
Rely on others and deadlines, passive
Confident with own ability, always take on more work in group work
E5 A student with below average marks
E8 A studnet who gives up easily
Want knowledge, wide reading
Younger, narrow work experience
Serious, compensate inability with hard work
Low expectation, just want to pass
E1 A student with good marks
Overall a less motivated student
Overall a more motivated student
1: 66.5 %
Don't trust own ability, rely on others to do work
Persistent, want good results
Want certificate, study notes only
More ambitious, has clear goal for future
E7 A student with self confidence
Matured, wider work experience
Doesn't bother him if no understanding
Was unemployed for 1 year, quite difficult
Enrol for social reasons, too much idle time
Independent, manage time well
E6 A lazy student
Quite lazy, sluggish, give as little as possible
Weak in English language
E4 A student who doesn't give up easily
Preoccupied with new baby
2: 22.4 %
Lots of ups and downs in employment

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U9 – Display Grid

Display U9

Serious, focused and attentive in class	4	1	1	2	4	4	3	3	selective attention, does other things in class
Spend a lot of time studying	4	1	1	2	4	4	3	4	Study in the last minute
Memorise first, then understand	4	1	1	3	4	4	2	3	Seek to understand, doesn't memorise
Make excuses not to attend classes	2	5	5	4	1	1	3	1	Make good effort to attend class
Casual attitude about learning	2	5	5	5	1	1	4	2	Finds ways to understand
Persistent in research for understanding	4	1	1	1	4	4	2	3	Appears not serious
More interested in subjects	4	1	1	1	4	4	2	4	Appears not interested in subject
No high expectation, pass is enough	2	5	5	4	1	1	3	2	Sets high standards for self & teachers
Want minimum knowledge, give minimum effort	2	5	5	4	1	1	3	2	Likes a good challenge
Stable job	4	1	1	4	2	5	1	1	Contract work, more uncertainty
Care about marks, become disappointed with low marks	4	1	1	2	5	5	2	5	Quite satisfied with a pass
Single, has more time and money	3	4	4	4	2	2	2	4	Married with demanding family
Poor planning & time management	3	1	1	2	4	5	3	4	Good planning & time management
Overall a more motivated student	3	1	1	3	4	4	4	4	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self-confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self-confidence
E2 A hard working student
E1 A student with good marks

U9 – Focus Grid

Focus U9

Married with demanding family	2	2	2	2	4	4	4	3	Single, has more time and money
Poor planning & time management	1	1	2	3	4	4	5	3	Good planning & time management
Overall a more motivated student	1	1	3	4	4	4	4	3	Overall a less motivated student
Memorise first, then understand	1	1	3	2	3	4	4	4	Seek to understand, doesn't memorise
Serious, focused and attentive in class	1	1	2	3	3	4	4	4	selective attention, does other things in class
Spend a lot of time studying	1	1	2	3	4	4	4	4	Study in the last minute
More interested in subjects	1	1	1	2	4	4	4	4	Appears not interested in subject
Persistent in research for understanding	1	1	1	2	3	4	4	4	Appears not serious
Finds ways to understand	1	1	1	2	4	5	5	4	Casual attitude about learning
Likes a good challenge	1	1	2	3	4	5	5	4	Want minimum knowledge, give minimum effort
Sets high standards for self & teachers	1	1	2	3	4	5	5	4	No high expectation, pass is enough
Make good effort to attend class	1	1	2	3	5	5	5	4	Make excuses not to attend classes
Care about marks, become disappointed with low marks	1	1	2	2	5	5	5	4	Quite satisfied with a pass
Stable job	1	1	5	1	1	2	5	4	Contract work, more uncertainty

E1 A student with good marks
E6 A lazy student
E5 A student with below average marks
E8 A student who gives up easily
E7 A student with less self-confidence
E4 A student who doesn't give up easily
E2 A hard working student
E3 A student with self-confidence

U9 – Principal Component Grid

PrinGrid U9

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U10 – Display Grid

Display U10

Good English, express well	1	5	1	2	3	5	4	3	Less English ability
Take exams & homework more easily	2	5	2	3	2	1	4	1	Serious, study ahead of time
Treat studies as one of life events	2	5	1	3	2	1	2	1	Has undivided focus on studying
Want minimum learning material, pass is enough	4	5	3	4	2	1	3	1	Knowledge is important, passing is assumed
Frequent absences	5	5	4	4	2	1	3	1	Make effort to attend classes
Study tips before exam	3	4	3	4	2	1	3	1	Make every available minute studying
Well planning, good time management	2	3	3	2	4	5	4	5	No planning, last minute rush
Take active initiative to ask teachers questions	2	1	3	2	4	5	5	5	Quiet, no question even if doesn't understanding
Seek to understand	2	4	2	2	4	5	4	5	Memorise without understanding
Feel coersed to have a degree for employability	4	5	3	3	2	2	3	2	Study for personal interest
More job responsibility	2	2	2	3	1	2	3	4	No steady job
Overall a more motivated student	2	1	3	2	4	5	4	4	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self-confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self-confidence
E2 A hard working student
E1 A student with good marks

U10 – Focus Grid

Focus U10

More job responsibility	2	4	1	3	2	2	3	2	No steady job
Treat studies as one of life events	1	1	2	2	1	2	3	5	Has undivided focus on studying
Take exams & homework more easily	1	1	2	4	2	2	3	5	Serious, study ahead of time
Feel coersed to have a degree for employability	2	2	2	3	3	3	3	5	Study for personal interest
Overall a less motivated student	1	2	2	2	3	4	4	5	Overall a more motivated student
Quiet, no question even if doesn't understanding	1	1	2	1	3	4	4	5	Take active initiative to ask teachers questions
Frequent absences	1	1	2	3	4	5	4	5	Make effort to attend classes
Want minimum learning material, pass is enough	1	1	2	3	3	4	4	5	Knowledge is important, passing is assumed
Study tips before exam	1	1	2	3	3	4	4	4	Make every available minute studying
No planning, last minute rush	1	1	2	2	3	4	4	3	Well planning, good time management
Memorise without understanding	1	1	2	2	4	4	4	2	Seek to understand
Less English ability	1	3	3	2	5	5	4	1	Good English, express well

E2 A hard working student
E4 A student who doesn't give up easily
E1 A student with good marks
E3 A student with self-confidence
E7 A student with less self-confidence
E5 A student with below average marks
E8 A student who gives up easily
E6 A lazy student

U10 – Principal Component Grid

PrinGrid U10

U11 – Display Grid

Display U11

Spend a lot of time studying	1	1	3	3	4	3	5		Spend less time on study
Very serious about homework, tests, exam	1	1	4	2	3	4	3	4	Not so serious
Study for exam, must have cues	3	3	4	5	2	1	3	1	Cues are important, but more concerned with learning
Rely on others for help	5	4	4	5	2	5	3	4	Take initiative to seek answers independently
Need degree for career prospect	3	1	3	5	1	1	3	1	Believe in continuous learning
Handle problem practically	1	3	2	1	3	3	5	3	Nervous and rigid with problems
Believe effort will result in good performance	1	2	1	1	3	3	5	5	Doesn't believe in himself even when well prepared
Want high marks	1	1	2	4	3	3	1	3	Marks is not everything, want to learn
Persist in setback	2	1	2	1	2	4	2	5	Fear of failure, complain all the time
Care about improvement	3	2	3	1	3	4	3	5	Avoid difficult assignments
Prefer to study alone	2	1	1	2	5	3	1	3	Need a positive learning environment
More demanding job	4	2	1	2	4	5	1	5	Steady working hours
Overall a more motivated student	1	1	3	1	2	4	4	5	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self confidence
E2 A hard working student
E1 A student with good marks

U11 – Focus Grid

Focus U11

Take initiative to seek answers independently	1	2	1	2	3	4	1	2	Rely on others for help
Handle problem practically	1	3	1	6	3	3	3		Nervous and rigid with problems
Believe effort will result in good performance	1	2	1	1	6	3	3	5	Doesn't believe in himself even when well prepared
More demanding job	2	2	4	1	1	5	5		Steady working hours
Prefer to study alone	2	1	2	1	1	5	3	3	Need a positive learning environment
Want high marks	4	1	1	2	1	3	3	3	Marks is not everything, want to learn
Very serious about homework, tests, exam	2	1	1	4	3	4	4		Not so serious
Spend a lot of time studying	3	1	1	3	3	3	4	5	Spend less time on study
Overall a more motivated student	1	1	1	3	4	2	4	5	Overall a less motivated student
Persist in setback	1	1	2	2	2	2	4	5	Fear of failure, complain all the time
Care about improvement	1	2	3	3	3	3	4	5	Avoid difficult assignments
Cues are important, but more concerned with learning	1	3	3	2	3	4	5	5	Study for exam, must have cues
Believe in continuous learning	1	5	3	3	5	5	5		Need degree for career prospect

E8 A student who gives up easily
E6 A lazy student
E5 A student with below average marks
E7 A student with less self confidence
E3 A student with self confidence
E1 A student with good marks
E2 A hard working student
E4 A student who doesn't give up easily

U11 – Principal Component Grid

PrinGrid U11

E7 A student with less self confidence
Prefer to study alone
More demanding job
Rely on others for help
Nervous and rigid with problems
Doesn't believe in himself even when well prepared
E3 A student with self confidence
Persist in setback
Overall a less motivated student
E2 A hard working student
Believe in continuous learning
Not so serious
Want high marks
Cues are important, but more concerned with learning
Spend less time on study
Care about improvement
E8 A student who gives up easily
1: 53.4%
Fear of failure, complain all the time
Spend a lot of time studying
Very serious about homework, tests, exam
E6 A lazy student
E4 A student who doesn't give up easily
Study for exam, must have cues
Overall a more motivated student
Avoid difficult assignments
Believe effort will result in good performance
Need degree for career prospect
E1 A student with good marks
Steady working hours
Handle problem practically
Need a positive learning environment
Take initiative to seek answers independently
E5 A student with below average marks
2: 18.5%
Marks is not everything, want to learn

M1 – Display Grid

Display M1

Construct (left)	1	2	3	4	5	6	7	8	Construct (right)
Urgent need of degree for career	1	1	5	4	3	4	4	4	No urgent need of degree (senior position)
Less family responsibility	1	1	4	5	2	2	4	2	More family responsibility
High language level	4	1	1	4	2	3	4	2	Lower language level
Company sponsored, indifferent to study	1	5	2	5	1	1	3	1	Self financed, more committed
Low priority to study, always absent	4	5	3	5	2	1	4	3	High priority, makes good effort to class
Use every means (eg charm) except study to pass	4	5	4	5	1	1	1	3	Try her best to obtain higher marks
Relevant experience & exposure	1	1	2	1	1	2	4	2	Experience not relevant to course
More decisive	1	3	2	1	3	2	5	3	Nervous, unable to make decision
If in doubt, actively seek guidance & take action	1	3	4	2	4	4	4	4	Passive, want to be told what to do
Last minute rush	4	5	2	4	2	1	5	2	Consistently spend a lot of time studying
Choose easy topic	3	5	4	4	2	1	1	1	Choose something of personal interest
Smart, always find a way to pass (get help just before exam, find cues)	4	5	4	4	2	1	3	2	Self reliant, intelligent
Want the diploma, don't care about learning	3	4	5	4	2	1	3	1	Always want to be the best
Overall a more motivated student	2	1	3	2	4	5	3	4	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self confidence
E2 A hard working student
E1 A student with good marks

M1 – Focus Grid

Focus M1

Construct (left)									Construct (right)
Use every means (eg charm) except study to pass	1	1	3	1	4	4	5	5	Try her best to obtain higher marks
Nervous, unable to make decision	1	4	3	3	4	5	5	3	More decisive
Experience not relevant to course	2	4	4	5	4	5	5	5	Relevant experience & exposure
More family responsibility	2	4	4	4	2	5	1	5	Less family responsibility
No urgent need of degree (senior position)	2	2	2	3	1	5	2	5	Urgent need of degree for career
Passive, want to be told what to do	2	2	2	2	2	5	4	3	If in doubt, actively seek guidance & take action
High language level	4	3	2	1	4	4	1	—	Lower language level
Last minute rush	5	1	2	2	4	4	5	5	Consistently spend a lot of time studying
Low priority to study, always absent	4	1	3	2	3	4	5	5	High priority, makes good effort to class
Overall a less motivated student	3	1	2	2	3	4	4	4	Overall a more motivated student
Smart, always find a way to pass (get help just before exam, find cues)	3	1	2	2	4	4	4	5	Self reliant, intelligent
Choose easy topic	1	1	1	2	4	3	4	5	Choose something of personal interest
Want the diploma, don't care about learning	3	1	1	2	5	3	4	4	Always want to be the best
Company sponsored, indifferent to study	3	1	1	1	2	1	5	5	Self financed, more committed

E2 A hard working student
E4 A student who doesn't give up easily
E1 A student with good marks
E3 A student with self confidence
E5 A student with below average marks
E8 A student who gives up easily
E6 A lazy student
E7 A student with less self confidence

M1 – Principal Component Grid

PrinGrid M1

E7 A student with less self confidence ◆

More family responsibility

Experience not relevant to course ×
Nervous, unable to make decision
No urgent need of degree (senior position) ×

E3 A student with self confidence
Consistently spend a lot of time studying
Self financed, more committed

Passive, want to be told what to do
Choose easy topic
Use every means (eg charm) except study to pass ×
Lower language level ×
Overall a less motivated student ×
Smart, always find a way to pass (get help just before exam, find cues) ×

◆ E4 A student who doesn't give up easily

Always want to be the best
High priority, makes good effort to class
Self reliant, intelligent
1: 53.3%
Overall a more motivated student
Choose something of personal interest

E6 A lazy student ◆
Low priority to study, always absent
E5 A student with below average marks
Last minute rush
E8 A student who gives up easily
Want the diploma, don't care about learning
Company sponsored, indifferent to study

High language level
More decisive

◆ E2 A hard working student
Try her best to obtain higher marks
If in doubt, actively seek guidance & take action

Relevant experience & exposure

◆ E1 A student with good marks
Less family responsibility 2: 17.8%
Urgent need of degree for career

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M2 – Display Grid

Display M2
"Identifying motivating factors in part-time learning"

Need a degree for better prospect	2	5	2	2	1	1	2	2	Need a degree for self-fulfillment
Serious about study	1	3	1	1	4	4	2	2	Relax about study
Fell obligated to study	5	5	5	5	1	1	4	4	Make voluntary effort
Company sponsored	5	5	5	5	1	1	4	1	Self-financed
Grades matter, want to perform	2	2	1	2	5	5	2	2	Just want to pass
Junior or middle management	3	5	3	2	5	5	1	1	Senior manager, more responsibility
Heavy work load	4	3	2	2	2	2	2	2	Light work load
More obligations, small children at home	2	3	2	5	2	2	3	5	Less family obligations
Overall a more motivated student	1	2	2	2	5	5	3	3	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self-confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self-confidence
E2 A hard working student
E1 A student with good marks

M2 – Focus Grid

Focus M2
"Identifying motivating factors in part-time learning"

Junior or middle management	5	5	1	1	2	3	3	5	Senior manager, more responsibility
Need a degree for better prospect	1	1	2	2	2	2	2	5	Need a degree for self-fulfillment
Heavy work load	2	2	2	2	2	2	4	3	Light work load
More obligations, small children at home	2	2	5	3	2	2	3	3	Less family obligations
Relax about study	2	2	4	4	5	5	5	3	Serious about study
Overall a less motivated student	1	1	3	3	4	4	5	4	Overall a more motivated student
Just want to pass	1	1	4	4	4	4	4	4	Grades matter, want to perform
Fell obligated to study	1	1	4	4	5	5	5	5	Make voluntary effort
Company sponsored	1	1	1	4	5	5	5	5	Self-financed

E2 A hard working student
E1 A student with good marks
E3 A student with self-confidence
E4 A student who doesn't give up easily
E7 A student with less self-confidence
E8 A student who gives up easily
E5 A student with below average marks
E6 A lazy student

M 2 – Principal Component Grid

PrinGrid M2
"Identifying motivating factors in part-time learning"

1: 66.7 %
2: 20.3 %

M3 – Display Grid

Display M3

More matured, over 40	1	2	5	3	5	3	4	5	Younger, below 30
Study for personal interest	2	1	5	3	5	5	5	5	Study for career development
Senior management position, wide experience	2	1	5	1	5	3	4	3	Junior management
Serious and committed, hardworking	2	1	3	2	2	5	3	5	Missed deadlines, no submission
Make conscious effort to attend classes	1	1	2	2	1	5	2	4	Frequent absences
Serious and thorough, always checking to make sure	2	1	4	2	1	5	3	5	Not serious, prefers personal leisure
More outspoken and confident	3	1	2	3	2	4	5	4	Quiet, not sure of himself
Less family obligations	1	1	2	3	2	3	5	3	Has aged parents, more responsibility
Believe in continuous improvement	1	1	3	2	2	5	5	4	Sees very little in himself, constantly worries
Don't care about results, withdraw in failure	5	5	4	4	4	1	3	2	Diligent, expects good marks
Don't have aims, affected by friends	5	5	4	4	4	1	3	2	Study with the aim to change profession
Self demanding, don't want to fail	1	1	2	1	2	4	5	4	Has no expectation, accepts failure
Overall a more motivated student	1	1	3	2	2	5	2	5	Overall a less motivated student

E8 A student who gives up easily
E7 A studnet with less self confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self confidence
E2 A hard working student
E1 A student with good marks

M3 – Focus Grid

Focus M3

Less family obligations	1	1	3	2	2	5	3	3	Has aged parents, more responsibility
More outspoken and confident	1	3	3	2	2	5	4	4	Quiet, not sure of himself
Self demanding, don't want to fail	1	1	1	2	2	5	4	4	Has no expectation, accepts failure
Believe in continuous improvement	1	1	2	2	3	5	5	5	Sees very little in himself, constantly worries
Study with the aim to change profession	1	1	2	2	3	4	5	5	Don't have aims, affected by friends
Diligent, expects good marks	1	1	2	2	3	4	5	5	Don't care about results, withdraw in failure
Make conscious effort to attend classes	1	1	2	1	2	4	5	5	Frequent absences
Overall a more motivated student	1	1	2	2	3	4	5	5	Overall a less motivated student
Serious and committed, hardworking	1	2	2	3	3	5	5	5	Missed deadlines, no submission
Serious and thorough, always checking to make sure	1	2	2	4	3	5	5	5	Not serious, prefers personal leisure
Study for personal interest	1	2	3	5	5	5	5	5	Study for career development
More matured, over 40	2	1	3	5	5	4	3	3	Younger, below 30
Senior management position, wide experience	1	2	1	5	5	4	3	3	Junior management

60
70
80
90
100

100 90 80 70

E6 A lazy student
E8 A student who gives up easily
E7 A studnet with less self confidence
E3 A student with self confidence
E5 A student with below average marks
E4 A student who doesn't give up easily
E1 A student with good marks
E2 A hard working student

M3 – Principal Component Grid

PrinGrid M3

Junior management
E3 A student with self confidence
Younger, below 30
Study for career development
Has aged parents, more responsibility
E7 A studnet with less self confidence
Sees very little in himself, constantly worries
Has no expectation, accepts failure
E8 A student who gives up easily
Overall a less motivated student
Don't care about results, withdraw in failure
E6 A lazy student
Frequent absences
Don't have aims, affected by friends
Not serious, prefers personal leisure
Missed deadlines, no submission
Quiet, not sure of himself

E5 A student with below average marks
Make conscious effort to attend classes
More outspoken and confident
Study with the aim to change profession
Diligent, expects good marks
Overall a more motivated student
Serious and committed, hardworking
Serious and thorough, always checking to make sure
1: 69.8%
Believe in continuous improvement
Self demanding, don't want to fail
Less family obligations
E2 A hard working student
E1 A student with good marks
E4 A student who doesn't give up easily
Study for personal interest
More matured, over 40
Senior management position, wide experience

2: 15.4%

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M4 – Display Grid

Display M4
"Identifying motivating factors in part-time learning"

