New Opportunities or Difficult Challenges?

Self-regulation of Learning

of

Chinese Students

in a

Western University Setting

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New Opportunities or Difficult Challenges?

Self-regulation of learning in Chinese students in a Western university setting

Abstract:

International students often desire to study overseas and many countries, including New Zealand, welcome them into their schools and universities. Students from Mainland China, one of the most populous countries in the world and, until quite recently closed to the rest of the world, have, in the past few years, made up the large majority of those who come to New Zealand to study. Those wishing to enter university after completing high school in China must acquire a specified level of English and successfully complete a two semester long Foundation Studies course, before being eligible for undergraduate study. Research into independent or self-regulated learning has shown that Western (mainly American) students are much more successful academically and enjoy their studies more if they are willing and able to self-regulate their learning. This research has occurred mostly in Western settings with Western participants. The present research using a mixed methods approach aimed to examine the self-regulated learning, epistemological beliefs, demographic factors and personality traits of Mainland Chinese students studying in the Foundation Studies course and to determine whether any of these factors appeared to have any appreciable effect on their experiences in the course and on their final outcomes. The research found that while no one specific factor seemed to determine experiences and outcomes, it would appear that personality characteristics of face, optimism and other Dependability scores may mediate factors such as ability (measured by grades), length of time in the country, self-regulated learning and motivational strategies (such as organisation, time management, effort regulation and self-efficacy), and previous independent learning to influence these experiences and outcomes. While it appears that the North American theory of self-regulated learning is applicable to these students, it seems that cultural beliefs may affect which self-regulatory factor is most salient in their academic outcomes. Further research would be valuable to clarify these differences.

Keywords: Chinese, self-regulated learning, Foundation Studies, personality, epistemological beliefs

Glossary and Abbreviations:

The following definitions have been provided in order to facilitate the reading of this thesis which explores areas of culture and learning which may be unfamiliar to some readers.

Allocentric - Allocentrics 'are those who weigh collective goals more heavily than they do private goals, especially when the two are in conflict' Yamaguchi, Kuhlman and Sugimori (1995, p. 659).

Credibility - achieved by the activities of 'prolonged engagement; persistent observation, and triangulation'; member checking and negative case analysis (Lincoln & Guber, 1985, p. 301)

Collectivist Culture – People in a collectivist culture (of which Mainland China is one) score high on 'power distance' and hierarchy, 'moral discipline' uncertainty avoidance (Oettingen, 1995; Oettingen & Zoslus, 2006); and personal competence (Triandis et al., 1993, cited in Bond, 1996) and low on 'individualism', independence, and separation from in-groups (Bond, 1996, p. 215). These cultures tend to include the countries of Asia, Africa and the Pacific Islands; however there are exceptions to this.

Conceptual change – dissonance in what a student encounters and 'dissatisfaction with existing beliefs' (Hofer and Pintrich, 1997, p. 123) may lead a student to examine other alternatives to these beliefs and conceptual change may then occur if they find new ideas 'intelligible', are able to successfully link these alternatives to previous beliefs and find that they make more sense than those previous beliefs. In order for students to change existing 'frameworks' of belief they need to feel unhappy with their existing beliefs; consider new beliefs to be more believable than what they already believe and more helpful for explaining or developing new concepts (Pintrich, Marx, & Boyle, 1993). Students with a mastery orientation are more likely to make the change (Pintrich et al., 1993).

Confirmability – achieved by the audit of product, plus triangulation and a reflective journal (Lincoln & Guber, 1985)

Confucian Heritage Culture (CHC) – A cultural heritage of beliefs established by Confucius in his teaching several millennia ago in China which among other things teaches that

education is highly important, that all are able to be educated and that effort is the path to learning (Wing On, 1996).

Deep approach to learning – The student desires to find meaning in the task and so uses the most appropriate, usually higher level strategies to facilitate this (Biggs, 1999).

Dependability - an enquiry audit checking process and product for accuracy (Lincoln & Guber, 1985)

Epistemology – 'the area of philosophy concerned with the nature and justification of human knowledge. … how individuals come to know, the theories and beliefs they hold about knowing, and the manner in which such epistemological premises are a part of and an influence on the cognitive processes of thinking and reasoning.'(Hofer & Pintrich, 1997, p. 88).

Emic Approach to research – 'documents valid principles that describe behaviour in any one culture based on constructs that the people themselves perceive as meaningful and important' (McInerney, 2008).

Etic Approach to research – 'abstracts from sets of data from diverse cultures those features of behaviour that appear to be universal' (McInerney, 2008). Also imposing Western concepts, theories and questionnaires on non-Western cultures and expecting results to be equally valid and congruent.

Filial piety - involves 'raising one's reputation in order to exalt one's parents' (Yu, 1996, p. 232).

In-group – 'others with whom one shares a common fate, such as family members or members of the same lasting social group, such as the work group (Markus & Kitayama, 1991, p. 229).

Motivation – is 'the predecisional processes leading to one's choice of goals whereas volition refers to postdecisional processes dealing with the implementation of strategies and attainment of one's goals' (Zimmerman and Schunk, 2008).

NEO Five Factor – the NEO Five Factor personality inventory is one of the key personality assessment questionnaires (McCrae & Costa, 1997; Cheung, et al., 2001; Costa & McCrae,

1992). This measure assumes five universal personality traits of Openness, Extraversion, Agreableness, Neuroticism and Conscientiousness and has been utilised in many Western countries as well as used in translated form in other areas of the world.

Purposive sampling – sampling done with some purpose in mind; for example using maximum variation sampling to document unique variations that have emerged in adapting to different conditions (Lincoln & Guba, 1985, p. 200).

Self-efficacy – one's belief in one's ability to successfully complete a given task.

Self-regulated learning (SRL) – students are self-regulated to the degree that they are metacognitively, motivationally, and behaviourally active participants in their own learning process (Zimmerman, 1989). These students self-generate thoughts, feelings and actions to attain their learning goals (Zimmerman, 2001).

Surface learning – The student intends to complete the task and task requirements with as little effort as possible. Meaning is not sought and low level strategies are used (Biggs, 1999).

Transferability - 'it is not the naturalist's task to provide an *index* of transferability; it is his or her responsibility to provide the *data base* that makes transferability judgements possible on the part of potential appliers'. (Lincoln & Guber, 1985, p. 316; italics in original)

Volition – 'a dynamic system of psychological control process that protect concentration and directed effort in the case of personal and/or environmental distractions and so aid learning and performance' (Corno, cited in Zimmerman and Schunk, 2008, p. 14).

Western culture/ Western beliefs – Western countries, including Britain and its past colonies of Australia, New Zealand and Canada; Europe and the United States hold a number of beliefs as central to their culture. A key belief is individualism; where 'the self is viewed as a relatively autonomous, self-sufficient entity that is essentially independent from its surrounding interpersonal context (Triandis, 1989). The goal for an individual is to become independent of others by attending to her or his private qualities and cultivating and expressing the inner attributes that distinguish her or him from others (Markus & Kitayama, 1991; both cited in Suh, Diener, Oishi, & Triandis, 1998, pp. 482-483). Triandis (1995, p. 6) also comments that 'I suspect that cultures where only individualism or only collectivism can be found are dysfunctional.'

Chapter One – Introduction

Research in a Foundation Studies Programme

The purpose of this research was to investigate the independent (self-regulated) learning of Mainland Chinese students as they undertook a Foundation Studies Programme in a Western university and to examine which cultural and personal factors may have affected their ability to be academically successful in that environment.

Background

Mainland Chinese students

In the last few decades an increasing number of students from Mainland China have chosen to travel to overseas tertiary institutions for their higher education, with New Zealand as one of their destinations (Ward, 2001). These Mainland Chinese students have experienced a different style of education and teaching from that provided in New Zealand, which has led to challenges for students, teachers and their institutions (Ward, 2001). While Western (including New Zealand) educators aim to develop students who are able to think critically and learn independently (Ward, 2001; Biggs, 1999), it appears that students in China experience strongly teacher controlled learning due to heavy exam pressure (Biggs, 1996), and the requirements of large classes (Biggs, 1996; 1999) and thus may have had little chance to learn and think independently. Although Chinese cultural attitudes encourage effort (Wing On, 1996), view teachers as knowledge authorities (Ginsburg, 1992) and education as vital for future advancement, this is carried out within the context of parental and teacher expectations and control so that students study very diligently for exams (Wing On, 1996). Thus these students may often have little experience of learning independently. Nevertheless, those that travel to New Zealand and to the University of Canterbury to undertake their tertiary studies then encounter the expectations of a New Zealand tertiary learning culture which include expectations of independent (self-regulated) learning ability ('University of Canterbury Charter', 2003) and the ability to think critically. In order to succeed in this environment these students may need to adapt the way they learn, and develop and practice independent learning skills.

Self-regulated learning

Since independent, autonomous or self-regulated learning is a requirement for success in Western tertiary institutions (Biggs, 1999), it is therefore, an important skill that all of these

students (as well as New Zealand students) need to acquire. However, it is a slow, developmental process, as mentioned later in the literature review (Zimmerman & Martinez-Pons, 1990) and one which may be more difficult for these students from Mainland China, coming as they do from a very teacher-regulated environment that appears lacking in individual freedom (Biggs & Watkins, 2001).

Foundation Studies programmes
Foundation Studies programmes were developed to prepare international students, especially those with English as a second language, for the requirements of undergraduate study in Western universities. Australian universities have operated Foundation Studies programmes for almost twenty years and quite a number have now moved off-shore to cater for the preparatory needs of international students in their own countries (Coleman, 1999). In contrast, the oldest Foundation Studies programme in New Zealand is at the University of Otago and this has been in existence for just over 10 years (Coleman, 1999), while the University of Canterbury's Foundation Studies Programme began in 2001.

There are a number of pathways that Mainland Chinese students may take to enter the New Zealand university system. Although over the years the University of Canterbury has had students from China who have entered at undergraduate and postgraduate level, students entering Foundation Studies are different in that they have often come directly from high schools in Mainland China where they have graduated successfully. However, as they desire to study overseas they are required to gain a certain level of skill in English Language for university study (usually by sitting the International English Language Testing System or IELTS assessments) and a New Zealand university entry qualification, before they can commence undergraduate studies. Success in the Foundation Studies course provides them with the entry qualification they require.

Foundation Studies programmes have, according to Coleman (1999), 'a sole mandate: to channel students into the tertiary sector' (p. 74). At the University of Canterbury the students who enter this programme are international students, usually with English as a second language. The subjects and skills taught in the programme are those that students will encounter at undergraduate level and are often taught at upper secondary school level in order that students develop basic domain knowledge as well as the English vocabulary and academic skills necessary for survival in a foreign language university. Coleman found a 'strong correlation between' (p. 76) Foundation Studies grades and first year undergraduate grades; however, he reported that the results of second year courses were lower than first year. He suggested that this was due to students being overly prepared for first year subjects where

they often repeat Foundation Studies work, while at second year they may encounter unknown new courses and information. Thus it would appear that second year grades may be more indicative of how students are achieving at university than first year grades, when they have graduated through a Foundation Studies programme. Students' third year results improved in most cases, as students developed competency with the language, the content and the expectations of their courses. Coleman (1999, p. 79; italics in original) also suggests that, in Australia, where almost all of the Foundation Studies courses were at the time of his writing, these courses seemed to be preparing 'students more for the *content* of university, in particular of their first year, as opposed to the *structure* of university education'.

Motivation for this research and potential contributions

In 2004 research undertaken for the Postgraduate Diploma in Tertiary Teaching involving in-depth case studies of three Mainland Chinese students to investigate their development of self-regulated learning and metacognition (Hardie, 2006) raised questions about the possible effects of personality and maturity of thinking on student learning and further stimulated interest in the area of self-regulated learning and its possible effects on student success. At the same time it also became obvious that little or no research had been carried out on Foundation Studies programmes in New Zealand and student learning within them (specifically in the University of Canterbury Programme, lack of time and funding meant that apart from some in-house research on student success rates at undergraduate level none had occurred).

With this in mind, it seemed that a study of self-regulated learning in Mainland Chinese students in a Foundation Studies Programme in a New Zealand university would be a particularly rich area of research with potential contributions to the field. Previously, there had been little to no research activity of this kind, due to both the newness of this programme in New Zealand and the past development of theories of self-regulated learning in mainly North American and other Western settings with few attempts to ascertain whether these theories were applicable to other cultures. Thus, this research aims to provide insight into the ability of Mainland Chinese students in the University of Canterbury Foundation Studies Programme to develop their self-regulated learning skills and to determine which factors appear to have an effect on this ability. Furthermore, it is to be hoped that the results of this study will contribute to the field of the education of international students by providing potential practices for teachers, programmes and institutions. It will do this by seeking answers to the following research questions.

Research Questions

1. *How is the ability to self-regulate learning related to the academic outcomes of Mainland Chinese students in a Foundation Studies programme?*

2. *Which factors appear to help or hinder the development of self-regulated learning in these students, and in what ways?*

3. *Is the North American theory of SRL applicable to learning for students from Mainland Chinese culture, and if so, which factors within SRL theory are more important to their academic outcomes?*

4. *In what ways can the University of Canterbury (a Western university) work to influence and improve the self-regulated learning behaviours of these students?*

To answer these questions, this research will use a mixture of quantitative questionnaires (measuring self-regulated learning, epistemological beliefs and personality) and qualitative measures (semi-structured interviews) to collect data and will use the concept of 'reciprocal causation' developed by Bandura (Bandura, 1986; 1989; 1999; Pajares, 2002a), which states that an individual's personal factors, behaviours and environment have a bi-directional effect on each other, to analyse the data. A diagram of the conceptual framework, which is adapted from Pajares (2002a) 'reciprocal causation' is presented below and will be explained and developed more fully within the Literature Review under the heading of social cognitive theory.

Behavioural

Factors

Self-regulation – time management; study strategies; goal setting; help seeking; study environment; reflection, etc.

Personal

Factors

Self-concepts & self-efficacy; personality; epistemological beliefs

Environmental

Factors

Family and cultural background; socio-economic group; previous schooling, etc.
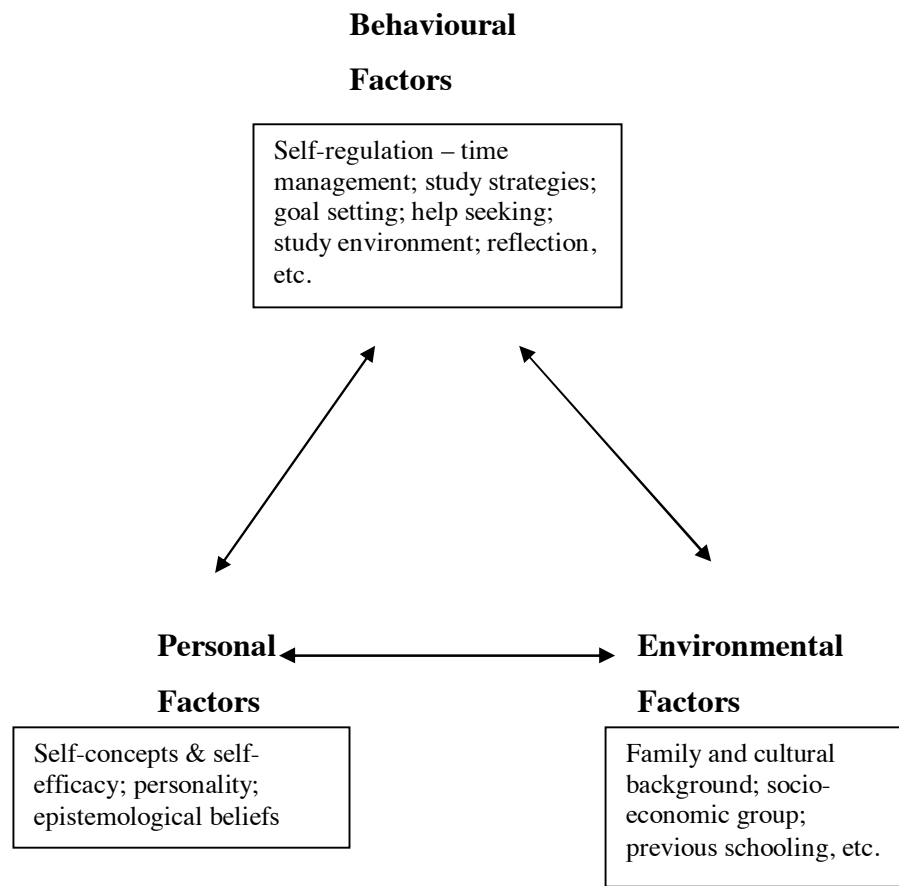
Figure 1.1:– Reciprocal Causation – adapted from Pajares, F. (2002a).

Structure of this thesis

To best answer the research questions, the remainder of this study comprises chapters focused on a literature review, the methodology of data collection and analysis, the findings from the data, a discussion of the first three research questions, and conclusions and implications related to the fourth research question.

In Chapter two, relevant literature is reviewed from the areas of Chinese culture; personality; educational beliefs and practice and theories of epistemological beliefs about learning and knowledge; social cognitive theory and self-regulated learning.

In Chapter three, the description of the methodology will include details of the rationale and theory behind this research, the tools used to collect data, and how data was analysed and written up.

In Chapter four, the findings will be presented as case studies from the data collected from each student and this information will be compared using within-case and cross-case analysis.

In Chapter five, the findings will be discussed through answering the first three research questions, exploring which factors within each student's data may have had an effect on their academic outcomes and, making reference to the literature, attempt to explain why this may have occurred. Additionally, the applicability of the North American theory of self-regulated learning to these students will be examined.

In Chapter six, the conclusions and implications will answer the fourth research question by utilising Pajares's (2002a) 'reciprocal causation' to explore how the instructor, the programme and the institution may facilitate the success of these students and avoid creating impediments to their success.

Chapter Two – Literature Review

Chinese Culture, and
Self-regulated Learning,

The scope of this research which desired to examine Mainland Chinese students' ability to be independent (self-regulated) learners as well as examining whether factors such as their personality traits and epistemological beliefs (beliefs about knowledge) had any effect on this ability has required quite wide reading of the literature. This literature review will firstly examine beliefs and practices of Mainland Chinese culture and education, including Chinese epistemological beliefs, and personality traits; then, social cognitive theory and self-regulated learning. A final section is included explaining the different teaching and expectations of New Zealand schools and universities and how this may affect Mainland Chinese students studying here.

A: Mainland Chinese students: Confucian Heritage/Collectivist cultural Beliefs

Chinese Culture
One definition of culture provided by Westby (cited in McInerney, 2008, p. 371) is 'how and why we behave in certain ways, how we perceive reality, what we believe to be true, what we build and create, and what we accept as good and desirable' and another by Hofstede, cited in Rogers (1998, p. 275) defines culture as 'the collective programming of the mind which distinguishes the members of one group from another'. Furthermore, 'cultural beliefs form the foundation for every aspect of socialization that takes place in a culture' (Arnett, 1995a, cited in Arnett, 2001, p. 98).

The researcher realises that there are many variations of behaviour and belief within any given country or culture and, that while some individuals may be more in tune with the behaviours and beliefs seen to be somewhat typical of that culture, others may have beliefs and behaviours which are more fitting to a different cultural model. It is also acknowledged that 'Chinese' and 'Western' cultures cover large areas of the globe and there are innumerable differences and nuances of practice and belief within each of these overarching systems which are now experiencing constant change due to the effects of globalisation. While holding a non-essentialist view of culture (that is, that *'culture' is a movable concept used by different*

people at different times to suit purposes of identity, politics and science'; Holliday, 2000, italics in original), in this thesis, in order to simplify the discussion of research and findings, the researcher will use the phrases 'Western culture' and the adjective 'Western' applied to beliefs and theories to apply to the predominantly individualistic ideology of North American, European and other English speaking nations, such as Australia and New Zealand ('Western culture', n.d.), and 'Chinese culture' and 'Chinese' to apply to the predominantly collectivist ideology of Confucian Heritage countries. Where possible, references will be given to explain where these ideas have come from. In other situations the 'West' and 'Western' will designate the specific groups of nations mentioned above (Britain, Europe, North America, Australia and New Zealand). It is not intended from this usage to imply that 'a society's core features are a necessary and inherent part of its culture' (Kessler, 2007, p. 2), but to provide a less verbose method of regularly referring to some of the generalised themes that appear in cultural literature (individualistic, collectivist, etc) without inferring that all members of these societies adhere to these themes and beliefs and allowing for numerous individual differences within each society.

Mainland Chinese students come from what is termed (Ho, cited in Biggs, 1996) a Confucian Heritage Culture (CHC), which values attainment of 'virtue' above all else (Yu, 1996). One step below virtue is scholarship or learning. For the ordinary people, the attainment of 'wealth, emolument, official rank and respect, longevity, perpetuation of the family line, integrity and ethics' are all important (Yu, 1996, p. 232), as is filial piety which involves 'raising one's reputation in order to exalt one's parents' (p. 232; also Zhang & Bond, 1998). Li (2001, 2002, 2003) said that Confucius's basic teaching was self-perfectability through learning and effort, something that all could seek after since all are considered educable to some degree. However, she pointed out that as perfection is in fact unattainable, what is important is life-long commitment to the search for learning and perfection, combined with humility (in order to listen and learn from others), respect, and willingness to engage in continual improvement. Although in ancient China learning came to be associated with achieving jobs in the civil service, Li also pointed out that in Confucian belief learning is about moral striving and improvement (2004; Wu, 1996) and contributing to society rather than personal gain. She suggested that CHC's emphasis on effort for success may be because the willingness to continue improving oneself is the important thing, rather than the achievement itself.

This CHC culture is considered a collectivist culture (Bond, 1996) rather than a more individualistic one such as New Zealand's culture. Mainland Chinese people, as well as those in other Chinese lands, score high on 'power distance' and 'moral discipline' and low on 'individualism' and 'integration', factors which together constitute the Collectivism factor in

the 'Chinese Culture Connection' survey of 1987 (Bond, 1996, p. 215). This large 'power distance' (Bond, 1996; Oettingen, 1995) means that parents and teachers/authorities are to be obeyed and knowledge is not to be disputed. The Chinese people also score highly on hierarchy, uncertainty avoidance (Oettingen, 1995; Oettingen & Zoslus, 2006) and discipline; low on separation from in-groups and independence; and high on personal competence (Triandis et al., 1993, cited in Bond, 1996). Among collectivist cultures Triandis (1989) called Mainland Chinese culture a "'loose' collectivist culture" as it does not punish deviation. Bond (1996, p. 217) also cited a quote by Schwartz (1994) regarding findings about Mainland Chinese culture, which says:

> These data suggest that China is not a prototypical 'collectivist' society, if collectivism refers to a conception of the person as deeply embedded in the collectivity without legitimate autonomous interests. The notion of China as a culture that legitimizes hierarchial differentiation is supported; and the major hallmark of this culture is an emphasis on entrepreneurship within highly regulated relationships ….

Winter (1996) cites Ho who postulated the idea that Chinese society is only collectivist when viewed from the US perspective of a very individualistic society. Therefore, it is important to be careful to realize that these labels are just generalizations and no one Western or non-Western society or culture may fit either of these moulds; furthermore, it is certain that while collectivistic and individualistic cultures are different from each other in a number of ways, neither type of culture is better or more advanced than the other. For instance, Suh, Diener, Oishi, & Triandis (1998) reported that while Chinese participants in their research reported more inner struggle than US participants, this struggle did not appear to affect their life satisfaction to the degree it did in the US. They suggested that perhaps relational harmony and societal norms were more important for the Chinese and thus this struggle did not affect an individual's emotions as strongly as in the US where a person's emotions may be more important than societal norms (Suh et al., 1998). In addition, in China 'collective coping' may support an individual when life is difficult (Triandis et al., 1988, p. 327) and in doing so reduce the stress and possibility of it leading to physical illness.

A collectivist culture encourages interdependence, rather than independence (Boekaerts, 1998); however, there may be many degrees of interdependence and dependence within cultures and these two words may mean different things in each culture (Markus and Kitayama, 1991). Western culture is not wholly independent, and although it may not be included in Western theories of culture, there is a degree of interdependence present in Western cultures (Arnett, 2001; Markus & Kitayama, 1991, 1998; Triandis, 1995).

Furthermore, Wing On (1996) commented that, while the self in Confucian culture is constrained by familial and societal expectations, the self freed of these constraints can be just as individualistic as any other. In addition, within a culture, Yamaguchi, Kuhlman and Sugimori (1995, p. 659) differentiated between idiocentric and allocentric persons and said that allocentrics 'are those who weigh collective goals more heavily than they do private goals, especially when the two are in conflict' (also Triandis et al., 1988) due to fear of in-group rejection or close attachment to one's group. Those with allocentric tendencies in collectivist societies report more adequate social support than those with idiocentric (individualistic) tendencies (Triandis et al., 1988).

Nevertheless, every culture is constantly changing due to the effects of globalisation and the resultant influence of other cultures (Arnett, 2001), thus these traditional behaviours and supports may not be as strong as in past years. It has been suggested by Yu and Yang cited in Salili, Chiu, and Lai (2001) that the modernisation of their country may result in young Chinese becoming more individualistic in their thoughts and behaviours. For example, Markus and Kitayama (1991) cited Hwang (1976) as saying that, while the motive for behaviour is usually linked to family and filial piety for those with more interdependent selves, with the rapid social change occurring in China there has been an increase in people acting with independence. However, more recently, Salili et al. (2001) have stated that research has demonstrated that Chinese students' achievement is still strongly influenced by their culture's collectivist beliefs.

Despite this heritage of collectivism, Chinese people may still desire individual freedom, even if this is not as easy to acquire or as complete as in a Western society and must be worked out within an interdependent culture (Markus & Kitayama, 1991). These same authors claimed that Chinese usually act within their social norms and while the underlying motive for action may be different, they suggest the external appearance of an interdependent or a dependent action may look the same (Markus and Kitayama, 1991). As an example, these authors propose that in another culture with a different way of viewing the self, the concept of self-monitoring may be viewed differently.

In addition, while this interdependence recognises in-groups and out-groups and, Triandis et al. (1988; Triandis, 1989) suggested that in CHC it is important that one acts in a collective and sociable way towards those in one's in-group, this may not be the case towards others outside that group; therefore there may be different and even antagonistic relationships with out-groups. In fact, collectivist individuals may struggle to be more generally sociable than those in individualist societies, according to Triandis et al. (1988).

Earley, Gibson and Chen (1999) hypothesized that people from collectivist cultures might use both personal and group feedback to develop their self-efficacy beliefs or beliefs about their ability to successfully complete a given task (this concept is explained more fully under the heading of self-regulated learning later in this chapter), yet these beliefs are secondary to this collective relationship (Arnett, 2001). This self-efficacy is developed from feedback on behaviour within cultural norms (Oettingen & Zoslus, 2006) and it appears that the norms for Chinese education are to work hard to succeed and obey authority figures unquestionably (while perhaps receiving negative feedback because acceptable behaviour has such high standards; Oettingen et al., 2006). This may explain why these authors found that Chinese self-efficacy was lower than Western self-efficacy despite their reported higher achievement.