Hard working	2	1	3	1	5	5	4	5	Lazy, leisure first
Low priority to study, not serious	5	5	5	5	1	1	4	1	Have clear goal about study, very serious
Lay back, slack	5	4	5	5	1	1	5	3	Determined to achieve degree
Stubborn & persistent	1	2	1	2	1	5	5	5	Vulnerable to criticism & challenges
Expect OK results with minimum effort, risk taking	5	5	5	3	1	3	2	1	Doesn't believe in free lunches
Make excuses fo not making effort	4	5	5	5	1	1	2	1	Accept responsibility, make no excuses
Less family & financial obligations	5	1	3	1	3	3	1	1	More family & financial obligations
Middle or junior level at work	5	5	4	1	1	1	1	4	Senior at work
Superficial learning, exam oriented	2	3	4	2	1	1	4	1	Deep learning, passion for learning
Bright, fast learner	1	1	2	3	1	3	5	5	Not bright, slow learner
Overall a more motivated student	1	1	2	2	5	5	3	4	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self-confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self-confidence
E2 A hard working student
E1 A student with good marks

M4 – Focus Grid

Focus M4
"Identifying motivating factors in part-time learning"

Less family & financial obligations	3	3	1	1	1	1	5	3	More family & financial obligations
Vulnerable to criticism & challenges	5	1	1	4	4	5	5		Stubborn & persistent
Not bright, slow learner	5	3	1	1	3	5	5	4	Bright, fast learner
Expect OK results with minimum effort, risk taking	1	3	1	2	3	5	5	5	Doesn't believe in free lunches
Overall a less motivated student	1	1	2	3	4	5	5	4	Overall a more motivated student
Lazy, leisure first	1	1	2	5	5	4	3		Hard working
Make excuses fo not making effort	1	1	2	5	5	4	5		Accept responsibility, make no excuses
Low priority to study, not serious	1	1	1	5	5	5	5		Have clear goal about study, very serious
Lay back, slack	1	1	3	5	5	4	5		Determined to achieve degree
Middle or junior level at work	1	1	4	1	1	5	5	4	Senior at work
Superficial learning, exam oriented	1	1	4	2	3	2	4		Deep learning, passion for learning

E3 A student with self-confidence
E1 A student with good marks
E2 A hard working student
E4 A student who doesn't give up easily
E7 A student with less self-confidence
E8 A student who gives up easily
E6 A lazy student
E5 A student with below average marks

M4 – Principal Component Grid

PrinGrid M4
"Identifying motivating factors in part-time learning"

M5 – Display Grid

Display M5

Marks mean a lot	1	1	4	2	4	5	4	5	Not so concerned with marks
Spend every available minute on study	1	1	5	4	5	5	3	3	Balances personal and study time
Smarter, has better foundation	1	3	1	2	5	2	4	2	Less smart, has weak foundation
Has wider exposure, more senior in employment	1	3	2	1	5	1	4	2	Has limited exposure, junior level in employment
Absent all the time	5	5	4	4	1	1	3	3	Make every effort to attend classes
Safisifed with a pass grade	5	5	4	4	1	1	2	4	Would like to have higher marks
Study for career prospect	5	2	4	5	3	3	4	3	Study for interest
More financial burden	5	2	4	2	2	4	2	3	Less financial burden (supportive spouse)
More effective study strategies	1	2	1	2	5	4	5	3	No strategies, doesn't know how, don't care
Expects quality & professionalism from edu provider	1	2	2	1	5	4	5	1	Doesn't care about quality or management
Want to learn something useful	1	1	1	1	5	5	5	1	Want the degree, learning irrelevant
Overall a more motivated student	1	2	2	2	4	5	4	3	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self-confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self-confidence
E2 A hard working student
E1 A student with good marks

M5 – Focus Grid

Focus M5

Study for interest	4	1	1	2	3	3	3	2	Study for career prospect
Less financial burden (supportive spouse)	4	1	4	2	3	2	2	4	More financial burden
Smarter, has better foundation	3	1	2	1	2	2	5	4	Less smart, has weak foundation
Has wider exposure, more senior in employment	3	1	1	2	2	1	5	4	Has limited exposure, junior level in employment
Want to learn something useful	1	1	1	1	5	5	5	5	Want the degree, learning irrelevant
Expects quality & professionalism from edu provider	2	1	1	2	1	4	5	5	Doesn't care about quality or management
More effective study strategies	2	1	2	1	3	4	5	5	No strategies, doesn't know how, don't care
Overall a more motivated student	2	1	2	2	3	5	4	4	Overall a less motivated student
Make every effort to attend classes	1	1	2	2	3	5	5	3	Absent all the time
Would like to have higher marks	1	1	2	2	2	5	5	4	Safisifed with a pass grade
Marks mean a lot	1	1	2	4	5	5	5	4	Not so concerned with marks
Spend every available minute on study	1	1	4	5	3	5	5	3	Balances personal and study time

E7 A student with less self-confidence
E5 A student with below average marks
E6 A lazy student
E8 A student who gives up easily
E3 A student with self-confidence
E4 A student who doesn't give up easily
E1 A student with good marks
E2 A hard working student

M5 – Principal Component Grid

PrinGrid M5

Has limited exposure, junior level in employment
Less smart, has weak foundation
E7 A student with less self-confidence
Doesn't care about quality or management
E5 A student with below average marks
No strategies, doesn't know how, don't care
Want the degree, learning irrelevant
Safisifed with a pass grade
Absent all the time
Overall a less motivated student
Not so concerned with marks
E6 A lazy student
Balances personal and study time

More financial burden
Study for career prospect

Spend every available minute on study
E2 A hard working student
Marks mean a lot
Overall a more motivated student
Make every effort to attend classes
Would like to have higher marks
E1 A student with good marks
1: 67.3%
Want to learn something useful
Study for interest
More effective study strategies
Expects quality & professionalism from edu provider
E4 A student who doesn't give up easily
E3 A student with self-confidence
Smarter, has better foundation
Has wider exposure, more senior in employment
Less financial burden (supportive spouse)
E8 A student who gives up easily

2: 16.4%

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M6 – Display Grid

Display M6

Emphasis on the learning process	5	1	1	1	4	4	4	4	Pragmatic, focus on result-oriented activities
Less experienced study strategies	5	4	4	3	2	2	2	1	More effective study strategies, good comprehension
More domestic burden	4	1	1	4	1	1	3	4	Single, no attachment
Find excuses to rationalise underperformance	3	4	3	4	2	2	1	1	Self evaluate in the face of failure
Passing is all that matters, hope for luck	5	5	5	5	1	1	1	1	Would like good results
Not interested in doing better	5	5	4	4	2	2	1	1	Has high need for achievement
Committed, spend lots of time studying	1	1	2	1	3	3	4	4	No preparation
Actively search for answers, the truth	1	1	1	1	4	4	4	4	Passive, want to be told just the superficial
Make every effort to do their best	1	1	1	1	3	3	5	5	Want satisfactory results without giving effort
Need for learning affected by personal emotion	5	5	5	4	2	2	1	1	Good control of emotion, do what must be done
No goals, don't know what they want	5	5	4	4	3	3	2	1	Clear goals, want knowledge
Limited work exposure, no decision making	4	5	5	3	3	3	2	2	Has wide exposure from diversed work experience
Look for easy topic and easy pass	4	5	5	4	2	2	1	1	Take initiative for challenging assignments
Overall a more motivated student	1	1	1	2	3	3	4	4	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self confidence
E2 A hard working student
E1 A student with good marks

M6 – Focus Grid

Focus M6

Find excuses to rationalise underperformance	1	1	2	2	4	3	4	3	Self evaluate in the face of failure
Look for easy topic and easy pass	1	1	2	2	4	5	5	4	Take initiative for challenging assignments
Need for learning affected by personal emotion	1	1	2	2	4	5	5	5	Good control of emotion, do what must be done
Not interested in doing better	1	1	2	2	4	4	5	5	Has high need for achievement
Less experienced study strategies	1	2	2	2	3	4	4	5	More effective study strategies, good comprehension
Limited work exposure, no decision making	2	3	3	3	3	5	5	4	Has wide exposure from diversed work experience
Overall a less motivated student	2	2	3	3	4	5	5	5	Overall a more motivated student
No preparation	2	2	3	3	4	4	5	5	Committed, spend lots of time studying
No goals, don't know what they want	1	2	3	3	4	5	4	5	Clear goals, want knowledge
Want satisfactory results without giving effort	1	1	3	3	5	5	5	5	Make every effort to do their best
Passing is all that matters, hope for luck	1	1	1	1	5	5	5	5	Would like good results
Passive, want to be told just the superficial	2	2	2	2	5	5	5	5	Actively search for answers, the truth
Pragmatic, focus on result-oriented activities	2	2	2	2	5	5	5	1	Emphasis on the learning process
Single, no attachment	2	3	5	5	2	5	5	2	More domestic burden

E1 A student with good marks
E2 A hard working student
E3 A student with self confidence
E4 A student who doesn't give up easily
E6 A lazy student
E5 A student with below average marks
E7 A student with less self confidence
E8 A student who gives up easily

M6 – Principal Component Grid

PrinGrid M6

M7 – Display Grid

Display M7

Sharp and quick to response	1	3	2	4	4	5	5	5	Need to think before responding
Learn best from applications of theory	1	4	1	2	3	3	4	4	Slow to put theory into practice
Need degree for career prospect	1	3	1	2	2	3	3	3	Need degree for the sake of qualification
Willing to make effort on studies	2	2	2	1	1	5	4	4	No effort at all
Committed, devote a lot of personal time	2	1	2	1	1	5	4	4	No commitment, leisure before study
Aim for higher marks	2	1	2	2	1	5	5	5	Aim for just pass
Active in sharing & participation	1	2	1	1	2	5	4	4	Quiet and withdrawn
Take personal responsibility to prepare and study	1	2	1	1	2	5	5	4	No personal responsibility, rely on others for help
More extensive work and life exposure	3	1	1	2	3	3	4	4	Limited exposure
Have clear goals about why they study	1	1	2	1	1	4	4	5	Not sure what she wants
Entry-level job, have more urgent need for degree	3	5	5	4	1	3	3	1	Management level, no urgent need for degree
Financially well off	3	1	1	3	3	2	4	4	Has many other financial responsibilities
Like challenging assignments	2	2	1	1	3	5	5	5	Avoid homework until last minute
Overall a more motivated student	1	2	2	2	3	5	4	4	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self-confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self-confidence
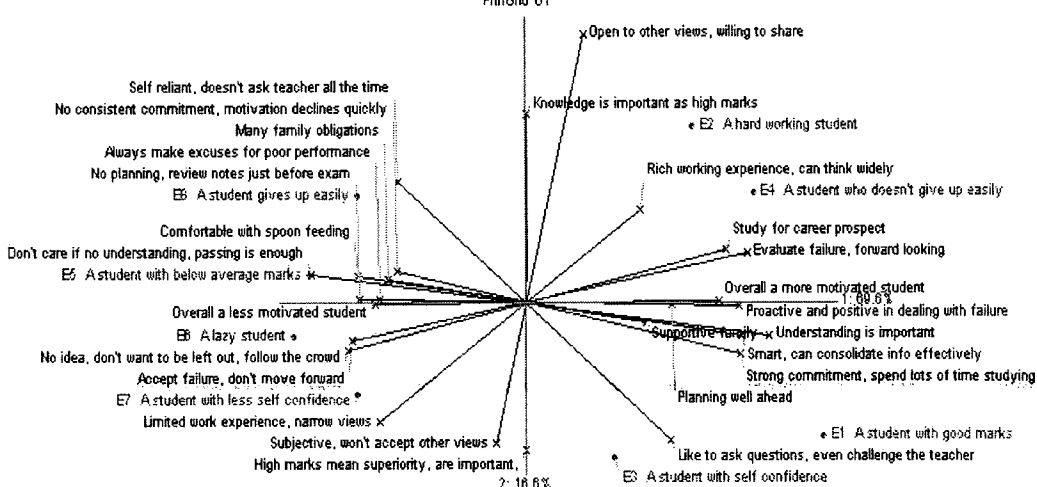E2 A hard working student
E1 A student with good marks

M7 – Focus Grid

Focus M7

Management level, no urgent need for degree	1	1	3	2	5	5	3	3	Entry-level job, have more urgent need for degree
More extensive work and life exposure	1	1	3	2	3	4	4	3	Limited exposure
Financially well off	1	1	3	3	3	4	4	2	Has many other financial responsibilities
Need degree for career prospect	3	1	1	2	3	3	3	3	Need degree for the sake of qualification
Learn best from applications of theory	4	1	1	2	3	4	4	3	Slow to put theory into practice
Overall a more motivated student	2	2	1	2	3	4	4	5	Overall a less motivated student
Like challenging assignments	2	1	2	1	3	5	5	5	Avoid homework until last minute
Take personal responsibility to prepare and study	2	1	1	1	2	4	5	5	No personal responsibility, rely on others for help
Active in sharing & participation	2	1	1	1	2	4	4	5	Quiet and withdrawn
Willing to make effort on studies	2	2	2	1	1	4	4	5	No effort at all
Committed, devote a lot of personal time	1	2	2	1	1	4	4	5	No commitment, leisure before study
Aim for higher marks	1	2	2	2	1	5	5	5	Aim for just pass
Have clear goals about why they study	1	2	1	1	1	5	4	4	Not sure what she wants
Sharp and quick to response	3	2	1	4	4	5	5	5	Need to think before responding

E6 A lazy student
E7 A student with less self-confidence
E8 A student who gives up easily
E5 A student with below average marks
E4 A student who doesn't give up easily
E1 A student with good marks
E3 A student with self-confidence
E2 A hard working student

M7 – Principal Component Grid

PrinGrid M7

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M8 – Display Grid

	1	2	3	4	5	6	7	8	
Concerned with completing assignments 1	1	5	2	2	1	1	1	3	1 Concerned with learning
Pragmatic, take the easy way 2	1	5	3	2	1	1	1	5	2 Creative, explore options
Minimum effort to pass 3	5	5	5	5	1	1	2	3	3 Do more to understand
Routine job 4	3	2	5	5	1	1	3	2	4 Dynamic & challenging job
High priority to get degree 5	1	3	2	1	2	5	5	3	5 Unwilling to sacrifice quality of life
Want career progression 6	1	3	1	1	1	1	6	5	6 Want career change
Stick to time line for completion 7	1	2	2	1	1	5	5	3	7 Relax about time frame to complete
A degree means recognition 8	1	5	1	1	1	1	2	1	8 A degree enhances life experience
Want recognition as knowledgeable 9	1	2	1	1	1	5	1	1	9 Indifferent to recognition
Grades matter 10	1	4	1	1	2	5	3	1	10 Other achievements matter
	1	2	3	4	5	6	7	8	

8 E8 A student who gives up easily
7 E7 A student with less self-confidence
6 E6 A lazy student
5 E5 A student with below average marks
4 E4 A student who doesn't give up easily
3 E3 A student with self-confidence
2 E2 A hard working student
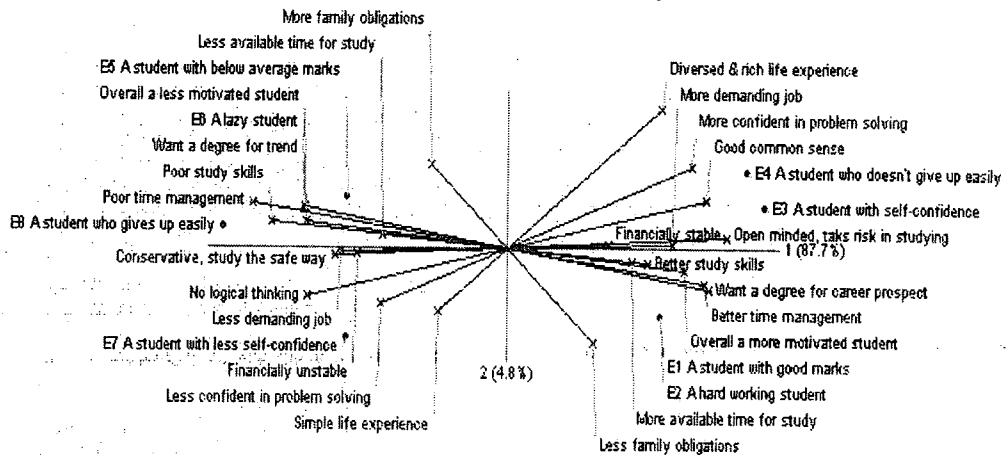1 E1 A student with good marks

M8 – Focus Grid

Want career progression	3	5	1	1	1	1	6	Want career change
Pragmatic, take the easy way	5	5	3	2	1	1	1	Creative, explore options
Concerned with completing assignments	5	3	2	2	1	1	1	Concerned with learning
A degree means recognition	5	1	1	1	1	1	2	A degree enhances life experience
Want recognition as knowledgeable	2	1	1	1	1	1	1	Indifferent to recognition
Grades matter	4	1	1	1	2	5	3	Other achievements matter
High priority to get degree	3	3	2	1	2	5	5	Unwilling to sacrifice quality of life
Stick to time line for completion	2	3	2	1	1	5	5	Relax about time frame to complete
Do more to understand	1	3	1	1	5	5	4	Minimum effort to pass
Dynamic & challenging job	4	4	1	3	5	5	3	Routine job

100 90 80 70

E7 A student with less self-confidence
E6 A lazy student
E5 A student with below average marks
E1 A student with good marks
E4 A student who doesn't give up easily
E3 A student with self-confidence
E8 A student who gives up easily
E2 A hard working student

M8 – Principal Component Grid

E2 A hard working student
Concerned with learning
Creative, explore options
A degree enhances life experience
Want career change
E8 A student who gives up easily
E7 A student with less self-confidence
Unwilling to sacrifice quality of life
Other achievements matter
Relax about time frame to complete
Do more to understand
Want recognition as knowledgeable
Routine job
1 (42.8%)
Dynamic & challenging job
E3 A student with self-confidence
Indifferent to recognition
E4 A student who doesn't give up easily
High priority to get degree
Stick to time line for completion
E6 A lazy student
E1 A student with good marks
Minimum effort to pass
Grades matter
Pragmatic, take the easy way
Want career progression   2 (28.6%) Concerned with completing assignments
A degree means recognition   E5 A student with below average marks

M9 – Display Grid

"Identifying motivating factors in part-time learning"

Left	1	2	3	4	5	6	7	8	Right
Focused in study	1	1	5	2	4	4	2	5	Get distracted easily
Want to do the best	1	1	3	1	2	5	3	4	Want to get by with pass
Less work pressure	2	5	5	4	5	2	2	2	More work pressure
More family obligations	1	5	1	4	4	2	2	5	Less family obligations
Committed and serious	2	1	3	3	3	4	2	5	Casual attitude towards study
Want a degree for career enhancement	2	1	1	2	2	3	1	5	Want a degree for decoration
Action oriented, just do it	2	1	5	2	1	5	1	5	Recognition seeking
More persistent	2	1	2	2	3	3	2	5	Less persistent
Smart, articulated	1	2	2	2	1	2	2	4	Mediocre
Overall a more motivated student	1	1	3	2	3	5	2	5	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self-confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self-confidence
E2 A hard working student
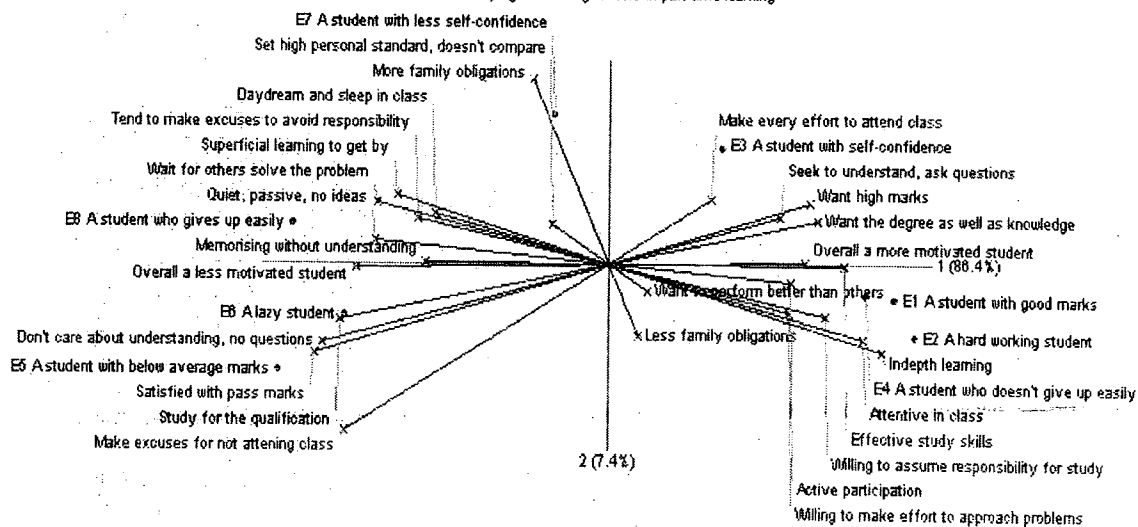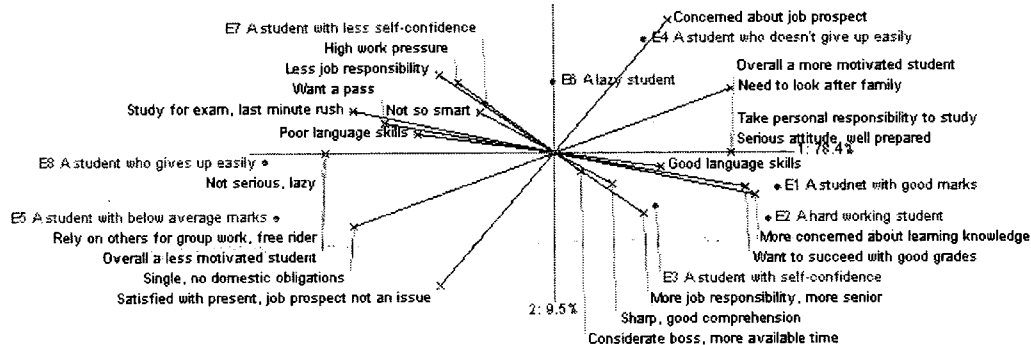E1 A student with good marks