Although CHC cultural expectations are different to Western expectations, Chinese adolescents may still experience the same conflicts as their counterparts in the West, yet express them in different ways. Yau and Smetana (2003) reported that Chinese adolescents in Shenzhen experience 'behavioural' independence at a later date than American teenagers and that they encounter conflict with parents (usually mothers) over academic choice and study. The authors reported that teenagers stated that this conflict was due to their desire for greater independence and choice; however most reported that their parents made the final decision. Those teenagers were reasonably accepting of this, possibly due to the need to retain harmonious relationships with their parents whom they had been raised to defer to; however Yau and Smetana proposed that Chinese teenagers, while appearing to conform externally to parents' wishes still express a clear desire for more independence. Despite this desire, the aforementioned cultural and societal expectations of caution, responsibility and harmony, and legal rules, as well as the pressure of school exams with heavy future consequences, may restrict these students from rebelling against parents and society and from the type of exploration of life indulged in by many Western teenagers to their own detriment, according to Nelson, Badger, & Wu (2004).

Filial piety, the belief that children should act with honour, love and support to one's parents and ancestors, is important (Salili, 1995) and common in CHC cultures, and Ho (1996) said there is no non-Chinese equivalent. The belief is that superiors or elders should be shown filial piety and these people have absolute power over the individual. There is very strong societal and cultural pressure to be obedient to parents and filial piety is 'the basic ethic governing intergenerational and, by extension, interpersonal relationships in Chinese society' (Ho, 1996, p. 156). Filial piety appears to be linked to traditional authoritarian parenting and resistance to cognitive change (or cognitive conservatism). Ho (1996) suggested that those in

lower socio-economic groups usually express greater filial piety and that this filial piety may affect a child's openness and cognitive development due to its link with convention and conformity (Ho, 1996; Zhang & Bond, 1998). Furthermore, Boey (1976) cited by Zhang and Bond (1998) found that a child's cognitive development tended to be negatively affected by their parents' emphasis on filial piety. As one of the factors affecting students' approaches to learning, Gow, Balla, Kember & Hau (1996) proposed that demonstrating obedience and filial piety to parents and older relatives reinforces interdependence rather than autonomy. However, Ho (1996) argued that filial piety may be decreasing in Mainland China and that the reported attitude to it may be more common than the actual behaviour.

Nevertheless, despite the possible decrease in filial piety, Chinese values seem to be linked to filial piety and respect for authority and it appears that these collectivist Chinese values still have a strong effect on the behaviour of young adults with the result that, in general, they engage in less risk-taking behaviour than young American adults and consider caring for family members to be an important value (Nelson et al., 2004). Furthermore, according to these authors, Chinese individuals are expected to live up to societal expectations of good behaviour and serious study and there is a positive link between traditional values of responsibility and students' academic performance. Kashima, Siegel, Tanaka, & Kashima (1992) cited in Triandis (1995) stated that 'In collectivist cultures, role demands rather than feelings control behaviour' (p. 18) and individuals in a collectivist society are particularly concerned with fitting into their appropriate place in society (Markus & Kitayama, 1991) and pleasing others, such as their parents. Triandis (1995) argued that this may result in these individuals persevering (also Triandis et al., 1988) and achieving higher externally imposed goals than if they were self-chosen goals. Despite all of these 'restrictions' and because of these beliefs, Markus and Kitayama (1991, p. 229) suggested that:

> … the goals of others may become so focal in consciousness that the goals of others may be experienced as personal goals. In other cases, fulfilling one's own goals may be quite distinct from those of others, but meeting another's goals, needs, and desires will be a necessary requirement for satisfying one's own goals, needs, and desires.

Vansteenkiste, Zhou, Lens & Soenens (2005) proposed that people have a universal need for autonomy which, when it is supported, leads to optimal learning and increased well-being, while control and coercion lead to decreased well-being. They suggested that if an individual chooses to study for autonomous reasons this will result in choice and use of adaptive learning strategies, greater academic success and fuller well-being. In contrast, if an individual is forced to study, this may result in less concentration, a negative attitude,

increased anxiety, depression and decreased time management (Vansteenkiste et al., 2005). Nevertheless, they also proposed that conforming to societal norms when those norms 'are fully endorsed by the individual' is actually autonomous decision making rather than conformity (p. 470); thus, conforming to social norms and parental expectations may be autonomous behaviour with all its reported benefits for some students from Mainland China.

According to CHC, the generalised belief is that effort improves ability (Li, 2001), contrary to common Western beliefs, which say that high effort implies low ability (Bandura, 1997). However, individuals who are of high ability, and possibly also only children, may actually believe that increased effort does demonstrate lower ability, since even within Western culture this belief differs between individuals. In addition, Stipek, Werner, and Li (1989) proposed that for Chinese adult university-educated students effort was not seen to be as important for success as it was for younger students and their parents, who, they proposed, were still 'dominated by parental and teacher socialization' (p. 101).

Finally, in many cultures, especially traditional ones such as those existing within China (Ross, 2006; Seeberg, 2006), male children have often been preferred to female children. Past reports in China have indicated that male babies are more greatly valued than female babies and that there had been a problem with female foetuses being aborted or left to die when born (Peng, 2000) so that, according to Ross (2006), at that time the sex-ratio was 120 male births to every 100 female births. Despite this preference, when parents are only permitted to have one child, it is to be hoped that they will love and provide for that child fully whatever the sex. Perhaps the only child policy may have been influential for females in China in helping to increase their value as members of society and their future choices. In addition, Arnett (2001) has pointed out that globalisation (and Western individualism) now appears to be influencing even traditional cultures; thus, while traditional beliefs may still exist, it is to be hoped that these do not have any detrimental effect on female students' academic success, although according to a number of researchers (Postiglione, 2006; Ross, 2006; Seeberg, 2006) in China this may still be an issue.

Chinese personality and behaviour
Markus and Kitayama (1998) hypothesized that:

> … personality (most broadly defined as the qualities and characteristics of being a person) is completely interdependent with the meanings and practices of particular sociocultural contexts. People develop their personalities over time through their active participation in the various social worlds in which they engage (p. 67).

They also said that 'there are culture-specific ways of having or being a personality' (p. 71).

Some authors have argued that personality is fixed and does not change with age or circumstances (Boekaerts, 1996b; Ross, 1963, cited in Boekaerts, 1996b; Van Lieshout, 2000), while others, such as Mischel (1973, cited in Boekaerts, 1996b) pointed out that in general, 'scores on personality tests administered to the same individuals twice over a rather long interval show relatively low test-retest correlations, but that personality questionnaires repeated in similar circumstances show more consistency' (p.338). In addition, McCrae et al, (2000) cite Agronick and Duncan (1998) who said 'Experience of acculturation can change personality profiles … and some longitudinal research has shown that personality change is associated with life events' (p. 175), yet they also said that there have been very high test-retest correlations for personality in those who were over the age of thirty when the first test was done and this is maintained for over thirty years (McCrae et al., 2000); also that slower personality changes are seen after the age of thirty. Furthermore, these authors suggested that 'Basic tendencies follow a pattern of intrinsic maturation, whereas characteristic adaptations respond to the opportunities and incentives of the social environment' (McCrae et al., 2000, p. 184). As the students in this research are less than thirty years of age it is therefore possible that environmental influences experienced in the New Zealand culture may cause changes in their personality traits.

In Western society, one of the key personality assessment questionnaires at this time is the NEO Five Factor personality inventory (McCrae & Costa, 1997; Cheung et al., 2001; Costa & McCrae, 1992). This measure assumes five universal personality traits of Openness, Extraversion, Agreableness, Neuroticism and Conscientiousness and has been utilised in many Western countries as well as used in translated form in other areas of the world, partly since other non-Western cultures have not, at least till very recently, had personality inventories of their own. The creators of the NEO Five Factor have claimed that their inventory accesses universal personality factors which are possessed by all cultures (McCrae & Costa, 1997). According to their inventory, Chinese individuals often score quite highly on the clinical scale of depression (Cheung & Leung, 1998). Yet, Cheung and Leung have suggested that the fact that there are 'consistent cross-cultural differences in the responses to certain construct domains may raise doubt on the functional or conceptual equivalence of those domains in the new cultures' (p. 235) and thus there was:

> … the need for the construction of an inventory that includes major culture-specific personality domains in addition to the culture-comparable personality constructs if a

personality inventory is used for the purpose of providing a reliable and valid assessment instrument for people of that culture (p. 236).

McCrae, Costa Jr., and Yik (1996) suggested that there might also be cultural differences in how individuals self-report. They suggested that Chinese people might downplay their efficiency, and not express ideas that are disapproved of in their culture. They pointed out that Chinese extraversion seems low (compared to America) but also that emotional expression is not encouraged in China. In addition, Chinese students reported low scores on traits within the Conscientiousness Factor of the Five Factor model, yet compared to American students they appear much more conscientious. These authors suggested this might be due to using the behaviour of other Chinese students to judge their own behaviour or perhaps the desire not to look better than others (a Chinese cultural characteristic; Markus & Kitayama, 1991).

Because of these differences, Cheung and Leung (1998; Cheung et al., 1996) postulated that personality traits possessed by Chinese people were not adequately represented by the NEO Five factor model and therefore they and other Chinese researchers have developed an inventory to access Chinese personality traits – the Chinese Personality Assessment Inventory or CPAI. They found that not all of the Five Factor traits mapped nicely to the CPAI and that the Openness Factor especially did not appear to fit. The CPAI was tested among numerous groups of Chinese people in Hong Kong, Singapore, and Mainland China (Cheung, Cheung, & Zhang, 2004a) and norms were established. More recently it has been tested on other societies. Cheung (2004; Cheung, Cheung, Wada, & Zhang, 2003; Cheung, Cheung, Leung, Ward, & Leong, 2003) claimed that it may actually measure traits in the personality of individuals in Western nations that the Five Factor model misses. After being normative tested, it has been redeveloped as the CPAI-2 and renamed the Cross-cultural Personality Assessment Inventory.

Research by Cheung, Cheung and Zhang (2004b) and Church and Lonner (1998) have found personality commonalities among Chinese people. Cheung et al. (2004b) found that males show stronger leadership and self-confidence than females. They also mentioned that younger individuals report higher scores for the Social Potency factor of the CPAI-2 and accept novelty and new experiences more readily, however they also experience more emotional and behavioural problems which tend to settle as they age. These younger age groups also score lower for the Interpersonal Relatedness Factor and for responsibility for the Dependability factor. The researchers linked these differences to differences in development and socialisation practices (Cheung et al., 2004b). Nevertheless, many of these behaviours also seem to be common to youths from Western countries.

Furthermore, in the area of learning, other research has found that some areas of personality are more important than others to explain learning differences. De Raad and Schouwenburg (1996) have linked the Conscientiousness factor of the Big Five to persistence which is highly advantageous for learning and Berno and Ward (n.d., p. 17) report that this factor is 'associated with better psychological and sociocultural adaptation' when students move to another country to study. De Raad and Schouwenberg also found that Conscientiousness plus ability, low extraversion, and emotional stability may have a positive effect on academic success (1996, p. 323). The Dependability factor of the CPAI-2 with traits of meticulousness, practical mindedness and responsibility appears to measure more or less the same traits. These same authors also cite Gough (1953) who discovered the importance of Conscientiousness traits for high academic ability and grades; Cattell, Cattell, and Johns (1984) who said that the Conscientiousness Factor predicts 'school grades' (p. 325) and Romine and Crowell (1981) who found that students who were academically successful possessed self-regulation and responsibility among other attributes. Furthermore, according to Yates, Yates and Lippett (1995, cited in De Raad and Schouwenberg, 1996), there is a connection between academic success and optimism in eight to twelve year old students. They suggested that this optimism increases the desire to learn and understand what one learns. Whether this continues to be true as students mature is not certain, but may be the case. Also '… a strong body of literature shows that optimistic, positive expectations of success foster effort and persistence and, ultimately, successful performance' (Oettingen & Zosuls, 2006). Therefore, students who are low on traits such as these that appear to have links to success in academia or high on those which may have a detrimental effect on grades, may well be expected to struggle more with their studies than those who possess the traits more strongly.

Age and gender may also have an effect on an individual's behaviours and perceptions. Boekaerts (1996a) commented that Compas et al. (1989) found that different primary stressors tend to affect different age groups. For the 18-20 year age group the primary stressor tends to be academic in nature and is more likely to cause 'psychological symptoms' (p. 465). Boekaerts also cited Seiffge-Krenke's (1990) research which found that adolescents increasingly rely on peers to help them cope with stress. In addition, their research found that males perceive stressful events to be only one-fourth as stressful as females do and that they are also less affected by this stress than females are. Furthermore, they said that females are more likely to desire support and sympathy from peers and family members than are males. However, this gender difference may not necessarily be the case for Chinese students who may be used to seeking peer help in their schooling.

High scores for harmony and 'ren qing' or relationship orientation scales of the CPAI-2 tend to predict filial piety (Cheung and Leung, 1998; Zhang and Bond, 1998), which may have an effect on how students respond to stress since, as mentioned earlier, students who are high on filial piety may be more rigid in their beliefs and behaviour. However, if a student's goal is to succeed, not just for themselves, but also for those they care about such as parents and family, they are much more likely to use active problem-based coping to deal with the stresses and problems they encounter (Boekaerts, 1996a). Boekaerts also found that independent management of problems in eighteen year olds resulted in higher self-esteem than if they avoided or reacted emotionally to their stressors.

Other personality factors may also affect academic success. Church and Lonner (1998) pointed out that individuals from collectivist cultures tend to have stronger beliefs of external control by 'powerful others or chance' (p. 43) rather than internal control. In studies in Western countries, Connell (1985) found that those with internal locus of control were more successful academically and Pintrich (1989) reported that this locus of control was advantageous for academic performance, depth of learning and use of metacognitive strategies for learning (all cited in Pintrich, Marx, & Boyle, 1993). It is unclear whether this is true for Mainland Chinese students. According to Bandura (1997, p. 41), optimism and perceived control (locus of control) are not linked to self-efficacy beliefs; in fact any connection is 'largely from their redundancy with efficacy beliefs'. However, Braden (1995) pointed out that some research has found a connection between more successful academic results, perseverance when learning is difficult and internal locus of control. Lastly, test anxiety, while detrimental at either extreme, has been found to be beneficial at medium levels to encourage learning (Braden, 1995).

Chinese parenting
According to Huang and Prochner (2004), Chinese parents view themselves as authoritative in their parenting style; a style that has been shown in research in Western nations to encourage self-regulated learning and positive academic results in their offspring. The same authors commented that while traditional research has viewed Chinese parents as authoritarian in their parenting, this judgement is using Western countries' theories of what is normal. They also pointed out that Chinese childrearing practices are experiencing a number of changes due to influences from the media and globalisation. Chinese parents in Mainland China tend to emphasize dependence and interdependence training which results in their children developing a socially oriented achievement motivation (Kim & Park, 2006; Yu, 1996) and these parents see themselves as responsible for deep care and self-denial in order to

provide financial and emotional support for their children (Park & Kim, 2004, cited in Kim & Park, 2006).

Different childrearing techniques may have an effect on the way that children learn to deal with stressors and what coping strategies they use (Boekaerts, 1996a). Chinese parents (and teachers) expect high effort from their children (Chen & Stevenson, 1995; Heine et al., 2001, cited in Dweck and Master, 2008; Stevenson & Lee, 1996) and rarely praise their work or show approval of it (Stevenson et al., 1991, cited in Eaton & Dembo, 1997; Stevenson & Lee, 1996). In contrast, they may express shame at imperfect work (Vansteenkiste et al., 2005), yet this does not appear to harm children psychologically and most children, at least at primary level, are positive about their school experience (Li, 2002; Stevenson & Lee, 1996). Vansteenkiste et al. mentioned that other researchers argue that as this parental behaviour is common, Chinese children are not as adversely affected by this chastisement as children from Western countries might be. However, they considered that this might not be the case and pointed out that, if these chastisements were reduced and children's choices were discussed and their feelings were noted, students might be more likely to study as a result of intrinsic motivation (Vansteenkiste et al., 2005).

The aim of this parental behaviour is to socialise children into the culture of Chinese schooling from an early age, so that despite the large class size and repetitive learning the students are accepting of this kind of learning and see it as their duty to exert effort as a way of demonstrating filial piety (Jin & Cortazzi, 1998; also Kim & Park, 2006) and also in order to show responsibility to their in-group. This tends to result in less classroom disruption and better concentration and study behaviours from these students.

If parents demonstrate that education is important, this may have a positive effect on children's academic development, even if the parents lack the financial resources or academic skills to aid them with their learning (Bandura, Barbaranelli, Caprara & Pastorelli, 1996). Chinese parents may pressure their children and set high goals for their achievement (Chen & Stevenson, 1995; Gao, 2008), yet are also willing to provide all kinds of support, including financial and emotional, in order that they are successful (Kim & Park, 2006). However, this behaviour may not be the case for all Chinese and within their society there are those less academically able for whom these academic expectations may be too high.

Chinese education and beliefs about learning

CHC values education highly. Confucian beliefs are that education is very important personally (Wing On, 1996) and socially and academic excellence is strongly emphasized and encouraged (Chan, 1996). Li (2004) summarised this nicely, by saying:

> … present-day Chinese do in fact hold the basic beliefs about learning as emphasized by their cultural tradition. … they show that learning is highly valued and is a lifelong pursuit. People's purposes of learning are to master knowledge, to develop intellectual ability, to achieve moral self-cultivation, to gain practical benefits for oneself as well as for one's family, and to make social contributions to the larger world. Chinese children's school achievement, as repeatedly documented, is likely to be influenced by these beliefs operating jointly rather than by any single factor. Likewise, their parental and school practices are also likely to be informed by these beliefs (p. 119).

The importance of learning in Chinese beliefs would appear to be reinforced by the large number of words for, and ideas about, learning contained in the Chinese language (Li, 2001). Li (2005) pointed out that Chinese learners seek to acquire self-perfection and, perhaps due to this, Stevenson & Lee (1996) said that achievement in schooling is considered to be much more important than other forms of achievement. (However, Li (2002) pointed out that research seemed to show that it is not achievement so much as lifelong learning that is advocated). Achievement and success are something the whole in-group celebrates and feels part of (Triandis et al., 1988) and students consider it their responsibility to do well for those in their in-group (their family). Kim and Park (2006, p. 280) commented that East Asians 'believe that self-regulation is the most important factor leading to success or failure' and students are trained to persevere and be academically successful. Furthermore, as schooling is so important, taking up a great deal of time, and children's social life is thus quite restricted, school activities and classmates play a large part in Chinese students' lives. Education is seen to provide access to social and economic improvement (Sue & Okazaki, 1990, cited in Stevenson & Lee, 1996) as well as moral growth (Jin & Cortazzi, 1998). Although, in the past, women's education was not encouraged (Chan, 1996), the belief is that everyone can be educated if they are willing (Lee, 1996, cited in Volet, 1999a), even if some can attain higher learning than others (Wing On, 1996).

Effort attributions

Confucian culture, while believing that children are born with ability (some more than others) also believes children need to learn knowledge (Chan, 1996) and that ability and learning can

be improved through hard work (Hau & Salili, cited in Salili, 1996), effort and willpower. Also, due to the belief that all are able to develop and mature (Leung, 1996) humans may attain perfection in this way. CHC belief is that students should have a 'heart and mind for wanting to learn' or a passion for learning (Li, 2001, p. 122; 2002) and that 'diligence, hardship, steadfastness, and concentration' are key ways to carry out this pursuit (Li, 2001, p. 122). This belief in effort for academic achievement (Hong, 2001; Rogers, 1998) may create pressure on students, yet also enable them to persevere even when the work is difficult and/or boring (Li, 2002). However this forcing of oneself to persevere may not necessarily be externally instigated but may, according to Ryan and Deci, cited in Li (2002; also Li, 2001; Kim & Park, 2006), be an independent, self-regulated action.

Effort attributions to success or failure (for example, failure is due to insufficient effort) result in less harm to one's self-esteem (Salili, 1995; 1996) and students holding this attribution will work hard even when they might fail, thus decreasing learned helplessness (Salili, 1996). In addition, Rogers (1998) cited Clifford who suggested that Chinese students view learning strategies as an important part of both success and failure. Therefore, in the case of failure these students are able to attribute it to inadequate or inappropriate strategies; an attribution which helps reduce their feelings of guilt or shame and encourages them to discover and utilise more effective strategies in the future. Furthermore, success or failure in a task is seen as part of lifelong learning rather than being important of itself (Li, 2001).

Nevertheless, despite rating effort highly, Chinese students may still enjoy ability attributions (Rogers, 1998), and Hong (2001) theorised that as some Chinese students grow older, they begin to believe both that effort results in success and that higher ability necessitates less effort. As a result of this second belief, some students may experience a decline in motivation and a subsequent decline in grades. Research by Stipek, Werner, and Li (1989) concluded that perhaps in the area of effort and ability attributions, young Chinese and American university students may hold similar beliefs, as they found that both groups appeared to hold the same 'Western' beliefs in this area. Western beliefs are that effort indicates low ability and that ability is unchanging (Stevenson & Lee, 1996). Yet, in general, according to Triandis and Suh (2002), collectivists view their environment as stable and themselves as adaptable. Thus, when they fail their motivation increases, since they judge that they can change their outcomes by exerting more effort (Heine et al., 2000, cited in Triandis & Suh, 2002; Li, 2001).

Confucian learning beliefs
In the past, education was free to all, was seen as preparation for future employment, and learning was encouraged for its own sake to aid in personal development, including moral

development (Munro, 1969, cited in Stevenson & Lee, 1996). Thus learning should be thoughtful, questioning, deep, and wide ranging (Li, 2005). In this respect, the Chinese tendency to memorise texts first, then permits the learner to thoughtfully reflect on what they have memorised. However, there is also the more external view to learning which encourages achievement motivation to move forward socially. According to Chan (1996), it seems that Chinese education is still influenced by the ancient system of exams for officials in China where the answer was important, rather than the process of finding it. This, Chan suggested, may not encourage the development of critical thinking, problem solving skills and independent learning (Gow et al., 1996). Wing On (1996) was careful to point out that while these are the beliefs of Confucian culture regarding education, it is not necessarily true that all modern Chinese think and behave in this way. Nevertheless, one effect these beliefs have is that Chinese parents are usually highly involved in their children's education and children have positive attitudes towards school.

Due to these beliefs, the teacher holds a prominent and authoritative role in Chinese education. Teachers are viewed with respect and endeavour to help all students learn and develop as people (Li, 2001; Salili, 1995). A good teacher in Chinese society is one who has 'deep knowledge, an answer to learners' questions', is a 'moral example' and a friend and role model (Jin & Cortazzi, 1998, p. 752). Wing On (1996) also pointed out that in Confucian beliefs a good teacher should be a guide to students' learning, but not do their thinking for them. The teacher often deals with the whole class as a collective, yet may work with an individual child with the support of the rest of the class (Jin & Cortazzi, 1998). These authors noted that when this occurred there appeared to be no open mockery, as might occur in a Western classroom when a slower child is singled out for extra help.

According to Kim and Park (2005), in collectivist cultures there is less conflict between the values held by the educational system, the parents and society. Academic achievement is a child's main goal and is reinforced by family and societal values. As their families and society value education, they are taught to value learning and pay close attention to the teacher from an early age (Jin & Cortazzi, 1998; Volet, 1999a) or to "fit in" as Ward (2001, p. 17) expresses it. This culture of educational readiness and acceptance may result in better academic outcomes, greater use of achievement motivation, and more use of deep processing and linking of new ideas to existing knowledge; all part of mastery goals and self-regulated learning (Jin & Cortazzi, 1998; Li, 2001; Salili, 1995; Stevenson & Lee, 1996; Wing On, 1996).

Thus, Chinese students are usually very successful academically, even in an overseas environment. Walker, Greene and Mansell (2006) and Paris and Winograd (2003) have found that students who feel an affinity with school or other educational institution are more likely to achieve the above-mentioned results and other research has shown that Chinese students do better than US students in maths, science and even in reading ability (Stevenson & Lee, 1996). The reason appears to be that Chinese students spend more time on study and less time on extra-curricular activities (Chen & Stevenson, 1995) even when they are young. Most of the difference in grade achievement between European American and Asian American students appeared to be due to 'non-cognitive performance', such as their collective group beliefs, and expectations of hard work and academic success (Farkas et al., 1990, cited in Kim & Park, 2006). As mentioned earlier, the Chinese tend to believe in success through hard work (Hau & Salili, cited in Salili, 1996; Heine et al., cited in Dweck & Master, 2008) and link effort to ability, whereas in the US working hard at a task may be linked to low ability (Stevenson & Lee, 1996).

Traditionally, an ideal Chinese child, according to Wu, should show 'good moral character, intelligence, and obedience, in addition to good health and personality' (1996, cited in Huang & Prochner, 1996, p. 230). The one child policy has been viewed in a negative light as resulting in 'more behavioural problems and less cooperativeness' among Chinese children, according to Wang, Oakland & Liu, 1992, (cited in Winter, 1996, p. 226) however, while parents may spoil their 'little emperors', according to Wu (1996), other research has shown there is little behavioural difference between only children and those with siblings.

Achievement motivation

Theory on how students approach their learning has uncovered three separate approaches to learning (Biggs, 1999; Gow et al., 1996). One, founded on extrinsic motivation, is a surface approach where a student aims to complete tasks as simply and quickly as possible (Biggs, 1999). Students taking this approach see learning as a means to an end (Gow et al., 1996) and tend to have a performance goal orientation. They also tend to make more use of learning strategies such as rote memorisation (Biggs, 1999; Gow et al., 1996). The second approach is a deep approach, founded on intrinsic motivation and interest in the subject (Biggs, 1999; Gow et al., 1996). These students tend to have a mastery goal orientation and seek to develop understanding and mastery (Biggs, 1999; Gow et al., 1996). To do this they utilise learning strategies such as elaboration (Gow et al., 1996). Chinese students are said to be high on the third approach to learning, an achievement or strategic approach (Gow et al., 1996).

Western achievement motivation is founded on extrinsic motivation where the aim is to achieve high grades and the student will do whatever is necessary to achieve this. Students feel positive about their success, are competitive, well-organised and disciplined. These students seek high grades and increase self-efficacy by public achievement (Gow et al, 1996). Students espousing this approach may utilise any learning strategies which they deem useful to achieve high grades and are quick to seek clues as to what they believe is expected of them (Gow et al., 1996). Biggs (1987, cited in Zhang & Watkins, 2001) found that achievement motivation seemed to be either a combination of both a surface learning approach and a deep approach or one approach or the other depending on what a student considers will be most effective way to enable them to be academically successful. If a surface approach will lead to success they will use it, but if they consider that success will only come by adopting a deeper approach they will adopt that (also Gow et al., 1996). Zhang and Watkins (2001) suggested that adopting a deep approach to learning may result in epistemological development (changes in beliefs about the construction of knowledge) and vice versa.