M9 – Focus Grid

"Identifying motivating factors in part-time learning"

Left	1	2	3	4	5	6	7	8	Right
Smart, articulated	2	2	1	2	1	2	2	4	Mediocre
Want a degree for career enhancement	1	1	2	2	2	1	3	5	Want a degree for decoration
More persistent	1	2	2	2	3	2	3	5	Less persistent
Committed and serious	1	2	2	3	3	3	4	5	Casual attitude towards study
Overall a more motivated student	1	2	1	2	3	3	5	5	Overall a less motivated student
Focused in study	1	2	1	2	4	5	4	5	Get distracted easily
Action oriented, just do it	1	1	2	2	1	5	5	5	Recognition seeking
Want to do the best	1	3	1	1	2	3	5	4	Want to get by with pass
More work pressure	1	4	5	2	1	1	4	4	Less work pressure
Less family obligations	1	4	5	2	2	5	4	1	More family obligations

E8 A student who gives up easily
E6 A lazy student
E3 A student with self-confidence
E5 A student with below average marks
E4 A student who doesn't give up easily
E1 A student with good marks
E7 A student with less self-confidence
E2 A hard working student

M9 – Principal Component Grid

"Identifying motivating factors in part-time learning"

Less family obligations

Casual attitude towards study
E8 A student who gives up easily
Want a degree for decoration
Mediocre
Less persistent
Get distracted easily
Overall a less motivated student

E5 A student with below average marks
E4 A student who doesn't give up easily
E2 A hard working student
More work pressure
Action oriented, just do it
Want to do the best

1: 60.2%
Focused in study
Overall a more motivated student
Committed and serious
More persistent

Recognition seeking
Less work pressure
Want to get by with pass
E6 A lazy student
E3 A student with self-confidence

Smart, articulated
E1 A student with good marks
E7 A student with less self-confidence
Want a degree for career enhancement

More family obligations

2: 18.0%

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M10 – Display Grid

Display M10
"Identifying motivating factors in part-time learning"

Inadequate language skills	4	4	4	3	2	3	1	3	Higher language skills
Less work experience	4	4	5	3	2	4	1	4	Extensive work experience
Young and single	4	5	1	2	3	1	5	5	Married with family obligations
At early career stage	3	4	2	3	4	3	4	4	Has reached a career plateau
Put more effort to study	2	2	4	3	5	5	3	3	Want an easy way to get a degree
Need a degree for employment security	2	4	2	2	3	2	2	2	Want knowledge, degree not the only option
Career dissatisfaction, want advancement	2	4	1	3	3	2	4	3	Satisfied with current career
Overall a more motivated student	2	1	3	2	4	5	4	4	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self-confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self-confidence
E2 A hard working student
E1 A studnet with good marks

M10 – Focus Grid

Young and single	1	1	3	5	5	2	4	5	Married with family obligations
Extensive work experience	1	2	4	5	2	3	2	2	Less work experience
Higher language skills	2	3	4	5	3	3	2	2	Inadequate language skills
At early career stage	2	3	4	4	3	3	3	4	Has reached a career plateau
Career dissatisfaction, want advancement	1	2	3	4	3	3	2	4	Satisfied with current career
Need a degree for employment security	2	2	3	2	2	2	2	4	Want knowledge, degree not the only option
Want an easy way to get a degree	2	1	1	3	3	3	4	4	Put more effort to study
Overall a less motivated student	3	1	2	2	2	4	4	5	Overall a more motivated student

E2 A hard working student
E1 A studnet with good marks
E4 A student who doesn't give up easily
E8 A student who gives up easily
E7 A student with less self-confidence
E5 A student with below average marks
E6 A lazy student
E3 A student with self-confidence

M10 – Principal Component Grid

PrinGrid M10
"Identifying motivating factors in part-time learning"

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M11 – Display Grid

Display M11
"Identifying motivating factors in part-time learning"

Creative, willing to explore options	1	3	1	3	5	4	4	2	Conservative, reluctant to try new approach
Good language skills	1	3	1	3	5	4	4	2	Poor language skills
Want easy pass	5	4	5	5	2	1	3	3	Want to learn
Minimum effort, plagiarise	5	5	4	4	2	1	3	3	Willing to put effort
Confident with own ability	1	3	1	2	4	3	5	2	Self doubt
Constructive participation	1	3	1	2	5	5	5	2	Passive, no participation
Rich work experience & exposure	1	3	1	2	4	3	4	2	Narrow experience & exposure
Smart, fast in response	1	3	1	2	5	5	5	2	Tend to be slower to pick up ideas
Financially stable	2	2	1	2	5	3	4	2	Financially unstable
Supportive family	1	2	1	2	5	3	3	2	No family support
Study with broad perspective	1	2	1	2	5	3	3	2	Simple, narrow perspective
Senior at work	1	2	1	2	4	5	4	2	Junior position
Willing to take on challenges	2	3	1	2	5	4	4	2	Find an easy way out
Overall a more motivated student	1	2	1	2	4	5	3	3	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self-confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self-confidence
E2 A hard working student
E1 A student with good marks

M11 – Focus Grid

Focus M11
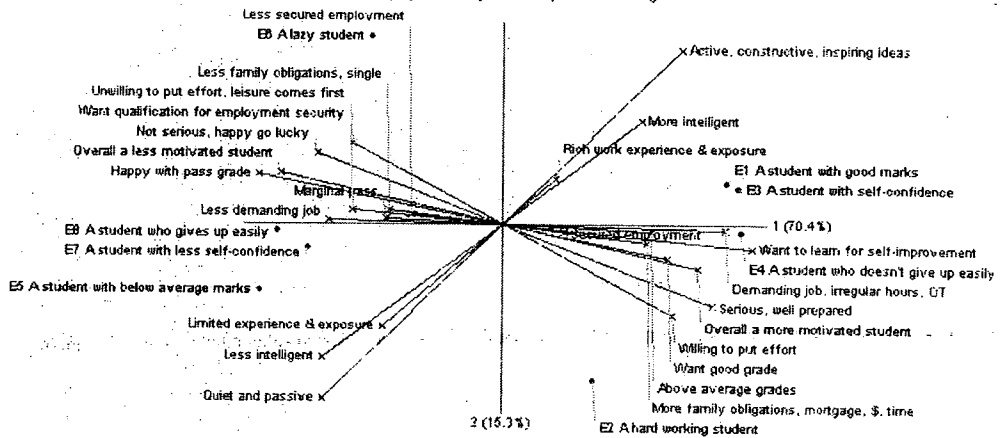"Identifying motivating factors in part-time learning"

Willing to put effort	2	1	3	2	1	5	3	4	Minimum effort, plagiarise
Want to learn	1	1	3	1	2	5	3	4	Want easy pass
Overall a more motivated student	1	1	3	2	2	5	3	4	Overall a less motivated student
Senior at work	1	1	2	2	2	4	4	4	Junior position
Rich work experience & exposure	1	1	2	3	3	3	4	4	Narrow experience & exposure
Confident with own ability	1	1	2	2	3	3	5	4	Self doubt
Smart, fast in response	1	1	2	2	3	5	5	5	Tend to be slower to pick up ideas
Constructive participation	1	1	2	2	3	5	5	5	Passive, no participation
Good language skills	1	1	2	2	3	4	4	5	Poor language skills
Creative, willing to explore options	1	1	2	3	3	4	4	5	Conservative, reluctant to try new approach
Willing to take on challenges	1	2	2	2	3	4	4	5	Find an easy way out
Financially stable	1	2	2	2	2	3	4	5	Financially unstable
Supportive family	1	1	2	2	2	3	3	5	No family support
Study with broad perspective	1	1	2	2	2	3	3	5	Simple, narrow perspective

E5 A student with below average marks
E7 A student with less self-confidence
E6 A lazy student
E2 A hard working student
E4 A student who doesn't give up easily
E8 A student who gives up easily
E1 A student with good marks
E3 A student with self-confidence

M11 – Principal Component Grid

PrinGrid M11
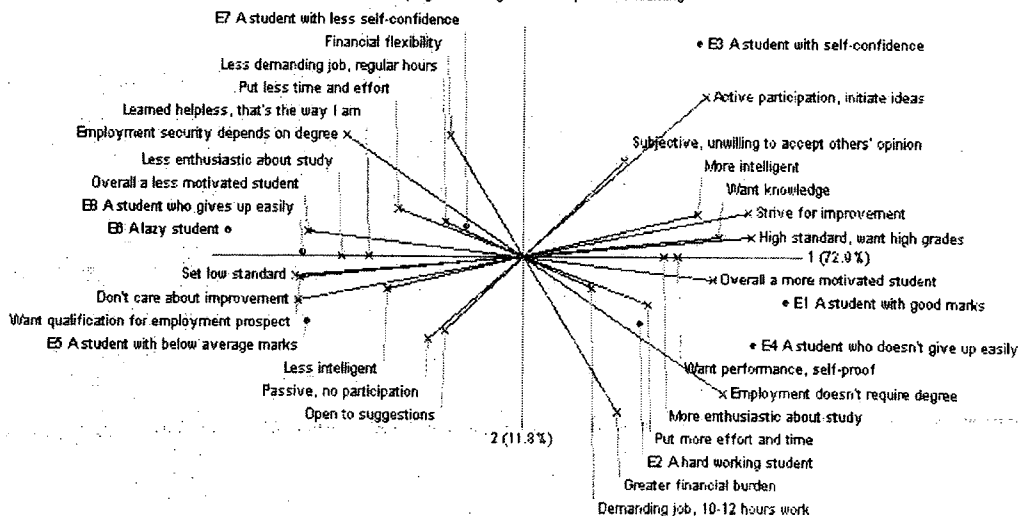"Identifying motivating factors in part-time learning"

E8 A student who gives up easily
Study with broad perspective
Rich work experience & exposure
Financially stable
Confident with own ability
Willing to take on challenges
Good language skills
Creative, willing to explore options
Smart, fast in response
Constructive participation
E3 A student with self-confidence

Minimum effort, plagiarise
Overall a less motivated student
E6 A lazy student
Want easy pass

Junior position

1: 86.8%
E1 A student with good marks

Passive, no participation
E5 A student with below average marks
No family support
Tend to be slower to pick up ideas
E7 A student with less self-confidence
Simple, narrow perspective
Conservative, reluctant to try new approach
Poor language skills
Self doubt
Narrow experience & exposure
Financially unstable
Find an easy way out

Supportive family
Senior at work
Overall a more motivated student
Want to learn
Willing to put effort
E4 A student who doesn't give up easily
E2 A hard working student

2: 7.4%

D1 – Display Grid

Study for job security and prospect	1	1	5	4	3	3	2	1	Study for self-actualisation, self-proof
Total commitment, serious	1	2	4	1	5	5	4	4	No commitment, no planning
Passion for continuous learning	1	2	3	1	5	5	4	5	Superficial learning, can't do without cues
Self-financed	2	2	3	3	3	5	5	1	Family financed
Quite happy with marginal pass	5	4	2	3	1	1	2	1	Aim for high marks
Complain a lot but take no action	4	4	5	5	1	1	1	2	Persistent to tackle problem
Less confident	5	4	4	1	2	1	2		More confident
Financial difficulty	3	3	5	5	4	3	3	1	Financial security
Juggle study with many domestic responsibilities	4	1	3	3	5	5	4	2	Less family obligations
Poor time management	5	4	4	1	4	2	1		Good time management
Poor English	5	4	4	1	4	2	1		Good English skills
Hard working	1	2	3	2	5	5	4	5	Less hard working
Smart, learn and respond fast	2	2	2	4	1	4	4		Slow, doesn't want to think
Overall a more motivated student	1	2	3	1	5	5	4	4	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self-confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self-confidence
E2 A hard working student
E1 A student with good marks

D1 – Focus Grid

Financial difficulty	3	3	5	5	3	4	3	1	Financial security
Study for job security and prospect	1	1	4	5	3	3	2	1	Study for self-actualisation, self-proof
Self-financed	2	2	3	3	5	3	5	1	Family financed
Juggle study with many domestic responsibilities	4	1	3	3	5	5	4	2	Less family obligations
Aim for high marks	1	2	3	4	5	5	4	5	Quite happy with marginal pass
Hard working	1	2	2	3	5	5	4	5	Less hard working
Passion for continuous learning	1	2	1	3	5	5	4	6	Superficial learning, can't do without cues
Overall a more motivated student	1	2	1	3	5	5	4	4	Overall a less motivated student
Total commitment, serious	1	2	1	4	5	5	4	4	No commitment, no planning
Persistent to tackle problem	2	2	1	1	5	5	5	4	Complain a lot but take no action
More confident	1	2	2	2	4	5	5	4	Less confident
Good time management	1	2	2	2	2	5	4	5	Poor time management
Good English skills	1	2	2	2	2	5	4	6	Poor English
Smart, learn and respond fast	2	2	2	2	1	4	4	4	Slow, doesn't want to think

100 90 80 70 60

E8 A student who gives up easily
E7 A student with less self-confidence
E5 A student with below average marks
E6 A lazy student
E3 A student with self-confidence
E4 A student who doesn't give up easily
E2 A hard working student
E1 A student with good marks

D1 – Principal Component Grid

PrinGrid D1
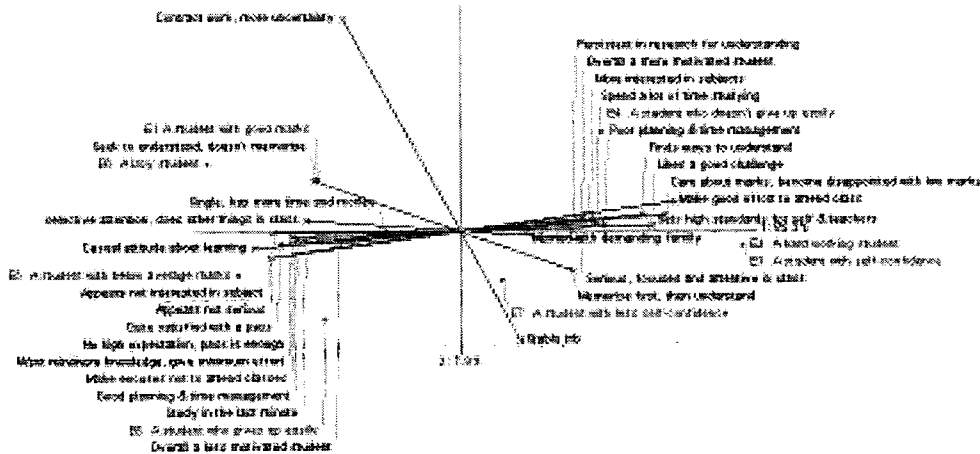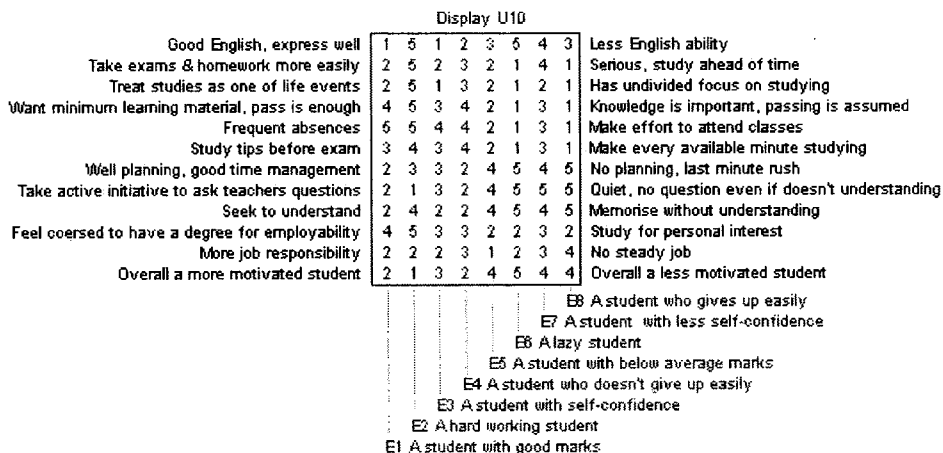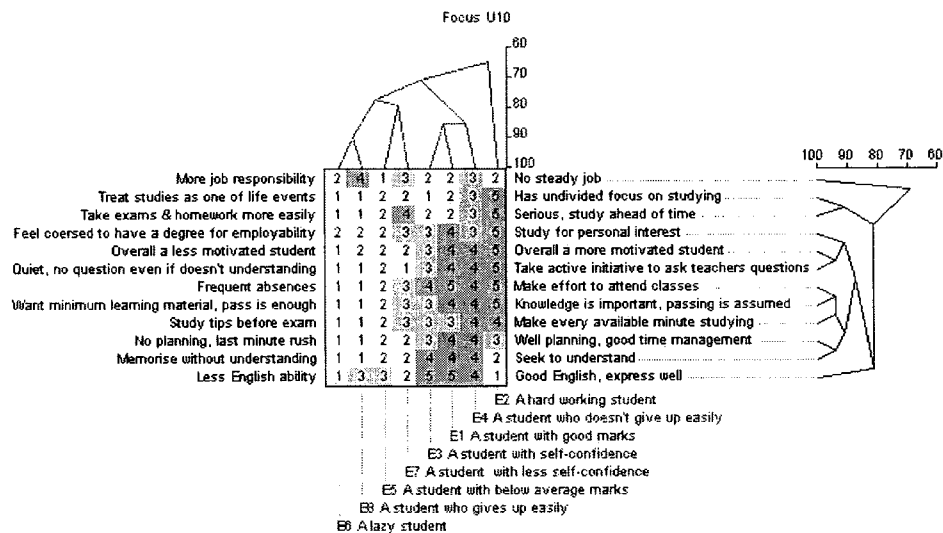"Identifying motivating factors in part-time learning"

Less family obligations
Family financed
Study for self-actualisation, self-proof
Quite happy with marginal pass
Financial security
E6 A lazy student ●
Smart, learn and respond fast
● E3 A student with self-confidence
Less hard working
No commitment, no planning
Good English skills
Less confident
Good time management
Overall a less motivated student
● E4 A student who doesn't give up easily
Superficial learning, can't do without cues
E5 A student with below average marks ●
Persistent to tackle problem
1: 64.7%
Complain a lot but take no action
Passion for continuous learning
E7 A student with less self-confidence
Hard working
● E1 A student with good marks
Poor time management
Aim for high marks
Poor English
Total commitment, serious
Slow, doesn't want to think
Overall a more motivated student
Financial difficulty
Self-financed
More confident
E2 A hard working student
Study for job security and prospect
Juggle study with many domestic responsibilities
E8 A student who gives up easily ●