However Yu (1996) pointed out that the Asian form of achievement motivation is quite dissimilar to the Western form (also Salili, 1996). Yu also proposed that the Chinese 'self' is a combination of a '"family-self' and 'moral-self'. The merging of these two selves has been and still is the social and psychological basis underlying Chinese motivation for personal achievement" (p. 227). Yang & Yu, 1988, cited in Yu, 1996, p. 234) said that Chinese achievement motivation is 'the dynamic tendency to reach an externally determined goal or standard of excellence in a *socially approved* way' [italics added] or, alternatively, as Li (2001, p. 122) described it 'hao-xue-xin' or 'heart and mind for wanting to learn' (a passion for learning). It is a social motivation and is aimed at saving family face by success in learning (Salili, 1995; 1996; Watkins & Biggs, 2001). The student links success to social relationships and the combined effort of others with the self, while failure is linked to social guilt, shame, depression and the like. As a result of this, due to strong pressure from parents and society to succeed, even when failure has depleted a student's achievement motivation, they may still exhibit achievement behaviour, when students from Western countries may not do so (Yu, 1996). If success in the task is important, students will strive harder to meet their expectations.

According to Church & Lonner (1998, p. 47), achievement motivation is also linked to the practice of raising independent children who can personally master tasks, as well as 'to the economic development of a society' These authors suggest that this motivation may be useful in building interdependence in a collectivist society. As part of this approach to learning, Chinese parents show love to their children by providing them with the best learning

opportunities available and their children respond and show their love by doing well in their studies (Mordkowitz & Ginsburg, cited in Gow et al., 1996). However, it should be noted that societal modernisation may be having an effect on this achievement motivation (Yu, 1996). For example, Zhang (2000) found that this achievement orientation appears to decline as students mature and that these older students seem to utilise a deep approach to learning more often than their younger counterparts.

Iyengar and Lepper (1999) reported their research findings which appeared to show that individual choice, one of the keystones of intrinsic motivation, according to North American theories of motivation (Silverman & Casazza, 2000), may not have the same effect on motivation in collectivist (Asian) societies as it has been demonstrated to have in Western societies. They reported that Asian American school students showed greater intrinsic motivation and performance in given tasks when the task was chosen for them by a respected member of their in-group, their mother or a friend, rather than when they were allowed to make their own choice about the task. The two researchers proposed that individuals from collectivist cultures may prefer to have their decisions made by trusted others rather than have personal choice and that 'actions that could be seen by rugged individualists as unwarranted usurpations of fundamental individual rights may be viewed by dedicated collectivists as the necessary fulfilment of expected social obligations to family and friends' (Iyengar & Lepper, 1999, p. 363). Nevertheless, Schunk (2002) has suggested this may also be true in Western societies when individuals accept a goal set by others as their own and desire to achieve it.

Iyengar & Lepper (1999) also pointed out that whereas Western theory says that intrinsic motivation is distinguished from extrinsic by whether the cause is personal or external, this distinction may have to be reassessed when the 'interdependent self' (p. 364) of a collectivist culture views behaving in accord with others in one's in-group as a key part of affirming oneself.

In addition, Eaton and Dembo (1997) concluded from their research that, while for Western students self-efficacy (explained fully on pages 62-66) is seen as the key to academic success, with Asian American students' fear of academic failure appeared to be a better predictor of academic success. Eaton and Dembo (p. 437) commented that:

> Asian American students simultaneously possess a high need to approach success, because of the cultural value of educational achievement, and a strong need to avoid punishment, because of the fear of academic failure. This emotional orientation translates into Asian American students persisting on achievement tasks (mastery

orientation) while fearing an inability to achieve parental standards (performance orientation). Asian American students' capability to balance these seemingly contradictory motives across different academic settings cultivates cultural beliefs about learning while de-emphasizing situational perceptions of ability (i.e. self-efficacy).

Having an achievement goal orientation (like a performance goal) may increase a student's self-efficacy, possibly due to the fact that CHC society recognises that effort leads to success and thus is encouraging of an achievement goal orientation (Gow et al., 1996). This orientation is affected by the responses received by a student's family and friends and may have a strong effect on a student's behaviour. For example, students who are experiencing a difficult course and receiving minimal praise from their parents and teachers may have a decline in their self-efficacy beliefs and feel less proud of their grades, despite the fact that they are high grades, and due to these changes may work even harder (Stevenson et al., cited in Shi et al., 2001). However, Shi et al. (2001) also found in their research that more able students in Beijing appeared to have performance goals and view intelligence as unable to be changed. The authors suggested that due to these beliefs students may consider it not worthwhile to expend more effort and instead may avoid effort and try to protect their self-esteem.

How Chinese students learn

The teaching methods and learning of Chinese students in high schools and tertiary institutions have been documented in Hong Kong by Biggs (1996) and Watkins (1996); however Hong Kong has quite a Western educational system (Rogers, 1998). A much smaller number of articles have been written documenting the differences that occur in Mainland China compared with Hong Kong (Biggs & Watkins, 2001; Cortazzi & Jin, 2001; Mok et al., 2001), and Rogers (1998) has commented that even in Mainland China there seemed to have been little research done (at least little written up in English language journals).

Gardner (1989), when discussing the differences between American and Chinese teaching of art and music, said that Chinese consider the product of learning to be more important than the process of learning it; therefore teachers model and guide students to learn the required skill and creativity is not expected until the skill is fully learned (Gardner, 1989) at which stage the student is permitted to make some changes from their traditional learning and express creativity. This traditional form of learning the basics was considered essential, according to Gardner, whereas American schools tended to encourage creativity from an early age before the basics are learnt. Whether either method of education is more effective for

learning is debatable and Gardner concluded that both methods may be effective as long as the final learning outcomes are development of both basic skills and creative expression. Whether this form of guided learning still occurs is unknown to this researcher.

Memorisation and understanding

Another area of CHC students' learning which seems different to more Western ways of learning is the common use of memorisation. Biggs (1996) pointed out that CHC students may choose memorisation as a study strategy more commonly than other cultures do due to the effect of their classroom environment and assessment requirements as well as it being perceived as the traditional way to learn. Biggs and Watkins (1996) suggested that this tendency to memorise is encouraged early by the need to memorise a large number of Chinese characters when students begin their schooling. They pointed out that character recognition needs to be automatic before students can begin to understand and use them. The same may be true of English study where students need 'automaticity in the lower-level language skills' to enable them to deal with the content of their courses (Cantwell & Biggs, 1988, cited in Biggs & Watkins, 1996, p. 281).

This memorisation or rote learning has been seen in Western universities and schools as an ineffective, surface approach to learning where meaning is not sought, however Biggs & Watkins (1996) have suggested that memorisation as carried out by Asian students is often different to the memorisation without meaning (rote learning) which Western educators denigrate and that it does, in fact, involve memorising in order to then think about and find meaning. Furthermore, Marton, Wen, & Wong (2005) have proposed that over time as students move through their studies memorisation and understanding, rather than remaining distinct events, appear to become simultaneous in students' perceptions. Other research (Gow et al., 1996) has demonstrated that, although Chinese students appear to favour memorisation, they in fact score highly on a deep approach to learning both in China and in overseas institutions. Nevertheless, in China, due to decreasing numbers of places at each level of education, students may be forced into rote learning of information in order to cope with the heavy exam load, according to Gow et al. (1996).

Traditionally, it appears, understanding is believed to develop slowly; therefore it is acceptable for Chinese students to memorise information and then to think about it to gain understanding (Dahlin & Watkins, 2000; Watkins & Biggs, 2001). Dahlin and Watkins (2000) have suggested from their research that 'attentive effort' is important in the type of repetition which leads to memorisation and understanding. As Confucian wisdom states 'Read it one hundred times, and understanding will follow spontaneously' (Hess and Azuma, 1991); also

'Seeing knowledge without thinking is labor lost; thinking without seeing knowledge is perilous' (Cleverley, 1985, both cited in Purdie and Hattie, 1996).

Furthermore, research by Biggs and Watkins (1996) and others has shown that English language students may use the 'high-level self-regulatory technique' (McInerney, 2008, p. 382) of memorising and understanding strategically to reduce their cognitive processing load in their second language and also to show filial piety to their teacher.

Despite this emphasis on memorisation, research also seems to indicate that Chinese students report preferring and using more deep than surface strategies to learn (Biggs, 1996), although Tang said that, in Hong Kong, students judged heavy assessments to require surface strategies (Tang & Biggs, 1996). Furthermore, Gow et al. (1996) made the comment that the need to acquire large amounts of knowledge may discourage deep learning in Chinese students. As large amounts of knowledge need to be assimilated for heavy assessments in Mainland China, it is uncertain whether Chinese students get taught and encouraged in deep learning, as Confucius proposed, before they become immersed in the pressure of exams, or whether the reality is quite different to the cultural teaching. According to Li (2002, p. 250), Chinese learning emphasizes seeking knowledge rather than achievement, as well as lifelong learning, hard work, 'humility' and 'a desire to learn' while school academic requirements appear to demand memorisation of facts (Biggs, 1996), surface learning (Kember, 1996; Salili, 1996) and achieving for later prosperity (Sue & Okazaki, cited in Stevenson & Lee, 1996). Also, Gao (2008) has commented that in China students 'were urged to go through a strenuous process of learning for examinations in an increasingly competitive learning context, whether or not they liked the process or not.'(p. 610). Therefore, while students may prefer deeper learning, it is quite possible that the educational system with its examination emphasis may prevent them retaining this preference if they wish to be academically successful.

Since academic success is important to the whole family or in-group, a student's failure may impact not just on themselves but on the whole family (Grant & Dweck, 2001). Therefore, because of the CHC belief that all can learn despite their ability (Li, 2001), Chinese students may force themselves to persist in the face of difficulties, leading some to autonomous self-regulated behaviour and causing others to feel shame and guilt if they fail (Li, 2002). This determination to persist, according to Schunk (1984, cited in Zimmerman & Schunk, 2008) appeared to indicate students who were more likely to be autonomous learners than those who did not persist.

In Mainland China, Jin and Cortazzi (1998) reported that students rarely ask their teacher questions during class because, as well as not wanting to disrupt the class or their teacher, students also consider that they should first think about and understand the information before asking. This behaviour, according to the authors' research (1998), is a sign of a good student in China, and appears to show that they are involved in independent learning. Thus, although Western research views Chinese students as teacher dependent, it would seem that 'Paradoxically, the Chinese teacher-centered approach increases learner responsibility in learning how to learn. Large classes in China do not seem to foster dependence on the teacher.' (p. 744).

Chinese epistemological beliefs

Chinese epistemological beliefs or their beliefs about the construction of knowledge are also assessed in this research. These beliefs may be affected by their cultural learning beliefs. From a North American perspective, Hofer and Pintrich (1997) defined 'epistemology' as the study of 'the nature and justification of human knowledge' (p. 88) and Kitchener (1983) has suggested that there are three levels at which students think. The first level is 'cognition', which involves activities or strategies such as memorising, reading and understanding. The second level is 'metacognition', which is where the learner plans cognitive strategies and then monitors, evaluates and adapts these strategies. Kitchener then added a final level, which she labels 'epistemic cognition', where learners ask themselves questions about the 'limits of knowledge', how certain they are about what they know and how they make decisions about what they know. Kitchener (1983) stated that North American research had shown that there were changes in the area of 'epistemic knowledge' from late adolescence to early adulthood, when learners move from a stage of believing that there are absolute answers for everything to a stage of relative knowing where they make their own decisions from the information that is available to them. This movement, she said, was activated and hastened by being in an educational environment and the 'cognitive dissonance' this created for an individual (also Kitchener, King, Wood & Davison, 1989; Perry, cited in Zhang & Watkins, 2001). Note: See Appendix C for more information on this area of literature.

It would be interesting to observe whether students coming from Mainland China enter New Zealand universities with an absolutist stage of thinking (especially as teachers often view them as immature) or whether they are at the same stage as US university students. Research has suggested (Kitchener, King, Wood, & Davison, 1989) that most students at US universities appear to begin university at about the stage in any of the proposed models (see Appendix D, page 318 or Table 2.1 on page 35) where their thinking is beginning to change from absolutist where everything has an answer to believing that everything does not have an

immediate answer. Studies of epistemological beliefs done in other cultures (Kitchener and Wood, 1987) do not appear to demonstrate the same trends as US studies, and thus, educational environment and/or culture may have an impact on the development of epistemological beliefs.

While Schommer (1994), cited in Tolhurst (2007), has stated that 'there is enough evidence to suggest epistemological beliefs are critical to the learning process' (p. 220) for Western students, the small amount of research on Chinese students advances the possibility that this may not be universally valid, since Qian and Pan (2002) have suggested that while Chinese students may have low epistemological beliefs they are still able to achieve conceptual change with these beliefs, unlike US students. This, the authors proposed, may be due to the possibility that Chinese epistemological beliefs are not closely linked to educational success (also Williams and Deci, 1996) or, because the questionnaire uses Western cultural ideas which are inappropriate in a Chinese setting (Schommer, cited by Qian & Pan, 2002).