2: 17.5%

D2 – Display Grid

	1	2	3	4	5	6	7	8	
Great financial burden	5	1	2	5	4	3	2	3	Wealthy family
Outspoken with solid content, articulated	4	1	3	3	5	2	4	4	Conforming, uncreative
Difficult and rough life experience	5	1	2	4	4	3	2	3	Simple life experience, smooth sailing
Witty, street smart	2	1	1	1	5	2	4	4	Slow in response
Stubborn	3	2	2	1	5	1	4	3	No opinion, no idea, don't care
Junior in employment, less responsibility	4	5	5	4	1	3	2	3	Senior in employment, more responsibility
Study for trend, no purpose, follow the crowd	5	5	5	4	1	4	1	2	Study for self-esteem, clear purpose
Complain a lot, eg. high fees, homework, no time	4	5	5	4	1	2	1	1	No complaint, willing to give time, effort
No focus, no planning	5	5	4	2	1	3	1	2	Focused, well planned
Insecured employment, contract terms	4	5	5	4	1	3	2	3	Secured employment
Overall a more motivated student	2	1	1	3	5	4	5	4	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self-confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self-confidence
E2 A hard working student
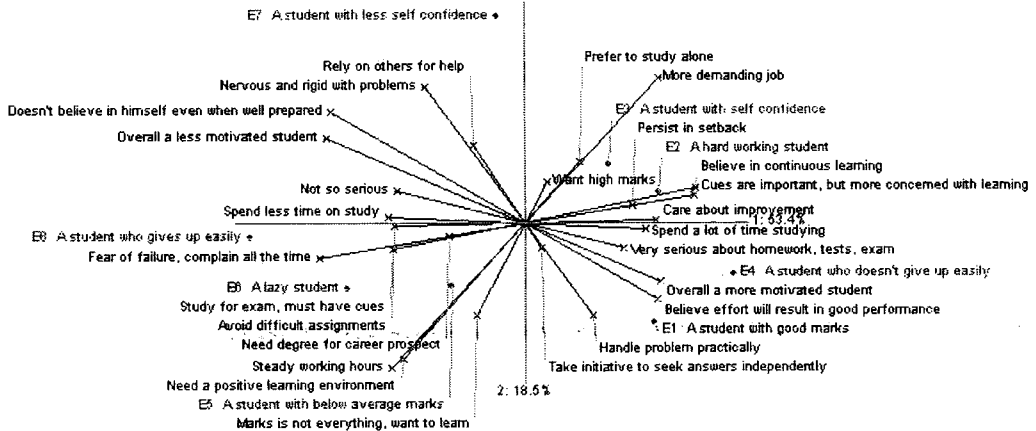E1 A student with good marks

D2 – Focus Grid

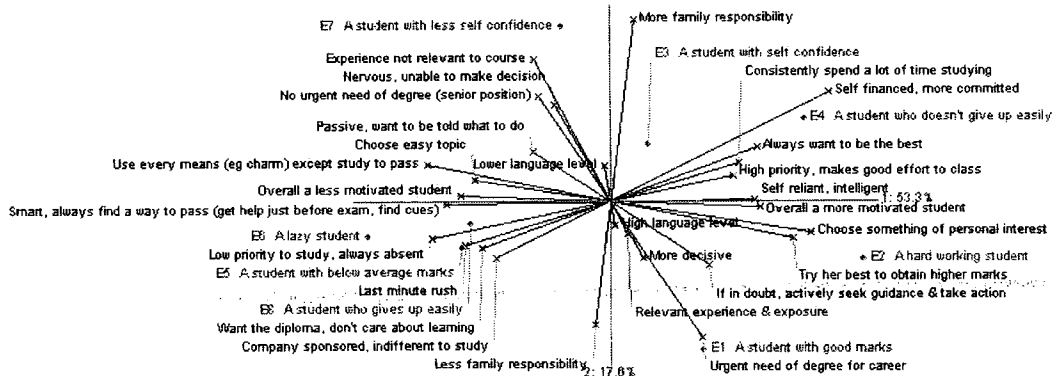|									
Great financial burden	1	2	5	5	3	3	2	4	Wealthy family
Difficult and rough life experience	1	2	5	4	3	3	2	4	Simple life experience, smooth sailing
Outspoken with solid content, articulated	1	3	4	3	2	4	4	5	Conforming, uncreative
Stubborn	2	2	3	1	1	3	4	5	No opinion, no idea, don't care
Secured employment	1	1	2	2	3	3	4	5	Insecured employment, contract terms
Senior in employment, more responsibility	1	1	2	2	3	3	4	5	Junior in employment, less responsibility
Witty, street smart	1	1	2	1	2	4	4	5	Slow in response
Study for self-esteem, clear purpose	1	1	1	2	2	4	5	5	Study for trend, no purpose, follow the crowd
No complaint, willing to give time, effort	1	1	2	2	4	5	5	5	Complain a lot, eg. high fees, homework, no time
Overall a more motivated student	1	1	2	3	4	4	5	5	Overall a less motivated student
Focused, well planned	1	2	1	4	3	4	5	5	No focus, no planning

E5 A student with below average marks
E7 A student with less self-confidence
E8 A student who gives up easily
E6 A lazy student
E4 A student who doesn't give up easily
E1 A student with good marks
E3 A student with self-confidence
E2 A hard working student

D2 – Principal Component Grid

PrinGrid D2
"Identifying motivating factors in part-time learning"

Wealthy family
Simple life experience, smooth sailing
E1 A student with good marks
E4 A student who doesn't give up easily
Witty, street smart
Study for self-esteem, clear purpose
Conforming, uncreative
Focused, well planned
Insecured employment, contract terms
Overall a more motivated student
E5 A student with below average marks
No complaint, willing to give time, effort
Junior in employment, less responsibility
Slow in response
Stubborn
1: 72.7%
E6 A lazy student
Senior in employment, more responsibility
E3 A student with self-confidence
Study for trend, no purpose, follow the crowd
Complain a lot, eg. high fees, homework, no time
Secured employment
E7 A student with less self-confidence
Overall a less motivated student
Outspoken with solid content, articulated
No focus, no planning
No opinion, no idea, don't care
E2 A hard working student
E8 A student who gives up easily
Difficult and rough life experience
Great financial burden
2: 15.7%

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D3 – Display Grid

Stronger academic background	1	4	1	3	5	3	5	5	Weaker academic background
Realistic , systemic approach to study	1	4	1	2	4	3	4	5	Intuitive approach to study, not pragmatic
Want a degree for decoration	5	4	5	4	2	1	3	1	Want to learn
Cannot meet deadlines	5	5	4	4	1	2	4	1	Good planning ahead of time
Smart	1	3	1	2	3	1	4	4	A bit slow
Intellectually has more depth	1	3	1	3	5	2	5	2	Intellectually shallow
Willing to take action to improve	1	1	2	1	2	3	2	5	Sit on ideas, big thinker
Take responsibility for own study	2	1	3	1	2	2	2	5	Blame others or things for underachievement
Professional status	2	3	2	3	3	1	3	4	Lower status employment
Financially stable	2	1	2	3	2	1	3	5	Financially unstable, reckless spending
Overall a more motivated student	1	1	2	2	5	5	4	5	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self-confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self-confidence
E2 A hard working student
E1 A student with good marks

D3 – Focus Grid

Intellectually has more depth	1	1	3	5	5	2	2	Intellectually shallow
Stronger academic background	1	1	3	4	5	3	5	Weaker academic background
Realistic , systemic approach to study	1	1	2	4	4	3	5	Intuitive approach to study, not pragmatic
Smart	1	1	3	4	3	1	4	A bit slow
Professional status	2	2	3	3	3	1	4	Lower status employment
Financially stable	2	2	3	1	3	2	5	Financially unstable, reckless spending
Take responsibility for own study	3	2	1	1	2	2	5	Blame others or things for underachievement
Willing to take action to improve	2	1	1	1	2	2	5	Sit on ideas, big thinker
Good planning ahead of time	2	1	2	1	5	4	5	Cannot meet deadlines
Overall a more motivated student	2	1	2	1	5	5	5	Overall a less motivated student
Want to learn	1	1	2	2	3	4	5	Want a degree for decoration

E8 A student who gives up easily
E6 A lazy student
E5 A student with below average marks
E7 A student with less self-confidence
E2 A hard working student
E4 A student who doesn't give up easily
E1 A student with good marks
E3 A student with self-confidence
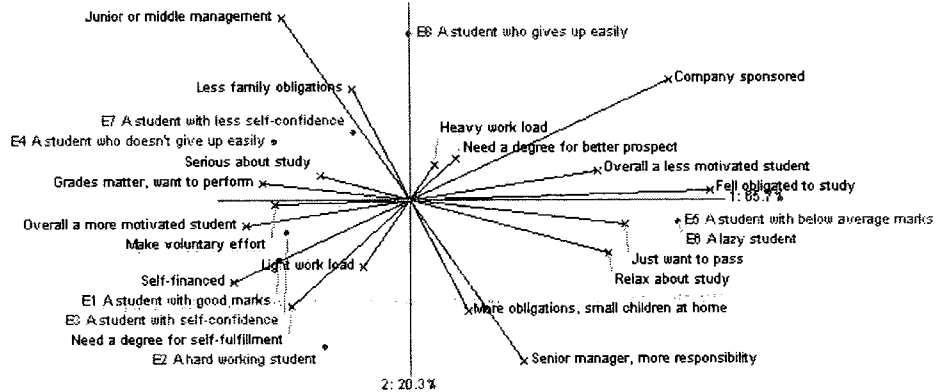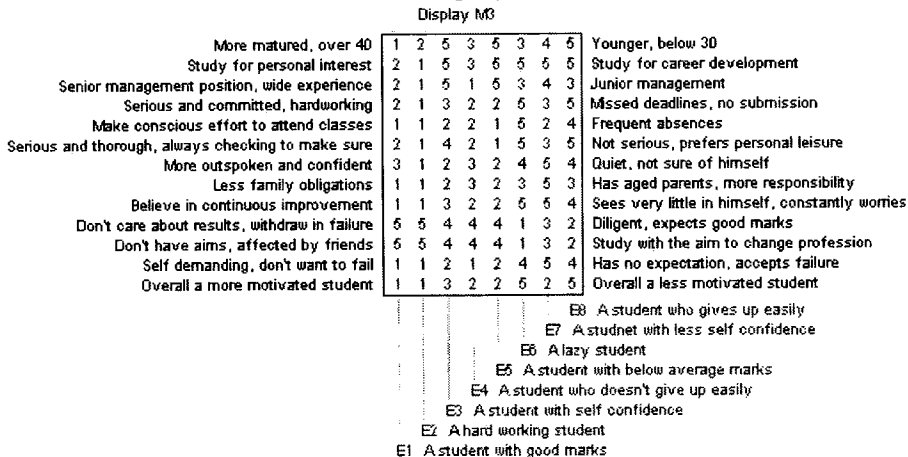
D3 – Principal Component Grid

PrinGrid D3
"Identifying motivating factors in part-time learning"

Lower status employment
Intellectually shallow x
E7 A student with less self-confidence
Weaker academic background
A bit slow x

Intuitive approach to study, not pragmatic x
E5 A student with below average marks

Take responsibility for own study
Willing to take action to improve
E2 A hard working student
E4 A student who doesn't give up easily
Good planning ahead of time
Want to learn
Overall a more motivated student

Financially stable

1: 60.5%

Professional status

Want a degree for decoration x
Overall a less motivated student
Cannot meet deadlines x

Smart
E1 A student with good marks
Realistic , systemic approach to study

E8 A student who gives up easily
E6 A lazy student

Stronger academic background
E3 A student with self-confidence

Sit on ideas, big thinker x
Blame others or things for underachievement
Financially unstable, reckless spending

2: 20.7%

Intellectually has more depth

D4 – Display Grid

Consistent effort	1	1	3	2	4	5	3	5	Inconsistent effort
Give up easily	5	5	3	5	2	1	3	1	Persistent in difficulty
Minimum effort for just a pass	5	5	3	5	2	2	3	1	Want more than just pass
Challenge own ability	1	1	3	1	4	4	5	5	Discouraged easily
Strong determination	1	1	1	1	4	4	5	5	No determination
Attribute failure ot own effort	2	2	3	2	3	4	5	5	Attribute failure to intelligence
No clear goals	5	5	3	5	2	1	3	1	Dedicated to goals
Lazy	4	5	3	5	2	1	3	1	Diligent
Need regular income	2	1	5	2	3	4	2	3	Financially independent
Need a degree for career development	1	1	4	1	3	3	3	4	Want a degree for decoration
Average intelligence	4	3	4	4	3	5	3	4	High intelligence

E8 A student who gives up easily
E7 A student with less self-confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self-confidence
E2 A hard working student
E1 A studnet with good marks

D4 – Focus Grid

100 90 80 70 60

Need regular income	1	2	2	2	3	4	3	Financially independent
Need a degree for career development	1	1	1	3	3	3	4	Want a degree for decoration
Diligent	1	2	1	3	3	5	5	Lazy
Want more than just pass	1	1	1	3	3	4	5	Minimum effort for just a pass
Dedicated to goals	1	1	1	3	3	4	5	No clear goals
Persistent in difficulty	1	1	1	3	3	5	5	Give up easily
Consistent effort	1	1	2	3	3	4	5	Inconsistent effort
Challenge own ability	1	1	1	3	5	4	5	Discouraged easily
Strong determination	1	1	1	5	4	4	5	No determination
Attribute failure ot own effort	2	2	2	5	3	4	5	Attribute failure to intelligence
Average intelligence	3	4	4	3	3	5	4	High intelligence

E8 A student who gives up easily
E6 A lazy student
E5 A student with below average marks
E7 A student with less self-confidence
E3 A student with self-confidence
E4 A student who doesn't give up easily
E1 A studnet with good marks
E2 A hard working student

D4 – Principal Component Grid

PrinGrid Ray Stone
"Identifying motivating factors in part-time learning"

D5 – Display Grid

Good comprehensive ability	1	4	1	3	4	1	5	3	Learn by memorising
Pragmatic selective reading	2	5	1	4	4	1	4	2	Study everything, play safe
Good ability to apply and generalise	1	4	1	3	3	2	4	2	Unable to apply knowledge
Quiet, introvert	2	4	5	3	3	2	1	4	Outspoken, active in many areas
Persistent, steady, clear goal	2	1	3	1	3	4	4	4	Don't know what they want
Strong need for recognition	2	1	1	1	4	4	3	3	Low need for recognition
Firm belief in themselves	3	3	1	4	1	3	4	3	Low self esteem, always need assurance, follower
Study for career, job, family & others	3	2	5	5	4	3	2	4	Study for self fulfillment
Special personal issues, eg health	3	3	5	4	2	4	3	1	No particular personal issues
Attribute poor performance to external factors	3	2	2	3	2	3	1	1	Attribute failure to own self
Driven by fear of failure, loss of face	4	1	2	2	1	5	3	5	Driven by self fulfillment
Want continuous improvement	2	1	1	1	4	2	3	4	Don't care about improving, pass is enough
Strive to meet personal expectation	1	4	1	1	4	2	3	3	Study for the sake of meeting others' expectations
Overall a more motivated student	3	1	1	1	5	3	4	5	Overall a less motivated student

E8 A student who gives up easily
E7 A student with less self confidence
E6 A lazy student
E5 A student with below average marks
E4 A student who doesn't give up easily
E3 A student with self confidence
E2 A hard working student
E1 A student with good marks

D5 – Focus Grid

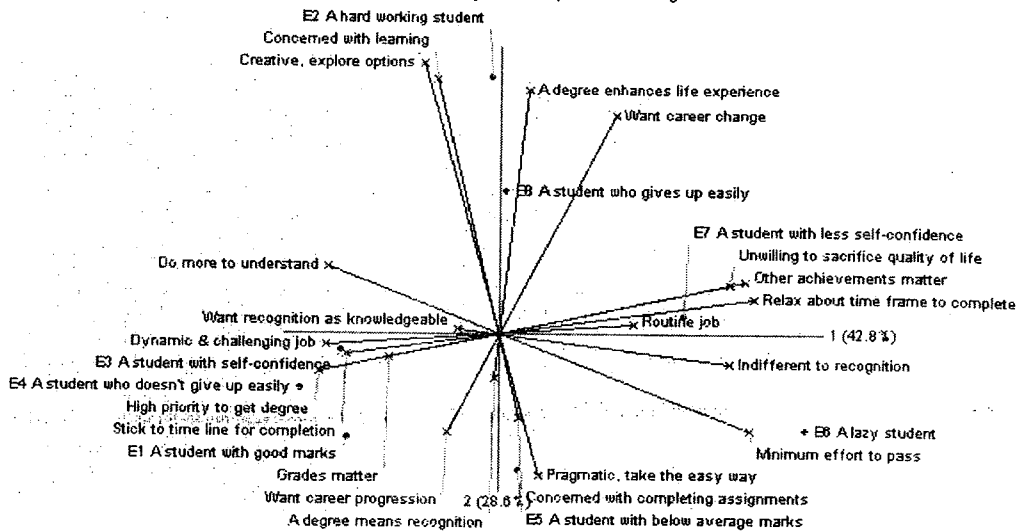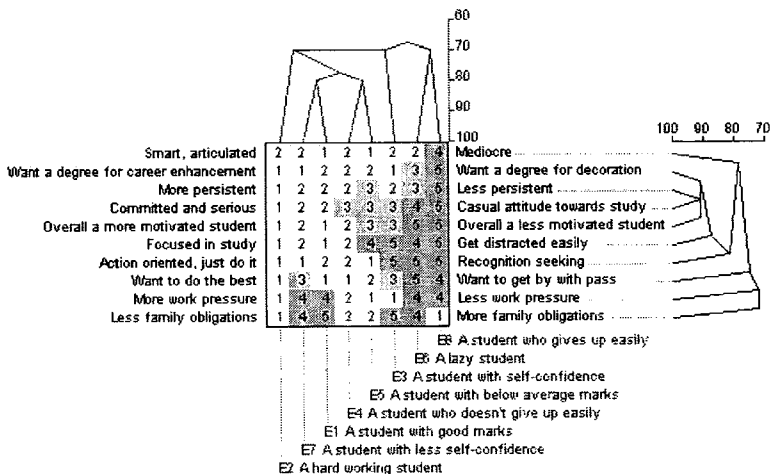| Driven by self fulfillment	5	4	4	2	1	1	5	3	Driven by fear of failure, loss of face
Pragmatic selective reading	5	4	1	2	1	2	4	4	Study everything, play safe
Good comprehensive ability	4	3	1	1	1	3	4	5	Learn by memorising
Good ability to apply and generalise	4	3	1	1	2	2	3	4	Unable to apply knowledge
Strive to meet personal expectation	4	1	1	1	2	3	4	3	Study for the sake of meeting others' expectations
No particular personal issues	3	2	1	3	2	4	5	3	Special personal issues, eg health
Want continuous improvement	1	1	1	2	2	4	4	3	Don't care about improving, pass is enough
Strong need for recognition	1	1	1	2	4	4	3	3	Low need for recognition
Persistent, steady, clear goal	1	1	3	2	4	4	3	4	Don't know what they want
Overall a more motivated student	1	1	1	3	3	5	4	3	Overall a less motivated student
Attribute failure to own self	2	1	3	3	3	4	5	5	Attribute poor performance to external factors
Low self esteem, always need assurance, follower	3	2	5	3	3	1	5	2	Firm belief in themselves
Study for career, job, family & others	2	5	5	3	3	4	4	2	Study for self fulfillment
Quiet, introvert	4	3	5	2	2	4	3	1	Outspoken, active in many areas

E7 A student with less self confidence
E5 A student with below average marks
E8 A student who gives up easily
E6 A lazy student
E1 A student with good marks
E3 A student with self confidence
E4 A student who doesn't give up easily
E2 A hard working student

D5 – Principal Component Grid

PrinGrid D5

- E2 A hard working student
- Study everything, play safe
- Unable to apply knowledge
- Learn by memorising
- Driven by fear of failure, loss of face
- Outspoken, active in many areas
- Persistent, steady, clear goal
- E4 A student who doesn't give up easily
- Study for career, job, family & others
- Study for the sake of meeting others' expectations
- Overall a more motivated student
- E5 A student with below average marks
- E7 A student with less self confidence
- Strong need for recognition
- Want continuous improvement
- Low self esteem, always need assurance, follower
- No particular personal issues
- Attribute poor performance to external factors
- Attribute failure to own self
- Special personal issues, eg health
- 1: 38.4%
- Quiet, introvert
- Study for self fulfillment
- E3 A student with self confidence
- Don't care about improving, pass is enough
- Strive to meet personal expectation
- Overall a less motivated student
- E1 A student with good marks
- Low need for recognition
- Good comprehensive ability
- E8 A student who gives up easily
- Good ability to apply and generalise
- Don't know what they want
- Pragmatic selective reading
- Driven by self fulfillment
- E6 A lazy student
- 2: 32.6%
- Firm belief in themselves

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Appendix 2
Details of Master Construct