North American research has suggested that epistemological belief development appears to have any effect on students' development of self-regulated learning (Hofer and Pintrich, 1997; Lindner, Harris, & Gordon, 1996), but there is no clear evidence of this for other cultures. Furthermore, Tolhurst (2007) found that students with more complex epistemological beliefs tended to receive higher grades and it was suggested (Brownlee et al., cited in Tolhurst) that structuring courses in order to make students reflect on their learning and thus move to more complex epistemological beliefs would be advantageous to learning. Hofer and Pintrich (1997) cited Triandis et al. (1988) who speculated that it is possible that in collectivist cultures students' beliefs of knowledge will look for 'consensus' rather than independence. Whether this will have any effect on students' willingness to think for themselves would also be interesting to investigate.

Level of epistemological belief	What this means	Types of learning associated with this belief
Absolute beliefs	Knowledge is certain, absolute, unchanging and unable to be disputed.	Knowledge can be learnt by memorisation of facts and regurgitated when required for tests. Knowledge will not change so there is no need to process it further. A surface approach to learning is sufficient.
Transitional beliefs	Some knowledge is indisputable, while other types of knowledge may have no certain answer.	
Independent beliefs	Knowledge is uncertain and each person has their own beliefs and biases.	Knowledge needs to be transformed and understood in order to decide what you believe yourself; knowledge needs to be linked to other ideas and used to develop meaning and sense. A deep approach to learning is required for this to happen.
Contextual beliefs	Knowledge is contextual; it is judged on the basis of evidence in context.	

Table 2. 1: Epistemological beliefs and Approaches to Learning

Adapted from Baxter Magolda, M. B. (1992). Knowing and reasoning in college: Gender-related patterns in students' intellectual development. San Francisco: Jossey-Bass.

However, Chan and Elliot (2002), researching Hong Kong teaching students, found that the mixture of CHC and English culture in Hong Kong seemed to have weakened these students' beliefs in authority and certain or absolute knowledge (especially if they were over 20 years of age). They suggested this may also be due to children's rebellion against strict parental controls in Hong Kong. These authors also found that those taught by Western lecturers in English, although they achieved higher grades, also expressed views of innate (absolute knowledge); more so than those taught by Chinese lecturers. It may be that the need to succeed in English taught courses forces lower English ability students to follow their lecturers' beliefs more closely since they do not have the capacity to both critically assess what they are taught and to understand it at the same time. This may be the case for some students in this study.

Also, research by Zhang and Hood (1998, p. 1256) on undergraduate students in Mainland China appeared to show 'a cognitive developmental pattern opposite that described by Perry',

with first year undergraduates expressing Relativistic and Commitment beliefs (close to Baxter Magolda's Independent and Contextual beliefs) and third and fourth year undergraduates expressing more dualist (absolute) beliefs. These authors postulated that this was due to to the educational trends of lack of career and subject choice and teacher-led learning preventing the development of cognitive dissonance which is said to produce changes in epistemological beliefs (also Zhang, 1999). They thought that these results might not be valid for any other group in Chinese education as changes were at that time occurring rapidly in both Chinese beliefs and teaching. As well as this, Zhang and Watkins (2001) found that Chinese students' academic success did not appear to be affected in any significant way by their beliefs about knowledge; unlike American students. Zhang and Hood (1998) also reported that students from rural areas were more likely to report higher Commitment beliefs, and that science students in all undergraduate years were more dualistic (or absolute) in their thinking than those in the social sciences. This second point appears to agree with Western research which found that the way subjects are viewed and taught may affect the epistemological beliefs of those studying these subjects (Felder & Brent, 2004). See Appendix D for more information on this area.

In addition, cultural learning beliefs may affect epistemological beliefs and development. Li (2001) pointed out that the 'Chinese conceptual framework of learning is founded on an epistemology for learning that lays out clearly what knowledge is, why people need to learn, and how knowledge is to be acquired' (p. 130). If, as Li said, the epistemology of knowledge construction is clear in Chinese society, does this clarity, combined with Confucian beliefs of lifelong, effortful, deep learning to acquire self-perfection, result in learners seeing knowledge differently to those in Western cultures where education is further from the centre of societal beliefs and behaviours? While Zhang's research (1999) used a form of Perry's model which investigated the epistemological beliefs of male students mainly, she clearly stated that her results demonstrated that 'Perry's theory cannot be applied universally' (p. 436).

In conclusion, epistemological beliefs about knowledge have been found to have an influence on students' learning and achievement in a North American university setting (Perry, Jr., 1999; King & Kitchener, 1994; 2002), however, the small amount of research that has been carried out in a Chinese setting appears to show little, if any, connection between students' beliefs and achievement; furthermore, epistemological stages of belief appear to be reversed for Chinese students (Zhang & Hood, 1998).

Schooling in Mainland China

It should be noted here that not all of the following information is of recent origin, however, where possible, recent articles and books on the subject of Mainland Chinese education are cited to increase the reliability of this section of the Literature Review. This information is also mostly provided by non-Chinese writers and therefore may contain some bias and misinterpretation, especially where the information is opinion rather than fact. Unfortunately, most of the recently written articles on schooling in Mainland China are only accessible in the Chinese language.

Access to schooling

Schooling in China has been theoretically available to all children for a compulsory nine years ('Education reform in China', 2002; Postiglione, 2006; Thøgersen, 1990; Wang & Zhou, 2003) since 1986; this means up until the end of junior high school (Thøgersen, 1990). These compulsory nine years of schooling comprise six years primary schooling and three years junior middle schooling (Cleverley, 1991). The three years of senior middle or high school are not compulsory ('Education system in China', 2004). However in some areas of China these compulsory nine years may have still not been completely realised (Cleverley, 1991; 'Education reform in China', 2002; Postiglione, 1992; 2006; Rosen, 2004; Wang & Zhou, 2003). According to Thøgersen (1990), only about 50 per cent of students had access to these nine years by 1990. This limited access, according to Postiglione (2006), is partly due to poverty (Wang & Zhou, 2003) and ill-health preventing students from successful learning (also Ross, 2006; Yu & Hannum, 2006) and partly due to inadequate educational funding of rural areas.

As a result, urban and coastal areas of China are economically and educationally ahead of areas in the west (Postiglione, 1992; 2006) and rural areas of the country (2006) and a number of groups within China experience less than adequate access to education, especially in these western and rural areas of the country. These groups include females, unregistered children, minorities, and migrant children. Firstly, fewer females (Postiglione, 2006; Ross, 2006; Wang & Zhou, 2003) and 'black' children (children who are unregistered as they are illegal second or third children under the one child policy and thus are not allocated a place in schools) receive an adequate education (Cleverley, 1991) and many remain at school for much less than the nine compulsory years (Ross, 2006; Seeberg, 2006). Thørgeson (1990) pointed out that girls were underrepresented in upper middle and tertiary education in 1990 and also in upper rural schools, partly due to traditional attitudes to female education (also Kurman, 2001; Postiglione, 2006), and were much more likely to be illiterate than males (Wang & Zhou, 2003). Postiglione (2006) reported that this underrepresentation was slowly improving,

nevertheless, females still had less access to education and training for more highly paid jobs than males. In 1990 32 percent of females were classed as illiterate nationally in China compared with 13 percent of males (Lamontagne, 1999). Wang & Zhou (2003) reported that by 1997 this level had improved to 9.84 percent illiteracy for males and 23.29 percent for females nationwide.

In addition, minority groups, who dwell mostly in the west and in rural areas, still have very inadequate educational resources and development (Cleverley, 1991; 'Education reform in China, 2002; Pepper, 1996; Postiglione, 1992; 2006; Thøgersen, 1990; Wang & Zhou, 2003). To compound this, rural children are valuable as labourers to help their family provide food and income; a requirement which may influence school dropout rates (Postiglione, Jiao, & Gyatso, 2006). According to Postiglione (1992), minority children tend to have a lower education level with less enrolling in primary education and less being retained at higher levels of schooling (Lu & Zhang, 2004; Postiglione, 1992; 2006; Ross, 2006). Also, their teachers are often poorly trained, although the government has sought to remedy this problem (Postiglione, 1992; Wang & Zhou, 2003). Apparently, there are considerably higher illiteracy levels among most minority groups nationally (30.8 per cent) compared to Han Chinese illiteracy rates of 21.5 per cent; and this gap is reasonably consistent within most provinces as well (Lamontagne, 1999).

Migrant children who are not registered may have no official school place available or affordable for them (Lu & Zhang, 2004; Kwong, 2006), and due to their families moving regularly to look for better paid work in the cities (Postiglione, 2006) and thus disrupting their children's schooling, there may be a number of over-age students in schools around the country (Lu & Zhang, 2004). As a result of this issue, migrant families in urban areas began to organise their own urban schools. According to Postiglione (2006), by the beginning of the new century there were more than 200 migrant schools in the capital, Beijing, yet in general these schools were not well funded or staffed as the teacher was often a migrant as well and might be untrained (Lu & Zhang, 2004). Therefore, if students attended a migrant school they might receive a low quality education (Kwong, 2006) and these schools with migrant teachers did not appear to integrate their students into the 'mainstream culture' of the cities (Kwong, 2006, p. 173) but kept them separate. Furthermore, amongst these children there has been a large dropout rate due to the cost of schooling (Lu & Zhang, 2004). As an alternative to migrant schools, some migrant students may return to their home town to study (Postiglione, 2006), however these rural schools are often poorly equipped, receiving less funding than urban schools (Postiglione, 2006).

As well as inadequate facilities and funding in rural schools, it seems that the structure of Chinese education which requires passive learning of information for examinations which may be irrelevant to their present and future lives, according to Xiao (2006), means that children in these schools do not develop the 'ability to relate previous learning to daily work and to improve the quality of the work', a skill which is valued by employers (Xiao, 2006, p. 118). Thus it would appear that, in general in rural schools, Chinese education 'does not at all reflect the generic conceptions of ability and knowledge that firms value' (Xiao, 2006, p. 131).

According to Rosen (2004), whereas previously education was much cheaper and available to all who were academically able, Chinese schools now charge fees for every level of schooling and there are regular fee increases. This has occurred over the last two decades as the Chinese government has sought to devolve its responsibility for funding the education of its populace to individual areas of the country (Mok & Wat, 1998; Postiglione, 2006) and has resulted in further inequalities in education between those poorer people in rural areas and the more affluent urban dwellers (Lu & Zhang, 2004; Postiglione, 2006; Rosen, 2004). Permanent urban families may choose to enrol their children in private 'minban' elite schools, in order to ensure that these children get the best education possible; however, these schools are usually unavailable to migrants' children due to their high fees (Lin, 2006). This author argues that there has been a clear 'stratification' of Mainland Chinese society which has been effected by access to education, with those able to access good education becoming part of a new middle class and those unable to access good education being relegated to the lower class. Lin also commented that this new middle class exists mainly in the cities.

As mentioned earlier, education in China has for centuries been a valued acquisition (Li, 2001; 2004; Salili, Chiu, & Lai, 2001), however over the last two to three decades it has become increasingly valued as a means to higher social status and greater material assets resulting from superior job prospects (Thøgersen, 1990; Rosen, 2004). Because of this, middle class parents are often willing to pay whatever is needed to get their child into a good school so that they can succeed educationally and gain a well-paid job (Lin, 2006). This idea of making money and getting rich is part of a new societal value, according to Rosen (2004). In addition, Wang, Oakland & Liu, cited in Winter (1996) have suggested that the idea of a collectivist culture is changing due to the effect of the one child policy and the possibility that this is creating a large number of very self-centred, individualistic students (also Yu & Yang, cited in Salili, Chiu & Lai, 2001) who view money and status as very important factors (Rosen, 2004).

The classroom in Mainland China

According to Biggs and Watkins (2001), although there has been little research on Mainland Chinese schools, classrooms there have a more relaxed atmosphere and teachers are more student-centred than in Hong Kong classrooms. Due to the large population, schooling in China has usually involved large classrooms, around 40 to 60 students per class, (Biggs, 1996; Jin & Cortazzi, 1998; Watkins & Biggs, 2001) and strict teacher control of learning (Biggs, 1996) or in other words, external regulation of learning. Students are expected to work hard in order to succeed and improve their family's future, and trained to passivity and obedience in class since this works better for learning in large classrooms (Biggs, 1996; Jin & Cortazzi, 1998). Ginsburg (1992) said that in China knowledge cannot be 'challenged' and is transmitted from the authority of the teacher to the students. However, Jin & Cortazzi (1998) have suggested that this behaviour, labelled in Western classrooms as 'passive', is 'active' behaviour in a Chinese classroom where students are expected to listen and be intellectually alert, study individually and practice metacognitive reflection while memorising information.

While classes are large, teachers do not teach all day, but after fast moving 40-45 minute lessons (often teaching only their key subject even at primary level, unless they are in a rural school) they have free time to prepare lessons (Jin & Cortazzi, 1998) and relate to students. Watkins and Biggs (2001, p. 18) reported that this classroom teaching involves 'tightly orchestrated teacher centred teaching' with the teacher putting thought provoking questions to the class and allowing time for them to consider the questions. All of this allows for a positive learning environment; however, these authors admit that this type of class depends on the ability of the teacher and their beliefs about teaching. Less skilled teachers may simply stand and deliver information to their students without challenging them overly. In all of this the belief is that the teacher is the 'authority', 'a model' and like 'a "parent"' (Cortazzi & Jin, 1997, cited in Ward, 2001, p. 18).

Mainland Chinese students need to acquire large amounts of information for exams (Biggs & Watkins, 1996; Thøgersen, 1990; Watkins & Biggs, 2001) which are important (Gao, 2008) as the results may decide their future (Biggs & Watkins, 1996) and the belief has been that, if a student fails these exams, it is the teacher's responsibility as the teacher transmits the information (Ginsburg, 1992). Biggs (1996) also mentioned that as there are numerous exams at high school requiring regurgitation of information, students may adopt the strategy of rote memorisation in order to succeed in learning of this large amount of information.