Master Construct	Sum, %	Interviewee /order in grid	Construct Definition	% Similarity score	H-I-L Index
Employment-related goals	23, 7.5%	U2, 5	*Want a degree for trend* *- Want a degree for career prospect*	93.75	H
		U3, 2	*Study for professional qualification* *- Want the degree as well as knowledge*	87.5	H
		U1, 5	*Study for career prospect* *- No idea, don't want to be left out, follow the crowd*	81.25	H
		U10, 10	*Feel coerced to have a degree for employability* *- Study for personal interest*	81.25	H
		U7, 10	*Employment doesn't require degree* *- Employment security depends on degree*	75	H
		U6, 4	*Want to learn for self improvement* *- Want qualification for employment security*	68.75	H
		D4, 10	Need a degree for career development - Want a degree for decoration	81.25	I
		U7, 9	*Want knowledge* *- Want qualification for employment prospect*	62.5	I
		M5, 7	*Study for interest* *- Study for career prospect*	62.50	I
		U5, 9	*Study for practical application at work* *- Study for trend*	56.25	I
		M9, 6	Want a degree for career enhancement - Want a degree for decoration	56.25	I
		M10, 6	*Want knowledge, degree not the only option* *- Need a degree for employment security*	50	I
		D5, 8	*Study for self fulfilment* *- Study for career, job, family and others*	43.75	I
		M3, 2	Study for personal interest - Study for career development	37.5	L
		M7, 3	Need degree for career prospect - Need degree for the sake of qualification	56.25	L
		M1, 1	Urgent need of degree for career - No urgent need of degree (senior position)	50	L
		U8, 6	*Need a degree to be more competitive* *- Enrol for social reasons, too much time*	37.5	L
		M7, 11	*Management level, no urgent need for degree* *- Entry-level job, have more urgent need for degree*	37.5	L

		U11, 5	Need degree for career prospect - Believe in continuous learning	31.25	L
		M2, 1	*Need a degree for self-fulfilment* *- Need a degree for better prospect*	31.25	L
		M10, 7	Career dissatisfaction, want advancement - Satisfied with current career	31.25	L
		M8, 6	Want career progression - Want career change	25	L
		D1, 1	Study for job security & prospect - Study for self-actualisation, self-proof	6.25	L
			Average % similarity score	***54.08***	

Other goals	7, 2.3%	D2, 7	*Study for self-esteem* *- Study for trend*	75	H
		D3, 3	*Want to learn* *- Want a degree for decoration*	75	H
		M1, 13	*Always want to be the best* *- Want the diploma, don't care about learning*	68.75	I
		D5, 11	Driven by fear of failure, loss of face - Driven by self fulfilment	37.5	I
		D5, 13	Strive to meet personal expectation - Study for the sake of meeting others' expectation	37.5	I
		M8, 9	Want social acceptance as knowledgeable - Indifferent to recognition	31.25	I
		M8, 8	*A degree enhances life experience* *- A degree means recognition*	18.75	L
			Average % similarity score	***49.11***	

Goal Clarity	6, 2%	M6, 11	*Clear goals, want knowledge* *- No goals, don't know what they ware*	87.5	H
		D4, 7	*Dedicated to goals* *- No clear goals*	87.5	H
		M3, 11	*Don't have aims, affected by friends* *- Study with the aim to change profession*	81.25	H
		D5, 5	Persistent, steady, clear goal - Don't know what they want	56.25	H
		M7, 10	Have clear goals about why they study - Not sure what she wants	62.5	I
		U8, 7	*More ambitious, has other goal for future* *- Satisfied with present, no future planning*	56.25	I
			Average % similarity score	***71.88***	

Expectation & Value	29, 9.5%	U6, 5	*Want good grade* *- Happy with pass grade*	87.5	H

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		U10, 4	Knowledge is important, passing is assumed - Want minimum learning material, pass is enough	87.5	H
		M11, 3	Want to learn - Want easy pass	87.5	H
		U3, 3	Want high marks - Satisfied with pass marks	81.25	H
		U7, 4	Strive for improvement - Don't care about improvement	81.25	H
		U8, 1	Persistent, want good results - Low expectation, just want to pass	81.25	H
		M2, 5	Just want to pass - Grades matter, want to perform	75	H
		M9, 2	Want to do the best - Want to get by with pass	75	H
		M5, 1	Marks mean a lot - Not so concerned with marks	68.75	H
		M5, 6	Would like to have higher marks - Satisfied with a pass grade	68.75	H
		D5, 12	Want continuous improvement - Don't care about improving, pass it enough	68.75	H
		D5, 6	Strong need for recognition - Low need for recognition	62.5	H
		D4, 3	Expect more than just pass - Minimum effort for minimum pass	81.25	I
		D1, 5	Aim for high marks - Quite happy with marginal pass	75	I
		U7, 3	High standard, want high grades - Set low standard	68.75	I
		U9, 8	Sets high standards for self & teachers - No high expectation, pass is enough	68.75	I
		U9, 9	Likes a good challenge - Want mini. Knowledge, give mini. effort.	68.75	I
		M6, 6	Has high need for achievement - Not interested in doing better	68.75	I
		M4, 5	Doesn't believe in free lunches - Expect OK results with minimum effort, risk taking	62.5	I
		M5, 11	Want to learn something useful - Want the degree, learning irrelevant	56.25	L
		M7, 6	Aim for higher marks - Ami for just pass	62.5	I
		M3, 12	Self demanding, don't want to fail - Has no expectation, accepts failure	56.25	I
		M8, 10	Getting good grades most important - Other things in life also matter	37.5	I

		U9, 11	Care about marks, become disappointed if low marks - Quite satisfied with a pass	56.25	L
		M6, 5	*Would like good results* *- Passing is all that matters, hope for luck*	56.25	L
		U3, 1	Want to perform better than others - Set high personal standard, doesn't compare	31.25	L
		U11, 8	Want high marks - Marks is not everything, want to learn	31.25	L
		U1, 3	*Knowledge is as important as high marks* *- High marks mean superiority, are* *important*	25	L
		U4, 5	Want a pass - Want to succeed with good grades	18.75	L
			Average % similarity score	***63.79***	

Cognitive ability	21, 6.9%	M1, 12	*Self reliant, intelligent* *- Smart, always find a way to pass*	93.75	H
		U2, 7	Good common sense - No logical thinking	81.25	H
		M7, 2	Learn best from applications of theory - Slow to put theory into practice	68.75	H
		U7, 11	Smart and bright, quick to grasp learning *- Not very bright*	68.75	I
		M11, 8	Smart, fast in response - Tend to be slower to pick up ideas	68.75	I
		D2, 4	Witty, street smart - Slow in response	68.75	I
		U1, 8	Smart, can consolidate info effectively - Comfortable with spoon feeding	62.5	I
		M7, 1	Sharp and quick to response - Need to think before responding	62.5	I
		U6, 2	More intelligent - Less intelligent	56.25	I
		U4, 1	Sharp, good comprehension - Not so smart	50	I
		M9, 9	Smart, articulated - Mediocre	50	I
		U5, 2	Can apply learning to everyday life - Rote learning, unable to apply	56.25	I
		M5, 3	Smarter, has better foundation - Less smart, has weak foundation	56.25	L
		U5, 1	Good comprehensive ability - Less comprehensive ability	50	L
		D1, 13	Smart, learn and respond fast - Slow, doesn't want to think	50	L
		D4, 11	Average intelligence - High intelligence	43.75	L
		D3, 5	Smart - A bit slow	37.5	L

		M4, 10	Bright, fast learner - Not bright, slow learner	37.5	L
		D3, 6	Intellectually has more depth - Intellectually shallow	31.25	L
		D5, 1	Good comprehensive ability - Learn by memorising	18.75	L
		D5, 3	Good ability to apply and generalise - Unable to apply knowledge	18.75	L
			Average % similarity score	*53.87*	

Language Skills	7, 2.3%	U4, 7	*Good language skills* *- Poor language skills*	75	H
		D1, 11	*Good English skills* *- Poor English*	62.5	I
		M11, 2	Good language skills - Poor language skills	68.75	I
		M10, 1	*Higher language skills* *- Inadequate language skills*	56.25	I
		U10, 1	Good English, express well - Less English ability	43.75	L
		M1, 3	*Lower language level* *- High language level*	43.75	L
		U8, 13	Better English language ability - Weak in English language	37.5	L
			Average % similarity score	*55.36*	

Study skills	8, 2.6%	M5, 9	More effective study strategies - No strategies, don't know how, don't' care	75	H
		U2, 8	Better study skills - Poor study skills	68.75	I
		M6, 2	*More effective study strategies, good comprehension* *- Less experienced study strategies*	62.5	I
		U11, 6	Handle problem practically - Nervous and rigid with problems	50	I
		D3, 1	Stronger academic background - Weaker academic background	50	I
		U1,1	Open to other views, willing to share *- Subjective, won't accept other views*	31.25	L
		U5, 7	Matured, pragmatic and stable - Over-nervous	43.75	L
		U7, 2	*Subjective, unwilling to accept others' opinion* *- Open to suggestions*	31.25	L
			Average % similarity score	*51.56*	

Work-life Experience	13, 4.3%	M6, 12	*Has wide exposure from diverse work experience* *- Limited work exposure, no decision making*	87.5	H
		U8, 4	Mature, wider work experience - Younger, narrow work experience	62.5	H
		M11, 7	Diverse work experience & exposure - Limited experience and exposure	75	I
		M7, 9	More extensive work & life exposure - Limited exposure	62.5	I
		U1, 9	Rich working experience, can think widely - Limited work experience, narrow views	50	L
		M5, 4	Has wider exposure, more senior in employment - Has limited exposure, junior level in employment	50	L
		U2, 1	*Simple life experience* *- Diverse and rich life experience*	43.75	L
		M10, 2	*Extensive work experience* *- Less work experience*	37.5	L
		U6, 1	Extensive experience and exposure - Limited experience and exposure	31.25	L
		M3, 1	More mature, over 40 - Younger, below 30	31.25	L
		D2, 3	Diverse life experience, not a smooth life - Simple life experience, smooth sailing	31.25	L
		M1, 7	Relevant experience & exposure - Experience not relevant to course	25	L
		M3, 3	Senior management position, wide experience - Junior management	18.75	L
			Average % similarity score	***46.63***	

Self-Concept	11, 3.6%	U8, 5	*Confident about own ability, always take on more work in group work* *- Don't trust own ability, rely on others to do work*	62.5	H
		M3, 9	Believe in continuous improvement - Sees very little in himself constantly worries	75	I
		D1, 7	*More confident* *- Less confident*	75	I
		M11, 5	Confident with own ability - Self doubt	68.75	I
		U11, 7	Believe effort will result in good performance - Doesn't believe in himself even when well prepared	62.5	I
		M3, 7	More outspoken and confident - Quiet, not sure of himself	43.75	I

		D5, 7	Firm belief in themselves - Low self esteem, always need assurance, follower	31.25	L
		U2, 2	*Less confident in problem solving* *- More confident in problem solving*	62.5	L
		M4, 4	Stubborn and persistent - Vulnerable to criticism and challenges	43.75	L
		U5, 6	A can-do approach to problems - Pessimistic	31.25	L
		M1, 8	More decisive - Nervous, unable to make decision	25	L
			Average % similarity score	*52.84*	

Attitude	13, 4.3%	U5, 5	Serious and focused - Not serious, cannot focus	93.97	H
		U7, 12	More enthusiastic about study *- Less enthusiastic about study*	81.25	H
		M9, 5	Committed and serious - Casual attitude toward study	81.25	H
		U6, 9	Serious, well prepared *- Slack, happy go lucky*	75	H
		M4, 2	Have clear goal about study, very serious *- Low priority to study, not serious*	75	H
		U11, 2	Very serious about homework, tests, exam - Not so serious	68.75	H
		U11, 10	Care about improvement - Avoid difficult assignments	68.75	H
		M2, 2	Relax about study - Serious about study	56.25	I
		D2, 5	Stubborn - No opinion, no idea, don't care	37.5	L
		U10, 3	Has undivided focus on studying *- Treat studies as one of life events*	62.5	L
		U9, 5	*Finds ways to understand* *- Casual attitude about learning*	56.25	L
		U10, 2	Serious, study ahead of time *- Take exams & homework more easily*	56.25	L
		M8, 1	Concerned with learning *- Concerned w/ completing coursework on time*	25	L
			Average % similarity score	*64.40*	

| **Commitment & Effort** | 38, 12.5% | D1, 2 | Total commitment, serious
- No commitment, no planning | 93.75 | H |
| | | U1, 7 | Strong commitment, spend lots of time studying
- No consistent commitment, motivation declines quickly | 87.5 | H |

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		U3, 9	Willing to make effort to approach problems - Wait for others to solve the problem	87.5	H
		U4, 6	More concerned about learning knowledge - *Study for exam, last minute rush*	87.5	H
		U5, 11	Willing to take responsibility in group work - Unwilling to take responsibility in group work	87.5	H
		M3, 4	Serious & committed, hardworking - Missed deadlines, no submission	87.5	H
		M6, 7	Committed, spend lots of time studying - No preparation	87.5	H
		D1, 12	Hard working - Less hard working	87.5	H
		U9, 2	Spend a lot of time studying - Study in the last minutes	81.25	H
		M1, 10	Consistently spend a lot of time studying - *Last minute rush*	81.25	H
		M6, 9	Make every effort to do their best - Want satisfactory results without giving effort	81.25	H
		M11, 4	Willing to put effort - *Minimum effort, plagiarise*	81.25	H
		U6, 6	Willing to put effort - *Unwilling to put effort, leisure comes first*	75	H
		U11, 1	Spend a lot of time studying - Spend less time on study	75	H
		M7, 4	Willing to make effort on studies - No effort at all	75	H
		M9, 1	Focused in study - Get distracted easily	75	H
		M9, 8	More persistent - Less persistent	75	H
		M2, 3	Make voluntary effort - *Feel obligated to study*	68.75	H
		M4, 1	Hard working - Lazy, leisure first	68.75	H
		M7, 5	Committed, devote a lot of personal time - No commitment, leisure before study	68.75	H
		M8, 3	Do more to understand - *Minimum effort to pass*	68.75	H
		U8, 8	Serious, compensate inability with hard work - *Quite lazy, sluggish, give as little as possible*	62.5	H
		M8, 5	High priority to get degree - Unwilling to sacrifice quality of life	62.5	H
		M10, 5	Want an easy way to get a degree - Put more effort to study	62.5	H

		U3, 10	Willing to assume responsibility for study - Tend to make excuses to avoid responsibility	81.25	M
		U5, 4	Make effort to study despite busy schedule - Unwilling to put effort	81.25	I
		D4, 1	Consistent good results with - Inconsistent effort	81.25	I
		D4, 8	Diligent - *Lazy*	81.25	I
		M3, 6	Serious & thorough, always checking to make sure - Not serious, prefers personal leisure	75	I
		U7, 8	Put more effort and time - Put less time and effort	68.75	I
		M1, 11	Choose something of personal interest - *Choose less demanding topic*	68.75	I
		M6, 13	Take initiative for challenging assignments - *Look for easy topic and easy pass*	68.75	I
		M1, 6	Try her best to obtain higher marks - *Use every means except study to pass*	62.5	I
		M4, 3	Determined to achieve degree - *Lay back, slack*	62.5	I
		U4, 9	Serious attitude, well prepared - Not serious, lazy	50	I
		U9, 6	Persistent in research for understanding - Appears not serious	62.5	L
		D4, 5	Strong determination - No determination	56.25	L
		M5, 2	Spend every available minute on study - Balances personal and study time	50	L
			Average % similarity score	*74.18*	

Attendance	6, 2%	M1, 5	High priority, makes good effort to class - *Low priority to study, always absent*	81.25	H
		M3, 5	Make conscious effort to attend classes - Frequent absences	81.25	H
		M5, 5	Make every effort to attend classes despite heavy workload - *Absent all the time*	68.75	H
		U10, 5	Make effort to attend classes - *Frequent absences*	75	I
		U3, 5	Make every effort to attend class - Make excuses for not attending class	68.75	I
		U9, 4	Make good effort to attend class - *Make excuses not to attend classes*	62.5	L
			Average % similarity score	*72.90*	

Planning	8, 2.6%	U2, 6	Better time management - Poor time management	81.25	H
		U9, 13	Poor planning & time management - Good planning & time management	81.25	H
		U10, 7	Well planning, good time management - No planning, last minute rush	81.25	H
		D3, 4	Good planning ahead of time - *Cannot meet deadlines*	81.25	H
		D2, 9	Study without purpose, no focus - Focused strategically	75	H
		M8, 7	Stick to time line for completion - relax about time frame to complete	62.5	H
		U1, 4	*Planning well ahead* *- No planning, review notes just before exam*	68.75	I
		D1, 10	Good time management - *Poor time management*	62.5	I
			Average % similarity score	*74.22*	

Learning approach	23, 7.5%	M11, 11	Study with broad perspective - Simple, narrow perspective	93.75	H
		D1, 3	Passion for continuous learning - Superficial learning, cannot do without tips	93.75	H
		U3, 12	Seek to understand, ask many questions - Don't care about understanding, no questions	87.5	H
		U5, 3	Care about what is learned - Don't care about learning, just want to pass	87.5	H
		M11, 13	Willing to take on challenges - Find an easy way out	87.5	H
		U2, 3	Conservative, study the safe way *- open minded, take risk in studying*	81.25	H
		M6, 8	Actively search for answers, the truth - Passive, want to be told just the superficial	81.25	H
		U9, 3	Memorise first, then understand - Seek to understand, doesn't memorise	75	H
		U8, 2	Want knowledge, wide reading - Want certificate, study notes only	68.75	H
		M7, 13	Like challenging assignments - Avoid homework until last minute	68.75	H
		U3, 4	In-depth learning *- Study just enough to get by*	75	I
		U3, 7	Effective study skills *- Memorising without understanding*	75	I
		U10, 6	Make every available minute studying *- Study tips before exam*	75	I

		U1, 6	Understanding is important - *Don't care if no understanding, passing is enough*	68.75	I
		U10, 9	Seek to understand - Memorise without understanding	68.75	I
		M11, 1	Creative, willing to explore options - Conservative, reluctant to try new approaches	68.75	I
		D3, 2	Realistic, systemic approach to study - Intuitive approach to study, not pragmatic	56.25	I
		U11, 3	Cues are important, but more concerned with learning - *Study for exam, must have tips*	43.75	I
		M6, 1	Emphasis on the learning process - Pragmatic, focus on result-oriented activities	56.25	L
		M4, 9	Deep learning, passion for learning - *Superficial learning, exam oriented*	43.75	L
		M8, 2	Creative, explore options - *Pragmatic, take the easy way*	18.75	L
		U8, 9	Understanding is important - Doesn't bother him if no understanding	25	L
		D5, 2	Pragmatic selective reading - Study everything, play safe	12.5	L
			Average % similarity score	***65.77***	

In-class Behaviour	10, 3.3%	U3, 8	Active participation - Quiet, passive, no ideas	87.5	H
		U10, 8	Take active initiative to ask teachers questions - Quiet, no question even if doesn't understanding	87.5	H
		M7, 7	Active in sharing and participation - Silent and withdrawn	81.25	H
		U9, 1	Serious, focused & attentive in class - Selective attention, does other things in class	75	H
		M11, 6	Constructive participation - Passive, no participation	75	I
		U3, 6	Attentive in class - Daydream and sleep in class	68.75	I
		U1, 2	Like to ask questions, even challenge the teacher - Self reliant, doesn't ask teacher all the time	56.25	I
		U7, 1	Active participation, initiate ideas - Passive, no participation	50	L
		U6, 3	Active, constructive, inspiring ideas - Quiet and passive	43.75	L

		D5, 4	Outspoken, active in many areas - *Quiet, introvert*	31.25	L
			Average % similarity score	***65.63***	

Initiative & **Independence**	7, 2.3%	U5, 10	Actively seek help to solve problems - Passive, no initiative	87.25	H
		M7, 8	Take personal responsibility to prepare & study - No personal responsibility, rely on others for help	75	H
		U4, 10	Take personal responsibility - Rely on others for group work, free rider	50	I
		U8, 3	Independent, manage time well - Rely on others & deadlines, passive	56.25	I
		M1, 9	Actively seek guidance & take action when in doubt - Passive, want to be told what to do	62.5	I
		U11, 4	Take initiative to seek answers independently - *Rely on others to help*	31.25	L
		U11, 11	Prefer to study alone - Need a positive learning environment	18.75	L
			Average % similarity score	***54.46***	