Changes to Chinese education

In the past, the setting up of 'key' schools which took those most academically able and utilised the most skilled teachers and modern resources caused ordinary high schools in China to be shunned in preference to these new schools which would almost guarantee university entrance (Pepper, 1996; Rosen, 1984). This resulted, according to Pepper, in reduced attendance and effort by those students in ordinary high schools who then saw no chance of further educational success. As a result of this, according to Rosen (2004), the government tried to discourage 'key' schools until senior high school level, in order to reduce the competitiveness of the educational system. However, despite this, according to Rosen (2004; Lin, 2006), these schools have remained and in order to cover their costs with reduced government assistance, may now take in several classes of high achieving students plus several classes of lower achieving students who pay higher fees.

As has happened in many Western countries, the demand for education in our more technologically oriented world and the reduction in government funding of education has resulted in 'marketisation' of the education system in China, where educational institutes must provide for the needs of their customers, the students, who are paying highly to be educated, according to Mok & Wat (1998). Chan & Mok (2001) have proposed that this should empower students and their parents to demand quality education. This demand, they said, has also encouraged the development of numerous private schools for those who can pay even higher fees or who failed to achieve entry to one of their preferred schools, perhaps as a result of low grades.

Several authors have suggested that most Chinese students today would consider education useful for what it enables them to attain, rather than as an end in itself (Salili, 1996, & Yang, 1986, both cited in Winter, 1996). Even in 1990, Thøgersen proposed that, despite the teaching of moral education and the need to help others, in Chinese schools there was a 'hidden curricula' of achievement which most students seemed to recognise, and which resulted in a very competitive education system and students refusing to help each other. This may still be the case, since examinations still appear to decide academic status and future opportunities. Furthermore, Ho (2006, p. 354) has suggested that in spite of the reintroduction of 'Confucian values' in schools, '[t]he development of a market economy has resulted in students' materialistic and individualistic value orientation becoming more and more apparent in the mainland'.

As well as the traditional value of education, Salili (1994, cited in Rogers, 1998) proposed that educational success had been strongly emphasized due to the shortage of places in universities and that once students were at university their career success was more likely; however, with the marketisation of education and the Chinese government's relinquishment of some of its responsibilities towards education, these future jobs are no longer guaranteed (Rosen, 2004). Furthermore, Mok (2003) commented that higher education is very important to Chinese parents who, due to privatisation of universities and reduced government funding during the 1990s, may need to fund their children's university studies personally.

For the last few decades, university entrance exams have played a large part in organising secondary schooling curricula. Yet, according to Thøgersen (1990), research into the 'validity' of the university entrance exam in 1980 indicated that it tested not academic ability but memorisation ability and that grades in this exam did not match with students grades once they entered university studies. Despite this, this exam still decides the academic future of millions of Chinese students.

However, according to 'Education Reform' (2002), there is at present an attempt to reform the Chinese education system from an exam-centred (Yin & Liu, 2007) to a quality-centred education, but this may take time. Aibe Chen, Deputy Director of the Department of Educational Administration, Beijing Institute of Education, interviewed in the article 'Education Reform' (2002), commented that Chinese education emphasizes 'book knowledge, rather than practical ability' (also Yin & Liu, 2007) and has a very rigid syllabus due to the need for everything to be assessed by exam. She commented that the aim of this reform was to keep the things that are valued such as 'hard work, discipline, paying attention to … basic skills and knowledge' (p. 96) and also to learn from other countries' education systems.

Universities in Mainland China

According to Thøgersen (1990), in the past, students were permitted to continue their education past secondary level if they were of high academic ability, of the right class and/or espoused the majority political beliefs. In addition, Thørgeson mentions that in the past a university might accept male students at one exam grade level and set a higher grade of entry for female students. In the 1980s the Chinese government guaranteed university graduates a job for life (Rosen, 1984; Lin, 2006), however this ended in 2000 (Cheng, Jin & Guo, 1999). (Nevertheless, Rosen (2004) has suggested that if students join the Communist Party it may still help them to get a job). Furthermore, Sautman (1999) reported that more recently the government has established preferential entry levels, quotas, reduced fees, extra academic help and special accommodation for those ethnic minority students who manage to access

higher education (also Wang & Zhou, 2003). This preferential treatment is aimed at reducing 'the economic and social gap between Han and minority people' (Sautman, p. 174).

At present, with a large upsurge in demand for tertiary education, there are limited university places for the millions trying to gain a university education and many do not succeed in acquiring a place, although the government is attempting to address this issue by building a large number of new institutions as quickly as possible. They have also allowed a number of overseas universities to open campuses and joint programmes in China (Altbach & Postiglione, 2006; Davey, 2005; Lin & Liu, 2007; Oxford, 2008) and instead of being completely state owned as in the past, many universities are now private or part private, part state institutions (Mok, 2005).

As a result of this demand, money has now become important for access to schooling at all levels in China and a 'new stratification' is occurring within Chinese society between those with money and technology and those without, according to Rosen (2004, p. 46; also Lin, 2006). Since 1992 (Mok, 2005) those students who received a lower grade in the university entrance exam have been able to attend university if they were able to pay higher fees for the privilege (Mok & Wat, 1998; Rosen, 2004) and from 1997, every Chinese university has been 'user-pays' (Cheng, Jin & Guo, 1999; Lin, 2006). Rosen (2004) pointed out that some universities may have three levels of fees depending on how well students did in their exams, with students who achieved the lower grades paying more. However, this practice of fee charges has also made tertiary education accessible only to those in the middle class who can afford to pay (Lin, 2006).

Without very high exam grades students will have difficulty gaining entrance to prestigious public universities and private universities are considered less prestigious, since they will admit students of any academic level that can pay the fees (Lin, 2006). Therefore, if the finances are available, many Chinese students choose to travel overseas for tertiary study in less competitive study environments and some choose to come to New Zealand. However, it should be noted that while an overseas degree has been viewed as better than one obtained in China, Sun, Gui, & Chen (2005) argued that high numbers of students returning from overseas recently has meant jobs are not so readily obtainable and may not pay as well as these students expect.

Studying in another country also has its own difficulties due to different ways of teaching and educational expectations; therefore this next section provides a brief overview of the expectations and practices of New Zealand schools and universities.

Western schools and Universities

Characteristics and expectations of Western (New Zealand) education

In general, Western schools and universities (including New Zealand institutions) have expectations, that over the course of their studies, their students will develop the ability to learn independently (Key competencies, 2006; Scevak, 2007; 'University of Canterbury Charter', 2003). At primary and secondary school classes are, in theory, student centred and students are expected to take progressively more responsibility for their learning as they progress through their schooling ('The context, n.d.); more so than in China. Education is important (although not as important as in China) and compulsory for the first eleven years of schooling (or until an individual reaches the age of sixteen). This importance has recently increased due to societal changes in work expectations, resulting in a greater number of students seeking higher education ('The context', n.d.). Thus, due to the perceived need to provide an educational framework to support student development in this area in a time of rapid technological and global change, the New Zealand government Department of Education has developed a number of initiatives over the last decade or two to develop students' essential skills. It is seen that without these skills and the ability to pursue lifelong learning, individuals will be left behind in the new 'knowledge society' ('Key competencies', 2006).

As part of this revising of the New Zealand primary and secondary school curriculum, the idea of 'key competencies' of 'Relating to others; Managing self; Participating and contributing; Thinking; and Using language, symbols, and texts' are replacing the older idea of 'essential skills' that students need to learn ('Key competencies', 2006; 'The context', n.d.) These key competencies include a metacognitive dimension: thinking about, evaluating and adapting one's own learning (Hipkins, 2007) as well as the requirement to set goals, manage time, organise and overcome difficulties in learning (Rutherford, 2004). Some of the key competency aims are to 'empower students to become experts on their own learning' (Hipkins, 2007, p. 5), to enable them to deal with the present and future challenges in their lives, to be able to think creatively, respond appropriately and adapt skills to carry out meaningful tasks in the real world not just within the school environment (Hipkins, 2007). This also encourages students to create, assess and connect their knowledge to other knowledge they already possess, therefore possibly developing concepts, stimulating interest and adapting existing skills (Hipkins, 2007). Thus it can be seen that learning in New Zealand schools is intended to be more than just acquiring and memorising information as is often necessitated for Chinese students by exam pressure (Biggs, 1996). It is also intended that students develop the ability to use these skills, information and ways of thinking to deal constructively and adaptively

with real life and learning situations and acquire the ability to creatively cope with whatever the future requires of them.

Furthermore, in New Zealand schools students are expected to be active participants in their own learning; to request explanations and aids to understanding from the teacher during classtime (a practice apparently uncommon in Chinese schools especially at high school level; Jin & Cortazzi, 1998; Stevenson & Lee, 1996). In addition, knowledge may be challenged; and critical thinking is encouraged. Few of these activities seem, from the research, to be acceptable in Mainland Chinese schools (Biggs, 1996; Jin & Cortazzi, 1998).

NCEA (the New Zealand 'National Certificate of Educational Achievement' Levels 1, 2 and 3) was established in 2000 to replace older high school exams of School Certificate, University Entrance and University Bursary exams. It is achieved by students during their eleventh, twelfth and thirteenth years of schooling and provides those who achieve the required number of points with a university entrance qualification ('National certificates', n.d.). The NCEA qualification is partly internally and partly externally assessed ('NCEA', n.d) 'against **preset standards'** ('NCEA', n.d.; bold in original), thus aiding those students who experience severe test anxiety and do not do well in exams. Some fear that it is creating a generation of lower achievers who aim for a pass rather than high grades and because of this a number of schools have recently chosen to offer international qualifications such as the Baccaulaureate or Cambridge exams to their higher ability senior students (Trevett, 2007). However, the NCEA website points out that achievement credits of excellence are available and that 'Excellence criteria are demanding and students who achieve 'with excellence' for all or most of their standards will demonstrate higher-level thinking skills.' ('NCEA', n.d.). Chinese students, in contrast, may have developed a high achievement motivation from a highly competitive exam-oriented education system where excellence and high grades are valued. This may work to their advantage; nevertheless where this exam pressure has led to unquestioning acceptance of teacher information and memorisation strategies rather than in-depth understanding (Stevenson & Lee, 1996) they may then be disadvantaged by New Zealand university requirements with the emphasis on understanding and independent learning.

New Zealand universities
While in the past New Zealand universities only accepted students from secondary school who had achieved university entrance or a scholarship qualification (or more recently a set number of NCEA credits), for the last decade or two they have also accepted those who have reached the age of twenty years who may or may not have completed their education. As a result, not all students entering New Zealand universities were high achievers at secondary

school (Purdie, 2001) as is the case for Mainland Chinese students. In addition, the secondary/tertiary transition is often quite strenuous as despite the teaching of independent learning skills below tertiary level (Hipkins, 2007), not all students are competent in these skills when they enter university, when they must also deal with the different culture of the university (Silburn, 2006). Therefore for New Zealand students entering the University of Canterbury or any other New Zealand tertiary institution there will probably be a time of struggle and adjustment, although possibly to a lesser degree than Mainland Chinese students who must deal with language, social and cultural changes as well as educational and academic culture adjustment.

University study, according to Biggs and Tang (2007), has the supreme goal of aiding lifelong learning, which means 'that students can learn to handle unseen problems in their field of study' (p. 148) and these authors cite Barrie (2004) who described key areas of lifelong learning as 'information literacy' and 'personal and intellectual autonomy' (p. 149) which includes specific and general study skills as well as being able to reflect on one's own learning. Different degrees of independence in learning are required by different cultures and at the present time Western educational systems tend to favour a high degree of independence from students especially at tertiary level; although Clifford (1999) pointed out that within a university institution this independence 'is limited'. What is more, Western research has also suggested that this ability to be independent learners is advantageous for students' academic achievement (Boekaerts et al., 2000, cited in Schunk, 2005; Pintrich, 2003, cited in Schunk, 2005; Purdie, 2001; Purdie & Hatttie, 1996; Zimmerman & Martinez-Pons, 1990; Zimmerman & Risemberg, 1997).

The University of Canterbury, Christchurch, New Zealand, also requires independent learning. In its Charter the University states the goal 'To pursue excellence in curricula, teaching and *life-long learning* to a standard befitting an international research university and in a manner that will *challenge and develop the capabilities, potential and intellectual independence of our students'*. (University of Canterbury Charter 2003-2010, 2003; italics added). Thus it appears that the University of Canterbury's aim for learners is aligned with that mentioned by Biggs and Tang, and its intention is to continue to develop and require independent thinking and learning. Therefore independent or self-regulated learning which will be explored next in this Literature Review will be an essential skill for students entering the university to acquire (and it appears they will be advantaged if they already possess some degree of skill in this area).

After exploring social cognitive theory and self-regulated learning, the final part of this literature review will examine the issues Mainland Chinese students may face in adapting to the learning requirements and expectations of a New Zealand university (see pages 78-84).