Response to **Setback**	15, 4.9%	D4, 2	Persistent in difficulty - *Give up easily*	87.5	H
		D2, 8	No complaint - *complain a lot*	87.5	H
		U1, 12	*Evaluate failure. Forward looking* - *Accept failure, don't move forward*	87.5	H
		U7, 5	Want performances, self-proof - *Sloppy attitude, accept failure*	81.25	H
		M3, 10	Diligent, expects good marks - *Don't care about results, withdraw in* *failure*	81.25	H
		U1, 11	*Proactive & positive in dealing with failure* - *Accept failure, don't move forward*	87.5	H
		U11, 9	Persist in setback - Fear of failure, complain all the time	68.75	H
		M4, 6	Accept responsibility, make no excuses - *make excuses for not making effort*	68.75	H
		D1, 6	Persistent to tackle problem - *Complain a lot but take no action*	75	I
		D3, 7	Willing to take action to improve - Sit on ideas, big thinker	50	I
		D5, 10	Attribute failure to own self - *Attribute poor performance to external* *factors*	37.5	

		D4, 4	Challenge own ability - Get discourage easily	68.75	L
		D4, 6	Attribute failure of own effort -Takes failure personally, attribute to intelligence and inability	56.25	L
		M6, 4	Self evaluate in the face of failure - *Find excuses to rationalise underperformance*	43.75	L
		D3, 8	Take responsibility for own study - Blame others or things for underachievement	31.25	L
			Average % similarity score	***67.50***	

Employment factor	21, 6.6%	U2, 4	Less demanding job - *More demanding job*	81.25	H
		U4, 2	More job responsibility, more senior - Less job responsibility	75	H
		D2, 6	Senior in employment, more responsibility - *Junior in employment, less responsibility*	75	H
		D2, 10	*Secured employment* - *Insecure employment*	75	H
		U6, 10	Demanding job, irregular hours, frequent OT - Less demanding job	68.75	H
		M11, 12	Senior at work - Junior position	68.75	I
		M4, 8	*Senior at work* - *Middle or junior level at work*	56.25	I
		M8, 4	*Dynamic and challenging job* - *Routine job*	50	I
		M10, 4	At early career stage - Has reached a career plateau	50	I
		U4, 8	More available time, considerate boss - less available time, family and work pressure	43.75	I
		U7, 7	Demanding job, 10-12 hours work - Less demanding job, regular hours	50	L
		U4, 3	Concerned about job prospect - Satisfied with present, job prospect not an issue	37.5	L
		U6, 11	*Secured employment* - *Less secured employment*	37.5	L
		U10, 11	More job responsibility - No steady job	37.5	L
		M2, 6	Junior or middle management - Senior manager, more responsibility	37.5	L
		M2, 7	*Light work load* - *Heavy work load*	37.5	L
		U9, 10	Stable job - Contract work, more uncertainty	31.25	L

		M9, 3	*More work pressure* *- Less work pressure*	31.25	L
		U8, 12	*Lots of ups and downs in employment* *- Stable employment, regular working hours*	25	L
		D3, 9	Professional status - Lower status employment	25	L
		U11, 12	More demanding job - Steady working hours	18.75	L
			Average % similarity score	***48.21***	

Family factor	19, 6.2%	U1, 10	*Supportive family* *- Many family obligations*	81.25	H
		D5, 9	*No Particular personal issue* *- Special personal issues, e.g. health*	62.5	H
		U2, 11	*Less available time for study* *- More available time for study*	68.75	I
		U5, 8	*Demanding work and family* *- Less demanding work and family*	56.25	I
		U6, 7	*More family obligations, mortgage, $, time* *- Less family obligations, single*	56.25	I
		U9, 12	*Married with demanding family* *- Single, has more time and money*	68.75	I
		M11, 10	Supportive family - No family support	68.75	I
		U2, 9	*More family obligations* *- Less family obligations*	62.5	L
		U3, 11	Living with parents, less family obligations - Married with children, a lot of family responsibility	43.75	L
		U4, 4	Need to look after family - Single, no domestic obligations	31.25	L
		U8, 10	*Preoccupied with new baby* *- Single, has plenty of time*	31.25	L
		M1, 2	*More family responsibility* *- Less family responsibility*	31.25	L
		M2, 8	*Less family obligations* *- More family obligations*	31.25	L
		M3, 8	Less family obligations - Has aged parents, more responsibility	43.75	I
		M4, 7	Less family and financial obligations - More family & financial obligations	6.25	L
		M6, 3	More domestic burden - Single, no attachment	37.5	L
		M9, 4	More family obligations - Less family obligations	37.5	L
		M10, 3	*Married with family obligations* *- Young and single*	31.25	L

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		D1, 9	A lot of domestic responsibilities - Less family obligations	50	L
			Average % similarity score	*47.37*	

Financial factor	13, 4.3%	M5, 8	Less financial burden (supportive spouse) - *More financial burden*	68.75	H
		U2, 10	Financially unstable - *Financially stable*	75	I
		U8, 11	*Was unemployed for 1 year, quite difficult* - *No financial difficulty*	43.75	I
		M1, 4	Self financed, more committed - *Company sponsored, indifferent to study*	56.25	I
		M2, 4	Company sponsored - Self-financed	62.5	I
		M11, 9	Financially stable - Financially unstable	68.75	I
		U7, 6	Greater financial burden - Financial flexibility	43.75	L
		M7, 12	Financially well off - Has many other financial responsibilities	50.00	L
		D1, 4	Self-financed - Family financed	43.75	L
		D1, 8	Financial difficulty - Financial security	25.00	L
		D2, 1	Financially difficult - Financially well off	25	L
		D3, 10	Financially stable - Financially unstable, reckless spending	37.5	L
		D4, 9	Need regular income - Financially independent	56.25	L
			Average % similarity score	*50.48*	

Misc	7, 2.3%	U5, 12	Higher marks - Lower marks	81.25	I
		M5, 10	Expects quality & professionalism from edu provider - Doesn't care about quality or management	62.5	I
		M6, 10	Good control of emotion, do what must be done - *Need for learning affected by personal emotion*	75	I
		U9, 7	More interested in subjects - Appears not interested in subject	68.75	I
		M9, 7	Action oriented, just do it - Recognition seeking	62.5	I
		U6, 8	Above average grades - *Marginal pass*	56.25	I
		D2, 2	Outspoken with solid content - Confirmative, uncreative	56.25	I
			Average % similarity score	*66.07*	

U1

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	*Open to other views, willing to share* - *Subjective, won't accept other views*	5	1	5	2	3	5	5	3	31.25	L
Con 2	Like to ask questions, even challenge the teacher - Self reliant, doesn't ask teacher all the time	1	4	1	2	5	3	4	5	56.25	I
Con 3	*Knowledge is as important as high marks* - *High marks mean superiority, are important*	5	2	5	1	3	3	4	3	25.00	L
Con 4	*Planning well ahead* - *No planning, review notes just before exam*	1	2	3	1	3	5	3	5	68.75	I
Con 5	*Study for career prospect* - *No idea, don't want to be left out, follow the crowd*	1	2	3	1	5	5	5	3	81.25	H
Con 6	*Understanding is important* - *Don't care if no understanding, passing is enough*	1	2	1	1	5	5	5	5	68.75	I
Con 7	Strong commitment, spend lots of time studying - No consistent commitment, motivation declines quickly	1	3	3	2	5	5	4	5	87.50	H
Con 8	Smart, can consolidate info effectively - Comfortable with spoon feeding	1	3	2	1	4	5	5	5	62.50	I
Con 9	Rich working experience, can think widely - Limited work experience, narrow views	2	1	3	1	5	3	5	2	50.00	L
Con 10	*Supportive family* - *Many family obligations*	1	2	3	2	4	5	2	4	81.25	H
Con 11	*Proactive & positive in dealing with failure* - *Always make excuses for poor performance*	1	1	3	3	5	5	4	5	81.25	H
Con 12	*Evaluate failure. Forward looking* - *Accept failure, don't move forward*	1	1	3	2	5	5	5	4	87.50	H
Con 13	Overall a more motivated student - Overall a less motivated student	1	2	3	2	5	5	4	4		

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		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	*Simple life experience - Diverse and rich life experience*	4	4	2	2	4	4	5	5	43.75	L
Con 2	*Less confident in problem solving - More confident in problem solving*	3	3	1	2	4	4	5	5	62.50	L
Con 3	*Conservative, study the safe way - open minded, take risk in studying*	2	2	1	2	4	5	5	5	81.25	H
Con 4	*Less demanding job - More demanding job*	2	2	2	1	4	4	4	5	81.25	H
Con 5	*Want a degree for trend - Want a degree for career prospect*	2	2	1	1	5	5	3	5	93.75	H
Con 6	Better time management - Poor time management	5	5	5	5	2	1	2	1	81.25	H
Con 7	Good common sense - No logical thinking	4	4	5	5	2	2	1	1	81.25	H
Con 8	Better study skills - Poor study skills	5	5	5	5	2	2	2	2	68.75	I
Con 9	*More family obligations - Less family obligations*	2	2	2	4	4	3	3	5	62.50	L
Con 10	*Financially unstable - Financially stable*	2	2	2	1	3	3	3	5	75.00	I
Con 11	*Less available time for study - More available time for study*	2	2	2	2	4	4	4	4	68.75	I
Con 12	Overall a more motivated student - Overall a less motivated student	2	2	1	1	4	5	3	5		

U3

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Want to perform better than others - Set high personal standard, doesn't compare	2	1	4	3	3	3	2	3	31.25	L
Con 2	*Study for professional qualification* *- Want the degree as well as knowledge*	1	1	2	1	5	5	2	5	87.50	H
Con 3	*Want high marks* *- Satisfied with pass marks*	1	1	1	1	5	5	2	5	81.25	H
Con 4	*In-depth learning* *- Study just enough to get by*	1	1	3	1	5	5	5	5	75.00	I
Con 5	Mark every effort to attend class - Make excuses for not attending class	1	1	1	1	5	4	1	3	68.75	I
Con 6	Attentive in class - Daydream and sleep in class	1	1	4	2	5	5	4	5	68.75	I
Con 7	*Effective study skills* *- Memorising without understanding*	2	1	2	2	5	5	4	5	75.00	I
Con 8	Active participation - Quiet, passive, no ideas	1	1	2	1	5	4	4	4	87.50	H
Con 9	Willing to make effort to approach problems - Wait for others to solve the problem	1	1	2	1	4	4	4	5	87.50	H
Con 10	Willing to assume responsibility for study - Tend to make excuses to avoid responsibility	1	1	3	2	5	4	4	5	81.25	M
Con 11	Living with parents, less family obligations - Married with children, a lot of family responsibility	2	1	3	1	1	2	3	4	43.75	L
Con 12	Seek to understand, ask many questions - Don't care about understanding, no questions	1	1	1	1	5	4	2	5	87.50	H
Con 13	Overall a more motivated student - Overall a less motivated student	1	1	2	1	5	4	3	5		

U4

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L-Index
Con 1	Sharp, good comprehension - Not so smart	2	3	1	3	3	3	3	4	50.00	I
Con 2	More job responsibility, more senior - Less job responsibility	2	1	2	3	3	3	4	4	75.00	H
Con 3	Concerned about job prospect - Satisfied with present, job prospect not an issue	3	3	3	1	5	2	2	5	37.50	L
Con 4	Need to look after family - Single, no domestic obligations	1	2	3	1	5	2	4	5	31.25	L
Con 5	Want a pass - Want to succeed with good grades	4	5	4	3	1	3	2	1	18.75	L
Con 6	*More concerned about learning knowledge - Study for exam, last minute rush*	1	1	2	3	5	3	4	5	87.50	H
Con 7	*Good language skills - Poor language skills*	1	2	2	3	5	3	3	3	75.00	H
Con 8	More available time, considerate boss - less available time, family and work pressure	1	1	2	2	1	3	1	4	43.75	I
Con 9	Serious attitude, well prepared - Not serious, lazy	1	1	2	2	5	3	3	5	50.00	I
Con 10	Take personal responsibility - Rely on others for group work, free rider	1	1	2	2	5	3	3	5	50.00	I
Con 11	Overall a more motivated student - Overall a less motivated student	1	1	2	2	5	3	3	5		

U5

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Good comprehensive ability - Less comprehensive ability	1	4	1	3	4	4	4	4	50.00	L
Con 2	Can apply learning to everyday life - Rote learning, unable to apply	1	3	1	3	4	4	4	4	56.25	I
Con 3	Care about what is learned - Don't care about learning, just want to pass	1	1	1	1	1	5	4	5	87.50	H
Con 4	Make effort to study despite busy schedule - Unwilling to put effort	1	1	1	1	2	5	3	4	81.25	I
Con 5	Serious and focused - Not serious, cannot focus	1	1	1	1	3	5	3	5	93.97	H
Con 6	A can-do approach to problems - Pessimistic	2	3	1	2	3	2	5	2	31.25	L
Con 7	Matured, pragmatic and stable - Over-nervous	1	2	1	2	2	2	5	3	43.75	L
Con 8	*Demanding work and family - Less demanding work and family*	1	2	3	2	5	5	5	5	56.25	I
Con 9	*Study for practical application at work - Study for trend*	1	4	3	2	3	5	4	4	56.25	I
Con 10	Actively seek help to solve problems -Passive, no initiative	1	1	1	1	2	4	4	4	87.25	H
Con 11	Willing to take responsibility in group work - Unwilling to take responsibility in group work	1	1	1	1	3	4	5	5	87.50	H
Con 12	Higher marks - Lower marks	1	1	1	2	4	4	4	5	81.25	I
Con 13	Overall a more motivated student - Overall a less motivated student	1	1	1	1	3	5	4	5		

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Extensive experience and exposure - Limited experience and exposure	1	3	1	2	5	2	2	2	31.25	L
Con 2	More intelligent - Less intelligent	1	3	1	2	5	1	4	5	56.25	I
Con 3	Active, constructive, inspiring ideas - Quiet and passive	1	5	1	1	5	1	5	5	43.75	L
Con 4	*Want to learn for self improvement* *- Want qualification for employment security*	2	3	2	1	5	5	5	5	68.75	H
Con 5	*Want good grade* *- Happy with pass grade*	1	1	1	1	4	4	4	5	87.50	H
Con 6	*Willing to put effort* *- Unwilling to put effort, leisure comes first*	2	1	2	2	4	5	4	5	75.00	H
Con 7	*More family obligations, mortgage, $, time* *- Less family obligations, single*	2	3	1	3	5	5	4	3	56.25	I
Con 8	*Above average grades* *- Marginal pass*	2	3	3	1	4	4	5	4	56.25	I
Con 9	*Serious, well prepared* *- Slack, happy go lucky*	2	1	2	1	5	5	4	5	75.00	H
Con 10	Demanding job, irregular hours, frequent OT - Less demanding job	1	3	1	2	5	5	5	4	68.75	H
Con 11	*Secured employment* *- Less secured employment*	4	1	2	1	4	2	4	3	37.50	L
Con 12	Overall a more motivated student - Overall a less motivated student	1	2	1	1	4	5	4	5		

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Active participation, initiate ideas - Passive, no participation	2	4	1	4	5	5	3	5	50.00	L
Con 2	*Subjective, unwilling to accept others' opinion* *- Open to suggestions*	2	4	1	3	4	4	5	3	31.25	L
Con 3	*High standard, want high grades* *- Set low standard*	2	1	1	1	5	5	4	5	68.75	I
Con 4	*Strive for improvement* *- Don't care about improvement*	1	3	1	1	5	5	3	5	81.25	H
Con 5	*Want performance, self-proof* *- Sloppy attitude, accept failure*	2	3	2	1	4	5	3	4	81.25	H
Con 6	Greater financial burden - Financial flexibility	1	3	5	2	3	5	4	3	43.75	L
Con 7	Demanding job, 10-12 hours work - Less demanding job, regular hours	2	3	3	1	4	2	4	4	50.00	L
Con 8	Put more effort and time - Put less time and effort	1	3	3	2	3	5	3	4	68.75	I
Con 9	*Want knowledge* *- Want qualification for employment prospect*	2	1	1	1	5	5	4	4	62.50	I
Con 10	*Employment doesn't require degree* *- Employment security depends on degree*	1	1	4	1	4	5	4	5	75.00	H
Con 11	*Smart and bright, quick to grasp learning* *- Not very bright*	1	3	2	3	5	5	3	4	68.75	I
Con 12	*More enthusiastic about study* *- Less enthusiastic about study*	1	2	2	2	4	5	2	4	81.25	H
Con 13	Overall a more motivated student - Overall a less motivated student	1	2	2	1	4	5	3	5		

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Persistent, want good results - Low expectation, just want to pass	2	3	4	1	4	5	5	5	81.25	H
Con 2	Want knowledge, wide reading - Want certificate, study notes only	1	1	3	2	3	5	5	5	68.75	H
Con 3	Independent, manage time well - Rely on others & deadlines, passive	2	3	3	1	3	4	4	3	56.25	I
Con 4	Mature, wider work experience - Younger, narrow work experience	1	2	3	1	4	3	4	4	62.50	H
Con 5	*Confident about own ability, always take on more work in group work - Don't trust own ability, rely on others to do work*	3	1	3	2	4	5	4	4	62.50	H
Con 6	*Need a degree to be more competitive - Enrol for social reasons, too much time*	3	1	2	2	4	3	3	4	37.50	L
Con 7	*More ambitious, has other goal for future - Satisfied with present, no future planning*	4	1	4	2	5	4	4	5	56.25	I
Con 8	*Serious, compensate inability with hard work - Quite lazy, sluggish, give as little as possible*	2	2	3	2	4	4	3	4	62.50	H
Con 9	Understanding is important - Doesn't bother him if no understanding	1	1	2	2	3	3	3	3	25.00	L
Con 10	*Preoccupied with new baby - Single, has plenty of time*	5	4	5	1	5	2	4	5	31.25	L
Con 11	*Was unemployed for 1 year, quite difficult - No financial difficulty*	1	5	4	3	5	4	4	5	43.75	I
Con 12	*Lots of ups and downs in employment - Stable employment, regular working hours*	3	5	2	1	5	1	2	5	25.00	L
Con 13	Better English language ability - Weak in English language	2	1	2	4	5	3	4	3	37.50	L
Con 14	Overall a more motivated student - Overall a less motivated student	2	2	3	1	5	5	5	5		

U9

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Serious, focused & attentive in class - Selective attention, does other things in class	4	1	1	2	4	4	3	3	75.00	H
Con 2	Spend a lot of time studying - Study in the last minutes	4	1	1	2	4	4	3	4	81.25	H
Con 3	Memorise first, then understand - Seek to understand, doesn't memorise	4	1	1	3	4	4	2	3	75.00	H
Con 4	*Make good effort to attend class* *- Make excuses not to attend classes*	4	1	1	2	5	5	3	5	62.50	L
Con 5	*Finds ways to understand* *- Casual attitude about learning*	4	1	1	1	5	5	2	4	56.25	L
Con 6	Persistent in research for understanding - Appears not serious	4	1	1	1	4	4	2	3	62.50	L
Con 7	More interested in subjects - Appears not interested in subject	4	1	1	1	4	4	2	4	68.75	I
Con 8	*Sets high standards for self & teachers* *- No high expectation, pass is enough*	4	1	1	2	5	5	3	4	68.75	I
Con 9	*Likes a good challenge* *- Want mini. knowledge, give mini. effort*	4	1	1	2	5	5	3	4	68.75	I
Con 10	Stable job - Contract work, more uncertainty	4	1	1	4	2	5	1	1	31.25	L
Con 11	Care about marks, become disappointed if low marks - Quite satisfied with a pass	4	1	1	2	5	5	2	5	56.25	L
Con 12	*Married with demanding family* *- Single, has more time and money*	3	2	2	2	4	4	4	2	68.75	I
Con 13	Poor planning & time management Good planning & time management	3	1	1	2	4	5	3	4	81.25	H
Con 14	Overall a more motivated student Overall a less motivated student	3	1	1	3	4	4	4	4		

273

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Good English, express well - Less English ability	1	5	1	2	3	5	4	3	43.75	L
Con 2	*Serious, study ahead of time - Take exams & homework more easily*	4	1	4	3	4	5	2	5	56.25	L
Con 3	*Has undivided focus on studying - Treat studies as one of life events*	4	1	5	3	4	5	4	5	62.50	L
Con 4	*Knowledge is important, passing is assumed - Want minimum learning material, pass is enough*	2	1	3	2	4	5	3	5	87.50	H
Con 5	*Make effort to attend classes - Frequent absences*	1	1	2	2	4	5	3	5	75.00	I
Con 6	*Make every available minute studying - Study tips before exam*	3	2	3	2	4	5	3	5	75.00	I
Con 7	Well planning, good time management - No planning, last minute rush	2	3	3	2	4	5	4	5	81.25	H
Con 8	Take active initiative to ask teachers questions - Quiet, no question even if doesn't understanding	2	1	3	2	4	5	5	5	87.50	H
Con 9	Seek to understand - Memorise without understanding	2	4	2	2	4	5	4	5	68.75	I
Con 10	*Feel coerced to have a degree for employability - Study for personal interest*	2	1	3	3	2	2	3	2	81.25	H
Con 11	More job responsibility - No steady job	2	2	2	3	1	2	3	4	37.50	L
Con 12	Overall a more motivated student - Overall a less motivated student	2	1	3	2	4	5	4	4		

U11

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Spend a lot of time studying - Spend less time on study	1	1	3	3	3	4	3	5	75.00	H
Con 2	Very serious about homework, tests, exam - Not so serious	1	1	4	2	3	4	3	4	68.75	H
Con 3	*Cues are important, but more concerned with learning* *- Study for exam, must have tips*	3	3	2	1	4	5	3	5	43.75	I
Con 4	*Take initiative to seek answers independently* *- Rely on others to help*	1	2	2	1	4	1	3	2	31.25	L
Con 5	Need degree for career prospect - Believe in continuous learning	3	1	3	5	1	1	3	1	31.25	L
Con 6	Handle problem practically - Nervous and rigid with problems	1	3	2	1	3	3	5	3	50.00	I
Con 7	Believe effort will result in good performance - Doesn't believe in himself even when well prepared	1	2	1	1	3	3	5	5	62.50	I
Con 8	Want high marks - Marks is not everything, want to learn	1	1	2	4	3	3	1	3	31.25	L
Con 9	Persist in setback - Fear of failure, complain all the time	2	1	2	1	2	4	2	5	75.00	H
Con 10	Care about improvement - Avoid difficult assignments	3	2	3	1	3	4	3	5	68.75	H
Con 11	Prefer to study alone - Need a positive learning environment	2	1	1	2	5	3	1	3	18.75	L
Con 12	More demanding job - Steady working hours	4	2	1	2	4	5	1	5	18.75	L
Con 13	Overall a more motivated student - Overall a less motivated student	1	1	3	1	2	4	4	5		

		E1	E2	E3	E4	E5	E6	E7	E8	% similarity score	H-I-L Index
Con 1	Urgent need of degree for career - No urgent need of degree (senior position)	1	1	5	4	3	4	4	4	50	L
Con 2	*More family responsibility - Less family responsibility*	5	5	2	1	4	4	2	4	31.25	L
Con 3	*Lower language level - High language level*	2	5	5	2	4	3	2	4	43.75	L
Con 4	*self financed, more committed - Company sponsored, indifferent to study*	5	1	4	1	5	5	3	5	56.25	I
Con 5	*High priority, makes good effort to class - Low priority to study, always absent*	2	1	3	1	4	5	2	3	81.25	H
Con 6	*Try her best to obtain higher marks - Use every means except study to pass*	2	1	2	1	5	5	5	3	62.5	I
Con 7	Relevant experience & exposure - Experience not relevant to course	1	1	2	1	1	2	4	2	25	L
Con 8	More decisive - Nervous, unable to make decision	1	3	2	1	3	2	5	3	25	L
Con 9	Actively seek guidance & take action when in doubt - Passive, want to be told what to do	1	3	4	2	4	4	4	4	62.5	I
Con 10	*Consistently spend a lot of time studying - Last minute rush*	2	1	4	2	4	5	1	4	81.25	H
Con 11	*Choose something of personal interest - Choose less demanding topic*	3	1	2	2	4	5	5	5	68.75	I
Con 12	*Self reliant, intelligent - Smart, always find a way to pass*	2	1	2	2	4	5	3	4	93.75	H
Con 13	*Always want to be the best - Want the diploma, don't care about learning*	3	2	1	2	4	5	3	5	68.75	I
Con 14	Overall a more motivated student Overall a less motivated student	2	1	3	2	4	5	3	4		

M2

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	*Need a degree for self-fulfilment* - *Need a degree for better prospect*	4	1	5	4	5	5	4	4	31.25	L
Con 2	Relax about study - Serious about study	5	3	5	5	2	2	4	4	56.25	I
Con 3	*Make voluntary effort* - *Feel obligated to study*	1	1	1	1	5	5	2	2	68.75	H
Con 4	Company sponsored - Self-financed	5	5	5	5	1	1	4	1	62.50	I
Con 5	Just want to pass - Grades matter, want to perform	4	4	5	4	1	1	4	4	75.00	H
Con 6	Junior or middle management - Senior manager, more responsibility	3	5	3	2	5	5	1	1	37.50	L
Con 7	*Light work load* - *Heavy work load*	2	3	4	4	4	4	4	4	37.50	L
Con 8	*Less family obligations* - *More family obligations*	4	3	4	1	4	4	3	1	31.25	L
Con 9	Overall a more motivated student - Overall a less motivated student	1	2	2	2	5	5	3	3		

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	More mature, over 40 - Younger, below 30	1	2	5	3	5	3	4	5	31.25	L
Con 2	Study for personal interest - Study for career development	2	1	5	3	5	5	5	5	37.50	L
Con 3	Senior management position, wide experience - Junior management	2	1	5	1	5	3	4	3	18.75	L
Con 4	Serious & committed, hardworking - Missed deadlines, no submission	2	1	3	2	2	5	3	5	87.50	H
Con 5	Make conscious effort to attend classes - Frequent absences	1	1	2	2	1	5	2	4	81.25	H
Con 6	Serious & thorough, always checking to make sure - Not serious, prefers personal leisure	2	1	4	2	1	5	3	5	75.00	I
Con 7	More outspoken and confident - Quiet, not sure of himself	3	1	2	3	2	4	5	4	43.75	I
Con 8	Less family obligations - Has aged parents, more responsibility	1	1	2	3	2	3	5	3	43.75	I
Con 9	Believe in continuous improvement - Sees very little in himself, constantly worries	1	1	3	2	2	5	5	4	75.00	I
Con 10	*Diligent, expects good marks - Don't care about results, withdraw in failure*	1	1	2	2	2	5	3	4	81.25	H
Con 11	*Don't have aims, affected by friends - Study with the aim to change profession*	5	5	4	4	4	2	4	2	81.25	H
Con 12	Self demanding, don't want to fail - Has no expectation, accepts failure	1	1	2	1	2	4	5	4	56.25	I
Con 13	Overall a more motivated student - Overall a less motivated student	1	1	3	2	2	5	2	5		

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Hard working - Lazy, leisure first	2	1	3	1	5	5	4	5	68.75	H
Con 2	*Have clear goal about study, very serious* *- Low priority to study, not serious*	1	1	1	1	5	5	2	5	75.00	H
Con 3	*Determined to achieve degree* *- Lay back, slack*	1	2	1	1	5	5	1	3	62.50	I
Con 4	Stubborn and persistent - Vulnerable to criticism and challenges	1	2	1	2	1	5	5	5	43.75	L
Con 5	*Doesn't believe in free lunches* *- Expect OK results with minimum effort, risk taking*	1	1	1	3	5	3	4	5	62.50	I
Con 6	*Accept responsibility, make no excuses* *- Make excuses for not making effort*	2	1	1	1	5	5	4	5	68.75	H
Con 7	Less family and financial obligations - More family & financial obligations	5	1	3	1	3	3	1	1	6.25	L
Con 8	*Senior at work* *- Middle or junior level at work*	1	1	2	5	5	5	5	2	56.25	I
Con 9	*Deep learning, passion for learning* *- Superficial learning, exam oriented*	4	3	2	4	5	5	2	5	43.75	L
Con 10	Bright, fast learner - Not bright, slow learner	1	1	2	3	1	3	5	5	37.50	L
Con 11	Overall a more motivated student - Overall a less motivated student	1	1	2	2	5	5	3	4		

M5

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Marks mean a lot - Not so concerned with marks	1	1	4	2	4	5	4	5	68.75	H
Con 2	Spend every available minute on study - Balances personal and study time	1	1	5	4	5	5	3	3	50.00	L
Con 3	Smarter, has better foundation - Less smart, has weak foundation	1	3	1	2	5	2	4	2	56.25	L
Con 4	Has wider exposure, more senior in employment - Has limited exposure, junior level in employment	1	3	2	1	5	1	4	2	50.00	L
Con 5	*Make every effort to attend classes despite heavy workload* *- Absent all the time*	1	1	2	2	5	5	3	3	68.75	H
Con 6	*Would like to have higher marks* *- Satisfied with a pass grade*	1	1	2	2	5	5	4	2	68.75	H
Con 7	*Study for interest* *- Study for career prospect*	1	4	2	1	3	3	2	3	62.50	I
Con 8	*Less financial burden (supportive spouse)* *- More financial burden*	1	4	2	4	4	2	4	3	68.75	H
Con 9	More effective study strategies -No strategies, don't know how, don't care	1	2	1	2	5	4	5	3	75.00	H
Con 10	Expects high quality & professionalism from education provider - Doesn't care about quality or management	1	2	2	1	5	4	5	1	62.50	I
Con 11	Want to learn something useful - Want the degree, learning irrelevant	1	1	1	1	5	5	5	1	56.25	L
Con 12	Overall a more motivated student - Overall a less motivated student	1	2	2	2	4	5	4	3		

M6

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Emphasis on the learning process - Pragmatic, focus on result-oriented activities	5	1	1	1	4	4	4	4	56.25	L
Con 2	*More effective study strategies, good comprehension* *- Less experienced study strategies*	1	2	2	3	4	4	4	5	62.50	I
Con 3	More domestic burden - Single, no attachment	4	1	1	4	1	1	3	4	37.50	L
Con 4	*Self evaluate in the face of failure* *- Find excuses to rationalise underperformance*	3	2	3	2	4	4	5	5	43.75	L
Con 5	*Would like good results* *- Passing is all that matters, hope for luck*	1	1	1	1	5	5	5	5	56.25	L
Con 6	*Has high need for achievement* *- Not interested in doing better*	1	1	2	2	4	4	5	5	68.75	I
Con 7	Committed, spend lots of time studying - No preparation	1	1	2	1	3	3	4	4	87.50	H
Con 8	Actively search for answers, the truth - Passive, want to be told just the superficial	1	1	1	1	4	4	4	4	81.25	H
Con 9	Make every effort to do their best - Want satisfactory results without giving effort	1	1	1	1	3	3	5	5	81.25	H
Con 10	*Good control of emotion, do what must be done* *- Need for learning affected by personal emotion*	1	1	1	2	4	4	5	5	75.00	I
Con 11	*Clear goals, want knowledge* *- No goals, don't know what they ware*	1	1	2	2	3	3	4	5	87.50	H
Con 12	*Has wide exposure from diverse work experience* *- Limited work exposure, no decision making*	2	1	1	3	3	3	4	4	87.50	H
Con 13	*Take initiative for challenging assignments* *- Look for easy topic and easy pass*	2	1	1	2	4	4	5	5	68.75	I
Con 14	Overall a more motivated student - Overall a less motivated student	1	1	1	2	3	3	4	4		

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Sharp and quick to response - Need to think before responding	1	3	2	4	4	5	5	5	62.50	I
Con 2	Learn best from applications of theory - Slow to put theory into practice	1	4	1	2	3	3	4	4	68.75	H
Con 3	Need degree for career prospect - Need degree for the sake of qualification	1	3	1	2	2	3	3	3	56.25	L
Con 4	Willing to make effort on studies - No effort at all	2	2	2	1	1	5	4	4	75.00	H
Con 5	Committed, devote a lot of personal time - No commitment, leisure before study	2	1	2	1	1	5	4	4	68.75	H
Con 6	Aim for higher marks - Aim for just pass	2	1	2	2	1	5	5	5	62.50	I
Con 7	Active in sharing and participation - Silent nd withdrawn	1	2	1	1	2	5	4	4	81.25	H
Con 8	Take personal responsibility to prepare& study - No personal responsibility, rely on others for help	1	2	1	1	2	5	5	4	75.00	H
Con 9	More extensive work & life exposure - Limited exposure	3	1	1	2	3	3	4	4	62.50	I
Con 10	Have clear goals about why they study - Not sure what she wants	1	1	2	1	1	4	4	5	62.50	I
Con 11	*Management level, no urgent need for degree* *- Entry-level job, have more urgent need for degree*	3	1	1	2	5	3	3	5	37.50	L
Con 12	Financially well off - Has many other financial responsibilities	3	1	1	3	3	2	4	4	50.00	L
Con 13	Like challenging assignments - Avoid homework until last minute	2	2	1	1	3	5	5	5	68.75	H
Con 14	Overall a more motivated student - Overall a less motivated student	1	2	2	2	3	5	4	4		

M8

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	*Concerned with learning - Concerned w/completing coursework on time*	5	1	4	4	5	5	5	3	25.00	L
Con 2	*Creative, explore options - Pragmatic, take the easy way*	5	1	3	4	5	5	5	1	18.75	L
Con 3	*Do more to understand - Minimum effort to pass*	1	1	1	1	5	5	4	3	68.75	H
Con 4	*Dynamic and challenging job - Routine job*	3	4	1	1	5	5	3	4	50.00	I
Con 5	High priority to get degree - Unwilling to sacrifice quality of life	1	3	2	1	2	5	5	3	62.50	H
Con 6	Want career progression - Want career change	1	3	1	1	1	1	5	5	25.00	L
Con 7	Stick to time line for completion - relax about time frame to complete	1	2	2	1	1	5	5	3	62.50	H
Con 8	*A degree enhances life experience - A degree means recognition*	5	1	5	5	5	5	4	5	18.75	L
Con 9	Want social acceptance as knowledgeable - Indifferent to recognition	1	2	1	1	1	5	1	1	31.25	I
Con 10	Getting good grades most important - Other thins in life also matter	1	4	1	1	2	5	3	1	37.50	I
Con 11	Overall a more motivated student - Overall a less motivated student	2	1	2	1	3	5	4	4		

M9

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Focused in study - Get distracted easily	1	1	5	2	4	4	2	5	75.00	H
Con 2	Want to do the best - Want to get by with pass	1	1	3	1	2	5	3	4	75.00	H
Con 3	*More work pressure* *- Less work pressure*	4	1	1	2	1	4	4	4	31.25	L
Con 4	More family obligations - Less family obligations	1	5	1	4	4	2	2	5	37.5	L
Con 5	Committed and serious - Casual attitude toward study	2	1	3	3	3	4	2	5	81.25	H
Con 6	Want a degree for career enhancement - Want a degree for decoration	2	1	1	2	2	3	1	5	56.25	I
Con 7	Action oriented, just do it - Recognition seeking	2	1	5	2	1	5	1	5	62.50	I
Con 8	More persistent - Less persistent	2	1	2	2	3	3	2	5	75.00	H
Con 9	Smart, articulated - Mediocre	1	2	2	2	1	2	2	4	50.00	I
Con 10	Overall a more motivated student - Overall a less motivated student	1	1	3	2	3	5	2	5		

M10

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	*Higher language skills* *- Inadequate language skills*	2	2	2	3	4	3	5	3	56.25	I
Con 2	*Extensive work experience* *- Less work experience*	2	2	1	3	4	2	5	2	37.50	L
Con 3	*Married with family obligations* *- Young and single*	2	1	5	4	3	5	1	1	31.25	L
Con 4	At early career stage - Has reached a career plateau	3	4	2	3	4	3	4	4	50 .00	I
Con 5	Want an easy way to get a degree - Put more effort to study	4	4	2	3	1	1	3	3	62.50	H
Con 6	*Want knowledge, degree not the only option* *- Need a degree for employment security*	4	2	4	4	3	4	4	4	50.00	I
Con 7	Career dissatisfaction, want advancement - Satisfied with current career	2	4	1	3	3	2	4	3	31.25	L
Con 8	Overall a less motivated student - Overall a more motivated student	4	5	3	4	2	1	2	2		

M11

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Creative, willing to explore options - Conservative, reluctant to try new approaches	1	3	1	3	5	4	4	2	68.75	I
Con 2	Good language skills - Poor language skills	1	3	1	3	5	4	4	2	68.75	I
Con 3	*Want to learn* *- Want easy pass*	1	2	1	1	4	5	3	3	87.50	H
Con 4	*Willing to put effort* *- Minimum effort, plagiarise*	1	1	2	2	4	5	3	3	81.25	H
Con 5	Confident with own ability - Self doubt	1	3	1	2	4	3	5	2	68.75	I
Con 6	Constructive participation - Passive, no participation	1	3	1	2	5	5	5	2	75.00	I
Con 7	Diverse work experience & exposure - Limited experience and exposure	1	3	1	2	4	3	4	2	75.00	I
Con 8	Smart, fast in response - Tend to be slower to pick up ideas	2	2	1	2	5	3	4	2	68.75	I
Con 9	Financially stable - Financially unstable	1	2	1	2	5	3	3	2	68.75	I
Con 10	Supportive family - No family support	1	2	1	2	5	3	3	2	68.75	I
Con 11	Study with broad perspective - Simple, narrow perspective	1	2	1	2	4	5	4	2	93.75	H
Con 12	Senior at work - Junior position	2	3	1	2	5	4	4	2	68.75	I
Con 13	Willing to take on challenges - Find an easy way out	1	2	1	2	4	5	3	2	87.50	H
Con 14	Overall a more motivated student - Overall a less motivated student	1	2	1	2	4	5	4	3		

D1

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Study for job security & prospect - Study for self-actualisation, self-proof	1	1	5	4	3	3	2	1	6.25	L
Con 2	Total commitment, serious - No commitment, no planning	1	2	4	1	5	5	4	4	93.75	H
Con 3	Passion for continuous learning - Superficial learning, cannot do without tips	1	2	3	1	5	5	4	5	93.75	H
Con 4	Self-financed - Family financed	2	2	3	3	3	5	5	1	43.75	L
Con 5	*Aim for high marks* *- Quite happy with marginal pass*	1	2	4	3	5	5	4	5	75.00	I
Con 6	*Persistent to tackle problem* *- Complain a lot but take no action*	2	2	1	1	5	5	5	4	75.00	I
Con 7	*More confident* *- Less confident*	1	2	2	2	5	4	5	4	75.00	I
Con 8	Financial difficulty - Financial security	3	3	5	5	4	3	3	1	25.00	L
Con 9	A lot of domestic responsibilities - Less family obligations	4	1	3	3	5	5	4	2	50.00	L
Con 10	*Good time management* *- Poor time management*	1	2	2	2	5	2	4	5	62.50	I
Con 11	*Good English skills* *- Poor English*	1	2	2	2	5	2	4	5	62.50	I
Con 12	Hard working - Less hard working	1	2	3	2	5	5	4	5	87.50	H
Con 13	Smart, learn and respond fast - slow, doesn't want to think	2	2	2	2	4	1	4	4	50.00	L
Con 14	Overall a more motivated student - Overall a less motivated student	1	2	3	1	5	5	4	4		

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D2

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Financially difficult - Financially well off	5	1	2	5	4	3	2	3	25.00	L
Con 2	Outspoken with solid content - Confirmative, uncreative	4	1	3	3	5	2	4	4	56.25	I
Con 3	Diverse life experience, not a smooth life - Simple life experience, smooth sailing	5	1	2	4	4	3	2	3	31.25	L
Con 4	Witty, street smart - Slow in response	2	1	1	1	5	2	4	4	68.75	I
Con 5	Stubborn - No opinion, no idea, don't care	3	2	2	1	5	1	4	3	37.50	L
Con 6	*Senior in employment, more responsibility* *- Junior in employment, less responsibility*	2	1	1	2	5	3	4	3	75.00	H
Con 7	*Study for self-esteem* *- Study for trend*	1	1	1	2	5	2	5	4	75.00	H
Con 8	*No complaint* *- Complain a lot*	2	1	1	2	5	4	5	5	87.50	H
Con 9	Study without purpose, no focus - Focused strategically	5	5	4	2	1	3	1	2	75.00	H
Con 10	*Secured employment* *- Insecure employment*	2	1	1	2	5	3	4	3	75.00	H
Con 11	Overall a more motivated student - Overall a less motivated student	2	1	1	3	5	4	5	4		

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D3

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Stronger academic background - Weaker academic background	1	4	1	3	5	3	5	5	50.00	I
Con 2	Realistic, systemic approach to study - intuitive approach to study, not pragmatic	1	4	1	2	4	3	4	5	56.25	I
Con 3	*Want to learn* - *Want a degree for decoration*	1	2	1	2	4	5	3	5	75.00	H
Con 4	*Good planning ahead of time* - *Cannot meet deadlines*	1	1	2	2	5	4	2	5	81.25	H
Con 5	Smart - A bit slow	1	3	1	2	3	1	4	4	37.50	L
Con 6	Intellectually has more depth - Intellectually shallow	1	3	1	3	5	2	5	2	31.25	L
Con 7	Willing to take action to improve - Sit on ideas, big thinker	1	1	2	1	2	3	2	5	50.00	I
Con 8	Take responsibility for own study - Blame others or things for underachievement	2	1	3	1	2	2	2	5	31.25	L
Con 9	Professional status - Lower status employment	2	3	2	3	3	1	3	4	25.00	L
Con 10	Financially stable - Financially unstable, reckless spending	2	1	2	3	2	1	3	5	37.50	L
Con 11	Overall a more motivated student - Overall a less motivated student	1	1	2	2	5	5	4	5		

D4

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L Index
Con 1	Consistent good results with -Inconsistent effort	1	1	3	2	4	5	3	5	81.25	I
Con 2	*Persistent in difficulty - Give up easily*	1	1	3	1	4	5	3	5	87.50	H
Con 3	*Expect more than just pass - Minimum effort for minimum pass*	1	1	3	1	4	4	3	5	81.25	I
Con 4	Challenge own ability - Get discouraged easily	1	1	3	1	4	4	5	5	68.75	L
Con 5	Strong determination - No determination	1	1	1	1	4	4	5	5	56.25	L
Con 6	Attribute failure of own effort - Takes failure personally, attribute to intelligence and inability	2	2	3	2	3	4	5	5	56.25	L
Con 7	*Dedicated to goals - No clear goals*	1	1	3	1	4	5	3	5	87.50	H
Con 8	*Diligent - Lazy*	2	1	3	1	4	5	3	5	81.25	I
Con 9	Need regular income - Financially independent	2	1	5	2	3	4	2	3	56.25	L
Con 10	Need a degree for career development - Want a degree for decoration	1	1	4	1	3	3	3	4	81.25	I
Con 11	Average intelligence - High intelligence	4	3	4	4	3	5	3	4	43.75	L
Con 12	Overall a more motivated student - Overall a less motivated student	1	1	4	1	3	5	3	5		

D5

		E1	E2	E3	E4	E5	E6	E7	E8	% Similarity Score	H-I-L-Index
Con 1	Good comprehensive ability - Learn by memorising	1	4	1	3	4	1	5	3	18.75	L
Con 2	Pragmatic selective reading - Study everything, play safe	2	5	1	4	4	1	4	2	12.50	L
Con 3	Good ability to apply and generalise - Unable to apply knowledge	1	4	1	3	3	2	4	2	18.75	L
Con 4	*Outspoken, active in many areas - Quiet, introvert*	4	2	1	3	3	4	5	2	31.25	L
Con 5	Persistent, steady, clear goal - Don't know what they want	2	1	3	1	3	4	4	4	56.25	H
Con 6	Strong need for recognition - Low need for recognition	2	1	1	1	4	4	3	3	62.50	H
Con 7	Firm belief in themselves - Low self esteem, always need assurance, follower	3	3	1	4	1	3	4	3	31.25	L
Con 8	*Study for self fulfilment - Study for career, job, family and others*	3	4	1	1	2	3	4	2	43.75	I
Con 9	*No particular personal issue - Special personal issues, e.g. health*	3	3	1	2	4	2	3	5	62.50	H
Con 10	*Attribute failure to own self - Attribute poor performance to external factors*	3	4	4	3	4	3	5	5	37.50	I
Con 11	Driven by fear of failure, loss of face - Driven by self fulfilment	4	1	2	2	1	5	3	5	37.50	I
Con 12	Want continuous improvement - Don't care about improving, pass is enough	2	1	1	1	4	2	3	4	68.75	H
Con 13	Strive to meet personal expectation - Study for the sake of meeting others' expectation	1	4	1	1	4	2	3	3	37.50	I
Con 14	Overall a more motivated student - Overall a less motivated student	3	1	1	1	5	3	4	5		

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Appendix 4
Details of Preferred Construct

Social-Cognitive Framework	Master Construct	Inter-viewee / order in grid	Construct Definition	% Similarity score	H-I-L Index
Motives & Aspirations	Employ-ment-related goals	U2, 5	Want a degree for trend - Want a degree for career prospect	93.75	H
		U3, 2	Study for professional qualification - Want the degree as well as knowledge	87.5	H
		U1, 5	Study for career prospect - No idea, don't want to be left out, follow the crowd	81.25	H
		U10, 10	Feel coerced to have a degree for employability - Study for personal interest	81.25	H
		U7, 10	Employment doesn't require degree - Employment security depends on degree	75	H
		U6, 4	Want to learn for self improvement - Want qualification for employment security	68.75	H
	Other goals	D2, 7	Study for self-esteem - Study for trend	75	H
		D3, 3	Want to learn - Want a degree for decoration	75	H
	Goal Clarity	M6, 11	Clear goals, want knowledge - No goals, don't know what they ware	87.5	H
		D4, 7	Dedicated to goals - No clear goals	87.5	H
		M3, 11	Don't have aims, affected by friends - Study with the aim to change profession	81.25	H
		D5, 5	Persistent, steady, clear goal - Don't know what they want	56.25	H
Goal Orientation	Expectat-ion & Value	U6, 5	Want good grade - Happy with pass grade	87.5	H
		U10, 4	Knowledge is important, passing is assumed - Want minimum learning material, pass is enough	87.5	H
		M11, 3	Want to learn - Want easy pass	87.5	H
		U3, 3	Want high marks - Satisfied with pass marks	81.25	H
		U7, 4	Strive for improvement - Don't care about improvement	81.25	H
		U8, 1	Persistent, want good results	81.25	H

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			- Low expectation, just want to pass		
		M2, 5	Just want to pass - Grades matter, want to perform	75	H
		M9, 2	Want to do the best - Want to get by with pass	75	H
		M5, 1	Marks mean a lot - Not so concerned with marks	68.75	H
		M5, 6	Would like to have higher marks - Satisfied with a pass grade	68.75	H
		D5, 12	Want continuous improvement - Don't care about improving, pass it enough	68.75	H
		D5, 6	Strong need for recognition - Low need for recognition	62.5	H
Abilities & Skills	Cognitive ability	M1, 12	Self reliant, intelligent - Smart, always find a way to pass	93.75	H
		U2, 7	Good common sense - No logical thinking	81.25	H
		M7, 2	Learn best from applications of theory - Slow to put theory into practice	68.75	H
	Language Skills	U4, 7	Good language skills - Poor language skills	75	H
	Study skills	M5, 9	More effective study strategies - No strategies, don't know how, don't' care	75	H
	Work-life Exper-ience	M6, 12	Has wide exposure from diverse work experience - Limited work exposure, no decision making	87.5	H
		U8, 4	Mature, wider work experience - Younger, narrow work experience	62.5	H
Self-Perceptions	Self-Concept	U8, 5	Confident about own ability, always take on more work in group work-Don't trust own ability, rely on others to do work	62.5	H
Attitude	Attitude	U5, 5	Serious and focused - Not serious, cannot focus	93.97	H
		U7, 12	More enthusiastic about study - Less enthusiastic about study	81.25	H
		M9, 5	Committed and serious - Casual attitude toward study	81.25	H
		U6, 9	Serious, well prepared - Slack, happy go lucky	75	H
		M4, 2	Have clear goal about study, very serious - Low priority to study, not serious	75	H
		U11, 2	Very serious about homework, tests, exam - Not so serious	68.75	H
		U11, 10	Care about improvement - Avoid difficult assignments	68.75	H

| Effort	Commit-ment & Effort	D1, 2	Total commitment, serious - No commitment, no planning	93.75	H
		U1, 7	Strong commitment, spend lots of time studying - No consistent commitment, motivation declines quickly	87.5	H
		U3, 9	Willing to make effort to approach problems - Wait for others to solve the problem	87.5	H
		U4, 6	More concerned about learning knowledge - Study for exam, last minute rush	87.5	H
		U5, 11	Willing to take responsibility in group work - Unwilling to take responsibility in group work	87.5	H
		M3, 4	Serious & committed, hardworking - Missed deadlines, no submission	87.5	H
		M6, 7	Committed, spend lots of time studying - No preparation	87.5	H
		D1, 12	Hard working - Less hard working	87.5	H
		U9, 2	Spend a lot of time studying - Study in the last minutes	81.25	H
		M1, 10	Consistently spend a lot of time studying - Last minute rush	81.25	H
		M6, 9	Make every effort to do their best - Want satisfactory results without giving effort	81.25	H
		M11, 4	Willing to put effort - Minimum effort, plagiarise	81.25	H
		U6, 6	Willing to put effort - Unwilling to put effort, leisure comes first	75	H
		U11, 1	Spend a lot of time studying - Spend less time on study	75	H
		M7, 4	Willing to make effort on studies - No effort at all	75	H
		M9, 1	Focused in study - Get distracted easily	75	H
		M9, 8	More persistent - Less persistent	75	H
		M2, 3	Make voluntary effort - Feel obligated to study	68.75	H
		M4, 1	Hard working - Lazy, leisure first	68.75	H
		M7, 5	Committed, devote a lot of personal time - No commitment, leisure before study	68.75	H

		M8, 3	Do more to understand - Minimum effort to pass	68.75	H
		U8, 8	Serious, compensate inability with hard work - Quite lazy, sluggish, give as little as possible	62.5	H
		M8, 5	High priority to get degree - Unwilling to sacrifice quality of life	62.5	H
		M10, 5	Want an easy way to get a degree - Put more effort to study	62.5	H
	Attend-ance	M1, 5	High priority, makes good effort to class - Low priority to study, always absent	81.25	H
		M3, 5	Make conscious effort to attend classes - Frequent absences	81.25	H
		M5, 5	Make every effort to attend classes despite heavy workload - Absent all the time	68.75	H
Approaches to Learning	Planning	U2, 6	Better time management - Poor time management	81.25	H
		U9, 13	Poor planning & time management - Good planning & time management	81.25	H
		U10, 7	Well planning, good time management - No planning, last minute rush	81.25	H
		D3, 4	Good planning ahead of time - Cannot meet deadlines	81.25	H
		D2, 9	Study without purpose, no focus - Focused strategically	75	H
		M8, 7	Stick to time line for completion - relax about time frame to complete	62.5	H
	Learning approach	M11, 11	Study with broad perspective - Simple, narrow perspective	93.75	H
		D1, 3	Passion for continuous learning - Superficial learning, cannot do without tips	93.75	H
		U3, 12	Seek to understand, ask many questions - Don't care about understanding, no questions	87.5	H
		U5, 3	Care about what is learned - Don't care about learning, just want to pass	87.5	H
		M11, 13	Willing to take on challenges - Find an easy way out	87.5	H
		U2, 3	Conservative, study the safe way - open minded, take risk in studying	81.25	H
		M6, 8	Actively search for answers, the truth - Passive, want to be told just the superficial	81.25	H
		U9, 3	Memorise first, then understand - Seek to understand, doesn't	75	H

			memorise		
		U8, 2	Want knowledge, wide reading - Want certificate, study notes only	68.75	H
		M7, 13	Like challenging assignments - Avoid homework until last minute	68.75	H
	In-class Behav-iour	U3, 8	Active participation - Quiet, passive, no ideas	87.5	H
		U10, 8	Take active initiative to ask teachers questions - Quiet, no question even if doesn't understanding	87.5	H
		M7, 7	Active in sharing and participation - Silent and withdrawn	81.25	H
		U9, 1	Serious, focused & attentive in class - Selective attention, does other things in class	75	H
	Initiative & Independ-ence	U5, 10	Actively seek help to solve problems - Passive, no initiative	87.25	H
		M7, 8	Take personal responsibility to prepare & study - No personal responsibility, rely on others for help	75	H
Persistence	Response to Setback	D4, 2	Persistent in difficulty - Give up easily	87.5	H
		D2, 8	No complaint - complain a lot	87.5	H
		U1, 12	Evaluate failure. Forward looking - Accept failure, don't move forward	87.5	H
		U7, 5	Want performances, self-proof - Sloppy attitude, accept failure	81.25	H
		M3, 10	Diligent, expects good marks - Don't care about results, withdraw in failure	81.25	H
		U1, 11	Proactive & positive in dealing with failure - Accept failure, don't move forward	87.5	H
		U11, 9	Persist in setback - Fear of failure, complain all the time	68.75	H
		M4, 6	Accept responsibility, make no excuses - make excuses for not making effort	68.75	H
Contextual Environ-ment	Employ-ment factor	U2, 4	Less demanding job - More demanding job	81.25	H
		U4, 2	More job responsibility, more senior - Less job responsibility	75	H
		D2, 6	Senior in employment, more responsibility - Junior in employment, less responsibility	75	H

		D2, 10	Secured employment - Insecure employment	75	H
		U6, 10	Demanding job, irregular hours, frequent OT - Less demanding job	68.75	H
	Family factor	U1, 10	Supportive family - Many family obligations	81.25	H
		D5, 9	No Particular personal issue - Special personal issues, e.g. health	62.5	H
	Financial factor	M5, 8	Less financial burden (supportive spouse) - More financial burden	68.75	H

Total 104 preferred constructs

Appendix 5
Repertory Grid Summary Findings
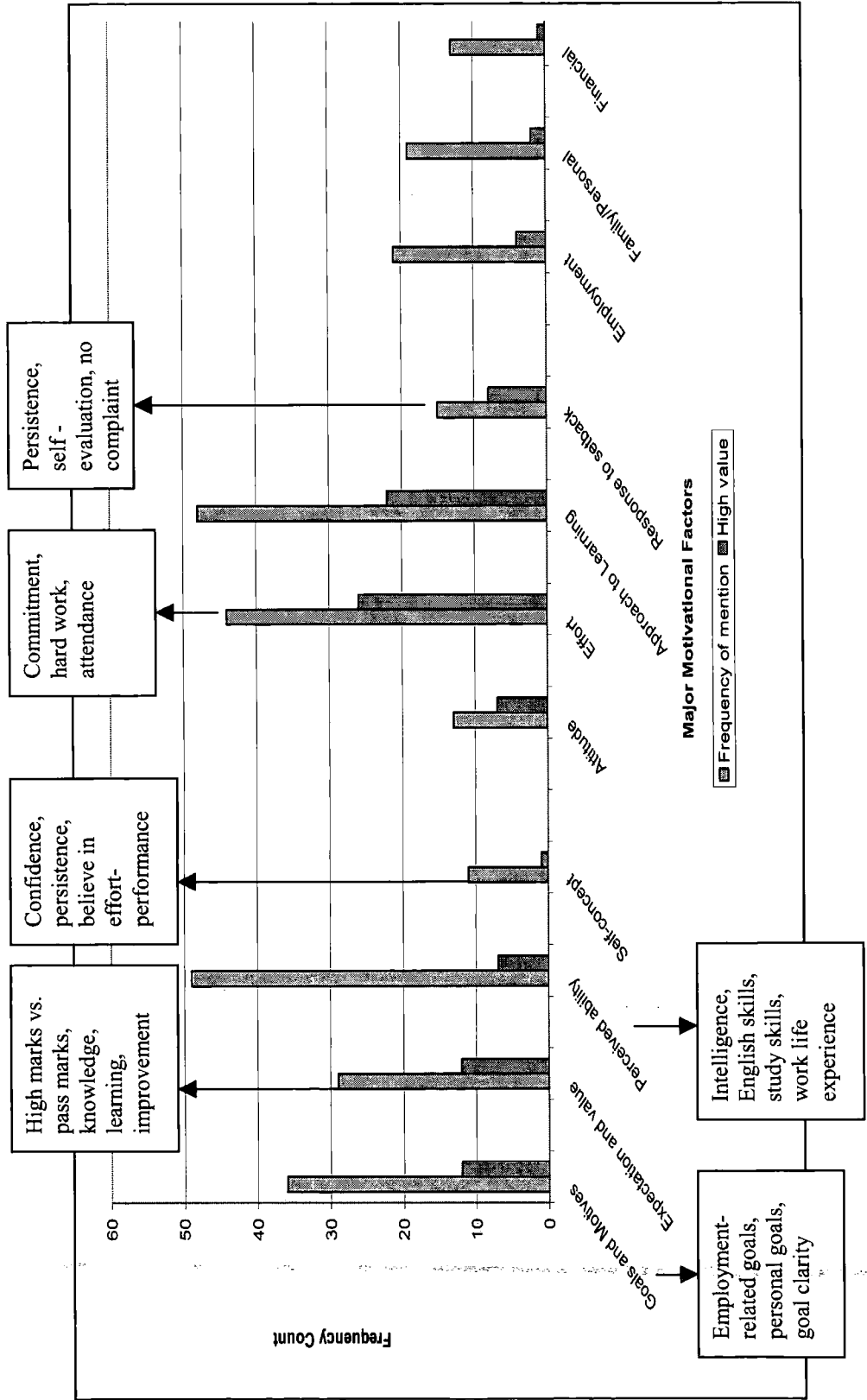
Appendix 6
Description of Master Constructs

	Master Construct	Emergent Pole	Implicit Pole
1	Employment-oriented goals	Employment security, career prospect, job competitiveness, career advancement, professional qualification	Personal interest, self-esteem, self-improvement, fulfilling personal goal, too much time
2	Other goals	Social trend, decoration, recognition, self-esteem	To be the best
3	Goal clarity	Clear goals, know what they want, goal commitment	No objective, no purpose, no goals
4	Expectations and value	High marks, good results, knowledge, learning, continuous improvement	Easy pass, minimum learning material, minimum effort, low expectation
5	Cognitive ability	Smart, bright, intelligent, sharp, common sense, strong comprehension, knowledge application	Slow, mediocre, less intelligent, shallow, unable to apply knowledge
6	Language skills	Good English, express well, efficient learning	Poor English, weak language skill
7	Study skills	Effective study skills, practical, pragmatic, strong academic background	No skills, rigid, weak academic background, random
8	Work life experience	Matured, extensive work experience, wide exposure, diverse and rich life experience	Younger, limited work experience, limited exposure, simple & smooth life
9	Self-concept	Confident, believe in effort-performance, persistent, decisive	Rely on others, don't trust own self, no confidence, nervous, constantly worries, self-doubt
10	Attitude	Serious, focused, enthusiastic, high priority, care about improvement & learning	Not serious, half-hearted, slack, sloppy, avoid difficulty, don't care
11	Commitment & effort	Strong commitment, taking responsibility, hard working, make effort to prepare for exam & assignments	Lazy, no effort, study cues for exam in the last minute, studying is a chore, make excuses, choose easy courses and assignments
12	Attendance	High priority, make conscious effort to attend classes despite heavy workload and other commitments	Low priority, frequent absences, make excuses, find excuses not to attend class,
13	Planning	Good time management, planning ahead of time	Poor time management, no planning, last minute rush
14	Approach to learning	Deep learning, taking broad perspective, wide reading, care about understanding & learning, exploring options, creative,	Surface learning, memorising without understanding, conservative, must have cues for exam, learning is irrelevant

		systematic, pragmatic	
15	In-class behaviour	Active participation, willing to approach teachers for clarification, willing to share, attentive, outspoken and constructive	Quite, withdrawn, never approach teachers for questions, daydream, sleep, do other things, selective attention
16	Initiative & independence	Actively seek help to solve problems, taking personal responsibility, independent	Passive, no initiative, rely on others for ideas and solutions, want to be told
17	Response to setback	Persist in difficulty or under-performance, take initiative to evaluate performance, accept responsibility, no complaint	Give up easily, complain a lot, accept failure, withdraw in failure, make excuses for poor performance
18	Employment factor	Demanding job, frequent overtime, unstable job, dynamic & challenging job, more responsibility, senior position	Routine job, regular 9-5 job, considerate boss, secured & stable employment, less senior position, less work pressure
19	Family factor	Many family obligations, demanding & complex domestic environment, health issue	Less family obligations, supportive family, no particular personal issue
20	Financial factor	More financial burden, unstable income, self-financed	Well-off, wealthy family, independent, company-sponsored