Summary of Chinese culture and learning

Before moving on to the next portion of the Literature Review (the area of self-regulated learning), a brief summary of the main points of this section is in order. Chinese culture is collectivist (Bond, 1996) and emphasizes hierarchy, filial piety and obedience (Bond, 1996; Ho, 1996; Oettingen, 1995; Yu, 1996). It also considers education of all to the best of their abilities to be highly important (Li, 2004; Wing On, 1996). Thus, children are taught to work hard and persist to acquire learning (Li, 2001) and Chinese parenting behaviours and their cultural beliefs about learning and education encourage this (Chen & Stevenson, 1995). Achievement motivation, a social motivation, is prevalent among these students, and means they will use whatever strategy is most effective to enhance or enable learning (Gow et al., 1996). Because of this motivation, combined with their cultural model of learning, large classes, and these students' heavy workloads to prepare for university entrance exams, memorisation is a common form of learning strategy (Biggs, 1996). Nevertheless, this memorisation is often used to facilitate understanding (Biggs & Watkins, 1996).

B: Social cognitive theory and overview

According to Pintrich (2004), two viewpoints on student learning within Western settings are reasonably compatible in the way they assess student learning, although in some areas they differ. Both theories agree that individuals are actively involved in their own learning and that 'self-regulatory activities are *mediators between personal and contextual characteristics and actual achievement or performance*' (p. 388; note: italics in original); while there is less agreement as to whether it is possible for individuals to assess and manage their behaviour and environment and whether goals are used to provide a standard against which to assess progress towards the goal or the necessity of adapting one's learning strategies. One of these perspectives comes from a British/European background and is called 'student approaches to learning' or SAL. The second, coming from a North American background, is 'self-regulated learning' or SRL. Both of these perspectives have Western backgrounds, and have been researched mostly within Western cultural environments.

A number of different theories, including operant theory, phenomenology, information processing theory, volition theory, Vygotskyian theory, constructivism and social cognitive theory, incorporate the idea of self-regulated learning within them. Zimmerman (2001) suggested that there are a number of commonalities between these theories, including the belief of individuals' active participation in their learning; an awareness that some

independent learning strategies may increase academic success; belief in individuals' ability to monitor, evaluate and adapt their behaviour from feedback on learning in order to improve skills; motivation or a lack of it; reasons why individuals do or do not self-regulate; and that self-regulation is effortful and developmental. Also, each theory considers the five areas of motivation, self-awareness, key processes, social and physical environment and the capacity to achieve self-regulation, but may have different viewpoints on them (Zimmerman, 2001).

Social cognitive theory was first proposed by Albert Bandura over three decades ago, when he suggested that individuals actively participate in their own learning and are able to take control of it if they choose; that they measure what they achieve against goals which they themselves set and that this assessment may cause them to alter their behaviour or learning strategies; that their personal self-regulation of motivation, behaviour and thinking mediates between factors in the context, factors within the individual and how an individual actually acts and the results of that action (Bandura, 1986; Pintrich, 2004). More recently, the area of affect regulation has been included as a neglected yet important area of social cognitive theory (Boekaerts, 2006, cited in Hidi & Ainley, 2008).

Key concepts in social cognitive theory are that humans are capable of *symbolic representation* (using symbols to help them understand their environment), *vicarious learning* from observing others, *forethought* (being able to think about and explain something before it happens), *self-regulation* of motivation and behaviour, and *self-reflection,* an evaluation of behaviour which may lead to increased or decreased *self-efficacy* (Bandura, 1986, 1989), a concept Bandura later introduced into his theory and which means an individuals' belief in their ability to carry out a task successfully or unsuccessfully (see Figure 2.1 below).

Social Cognitive

Theory – Key concepts

Symbolic Represent- ation (ability to extract meaning from environment, problem solving, etc)	**Forethought** (planning, goal-setting; self-beliefs, including self-efficacy)	**Vicarious Learning** (learning from watching others)	**Self-regulated behaviours** (monitoring, organising, rehearsal, elaboration, time management)	**Self-reflection** (evaluation of past behaviours and reassessment of future behaviour)

Figure 2.1: Key concepts of social cognitive theory. Adapted from Bandura, 1986, 1989; Pajares F., 2002a

Bandura (1986, 1989) proposed that three factors, behaviour, personal factors (including cognition), and the environment, are involved in an individual's responses to learning and that there is a two-way interaction between each factor, which he termed *reciprocal causation* or *determinism*. According to his theory, what an individual believes may affect what they do and what they do may affect what they feel or believe. Further, factors in the environment, including society and culture, may affect an individual's thoughts, beliefs and behaviour, while their behaviour and beliefs may cause them to develop and improve their environment (Bandura, 1986, 1989, 1997). When individuals are able to control their environmental, personal and behavioural influences they are self-regulating, according to Zimmerman (1989). Figure 2.2 on the following page illustrates how the behaviours within self-regulated learning interact bi-directionally with a student's personal factors (such as personality, self-, and epistemological beliefs) and their environment (their subjects and teachers, culture, and family background). For example, this bi-directional effect means that a student's beliefs (personal) about their ability to accomplish a task successfully will affect whether they choose to undertake it and which self-regulated strategies (behaviour) they will use to facilitate its

accomplishment. Also, <mark>the student's behaviour or lack of it may have an effect on their future environment since success or failure in a task may result in greater or lesser options for their future.</mark> In addition, <mark>failure or success may affect what degree of certainty the student has when approaching a future task (personal).</mark> Failure may result in less certainty whereas success may increase willingness to attempt future similar tasks.

Furthermore, a family background (environment) which does not emphasize education may affect a student's behaviours and whether they undertake a task or how well they manage it. This may in turn affect their beliefs about their abilities (personal) as success or failure may affect future choices and thus their future environment may stay the same or be changed by their beliefs and choices.

Behavioural

Factors

> Self-regulation – time management; study strategies; goal setting; help seeking; study environment; reflection

Personal

Factors

> Self-concepts & self-efficacy; personality; epistemological beliefs.

Environmental

Factors

> Chosen academic subjects; teachers; intake of course/peer group; workload; family and cultural background; socio-economic group, previous schooling.

Figure 2.2:– Reciprocal Causation – adapted from Pajares, F. (2002a).

Justification for using social cognitive theory

Social cognitive theory was chosen as the theory to develop this research for a number of reasons. Firstly, this research proposes to examine a number of personal, behavioural and

environmental factors affecting the individual students and the students as a group. The research also aims to explore how these factors affect the individuals' ability to self-regulate their learning. It is highly improbable, in this researchers' opinion, that these factors affect this ability individually and thus, the reciprocal causation concept of social cognitive theory may help to explore the intricate interactions which are possible (Bandura, 1989). Secondly, social context and the effect of the environment are key parts of social cognitive theory; and important for this research which is exploring the effects on students who move from one social context, environment, or culture to another. Thirdly, Pajares (2002a) commented that collective agency is included in the theory by Bandura and this 'makes the theory applicable to human adaptation and change in collectivistically-oriented societies as well as individualistically-oriented ones'. Fourthly, Bandura (1986) commented that 'within the social cognitive perspective, social factors play an influential role in cognitive development' which needs to be taken into account for these students. Bandura also cites Feldman's (1980) explanation that 'acquisition of much of the knowledge that people need to function competently in their various occupational, avocational and social pursuits depends to a considerable extent on specialised learning conditions, not on impersonal universal ones' (p. 486). These 'specialised learning conditions' may include learning conditions which vary by culture, thus cultural variation would seem to be an acceptable given within social cognitive theory. Furthermore, research within social cognitive theory (Boekaerts, 1999; Pintrich, 2003, cited in Schunk, 2005; Zimmerman & Risemberg, 1997) has found that self-regulated learning (the ability to independently control and monitor one's own learning) is a key factor in academic success and Pintrich and De Groot (1990) found that self-regulated learning was more consistently related to a student's academic achievement than their use of cognitive strategies. As Chinese students are aiming for academic success in our universities this would seem to be an important area to assess.

Finally, Pajares (2002a) commented that 'the reciprocal nature of the determinants in social cognitive theory make it possible for therapeutic and counselling efforts to be directed at personal, environmental, or behavioural factors …' Thus, using social cognitive theory to investigate the self-regulated learning of students from a non-western culture with the aim to discover ways to influence or improve this ability (as stated in the fourth research question) also seems a valid choice for this research.

Social cognitive theory and self-regulated learning

Self-regulation of learning within social cognitive theory is described as:

> …a number of integrated microprocesses, including goal setting, strategic planning, use of effective strategies to organize, code, and store information, monitoring and metacognition, action and volitional control, managing time effectively, self-motivational beliefs (self-efficacy, outcome expectations, intrinsic interest, and goal orientation, etc.), evaluation and self-reflection, experiencing pride and satisfaction with one's efforts, and establishing a congenial environment (Zimmerman; Schunk, Ertmer & Pintrich, all cited in Zeidner, Boekaerts and Pintrich, 2000, p. 753).

Purdie (2001) stated that use of self-regulatory strategies at all educational levels has been clearly linked to academic achievement by a considerable number of research projects, and Purdie & Hattie (1996) found that for both Australian and Japanese high school students a greater degree of self-regulatory strategy use was linked to higher academic achievement. Boekaerts (1999) said that the ability to self-regulate is a key factor in how people learn and Rozendaal et al. (2005) pointed out that this ability is controlled by learners' motivational, emotional, and action control systems. In addition, according to Boekaerts et al. (2000, cited in Schunk, 2005, p. 174), self-regulation is 'a process that can help explain achievement differences among students and improve their achievement'.

Areas of Self-regulated learning

Goal setting and types of goals

Within self-regulated learning students set goals for their learning. Setting goals affects performance on a task, according to Locke & Latham (1990), because these goals serve as 'personal standards' against which the learner may judge whether they are achieving anything or not (Bandura, 1986, 1989, 2001) and help in the development of self-efficacy (Schunk, 1994). In order to self-regulate effectively an individual needs both motivation and goals (Zimmerman, 1989). Goals produce results by influencing how long and how hard an individual works at the goal; by directing the individual to background knowledge and skills which may be useful and even to learning new skills and strategies if previous automatic strategies are inappropriate or insufficient (Locke & Latham, 1990).

While learners' goals may be distant, Bandura (1986) stated that it is important to create structured developmental sub-goals, as the most effective goals are those that are specific, challenging, attainable and short term (Schunk, 1994), since this allows the learner to judge

their progress towards their goal and to make adjustments to their strategies to achieve it (Schunk, 1995a). These types of goals have been found to result in greater performance due to increased self-efficacy and increased effort to attain higher and clearer standards. They also stimulate interest more than other types of goals and thus provide incentive and increase the learner's motivation to continue (Bandura, 1986, 1999, 2001; Schunk, 2002). Also, according to Locke and Latham (1990, p. 108) they are usually 'more instrumental in bringing about valued outcomes' than goals that are less specific, for example, to do your best. Furthermore, Barron and Harackiewicz (2000) and Miller and Brickman (2004) said that motivation increases when students see proximal goal attainment to be useful in attaining future valuable goals, while long-term goals which are too distant and general may lead to decreased motivation. This is partly due to the difficulty the learner may have in judging their progress towards the goal, according to Schunk (1995a). However, Schunk (2002) mentioned that those who do not express proximal goals may, nevertheless, be successful in attaining distant goals since they may subconsciously have subdivided their attainment into smaller steps. Nevertheless, Kanfer and Ackerman (1989) made the comment that whereas easily attainable long term goals may not actually require these proximal steps, for more difficult goals which require a large degree of new learning, proximal sub-goals are essential to maintain motivation.

Level of self-efficacy (as well as personal choice or externally assigned goals) may have an effect on how challenging a goal is chosen and how successful its outcome is (Locke & Latham, 1990). While these specific, challenging goals may result in improved or maintained performance, it may nevertheless be more difficult in the presence of negative feedback for individuals espousing these goals to feel the same degree of success as those espousing vague goals may feel. This, according to Locke & Latham (1990), is due to the fact that specific goals have a clear end point whereas vague goals enable the individual to decide at the time what 'doing their best' actually means and to perhaps reduce their standards.

Goals can be assigned by others, chosen in consultation with others or self-set (Locke & Latham, 1990). The goals individuals will choose are influenced by their level of future aspiration which is assessed by examining ones past performance, ability, past successes and failures, expectancy for success and self-efficacy. Individuals may also be influenced by the norms and aspirations of the group they belong to (Locke & Latham, 1990) which may either increase or decrease an individual's aspirations. According to Western goal theory, individuals are more motivated to succeed at self-chosen goals, whereas if others such as teachers or parents set goals for them they may not accept these goals as their own and thus may not try to achieve them (Locke & Latham, 1990). This theory proposes that self-chosen

goals may encourage mastery of skills and also increase enjoyment of tasks and learning; however these goals do not appear to increase level of achievement more than goals chosen by others, according to Bandura (1986; 1997). Furthermore, Bandura (1986) suggested that students may experience increased commitment to their goals if they feel a sense of responsibility to others such as their parents and Schunk (2002, p. 2) commented that while self-set goals may be useful, 'when people accept the legitimacy of assigned goals and commit themselves to attaining them the benefits are as strong as when they set goals themselves'. Thus, Chinese students who accept goals set by their parents may pursue those goals as actively as they would their own, especially since, Salili (1994) found that for Hong Kong Chinese students 'being a good daughter or son is an important achievement goal' (cited in Salili et al., 2001, p. 223). This may also be the case for CHC students from Mainland China.

Choice of goals is seen to be influential in maintaining perseverance and goal commitment (Boekaerts, 1999; Locke & Latham, 1990; Zimmerman, 1994); however, if self-chosen goals do not increase self-efficacy for the task, they may be no more effective than other types of goals to ensure goal commitment (Locke & Latham, 1990). Furthermore, these authors said that while self-monitoring of goal progress is important, external specific feedback on goal progress has also been found helpful to control goal performance.

A number of factors may affect goal commitment. Locke and Latham (1990) suggested that these include insufficient ability (although it has been found that low ability individuals show greater improvement after goal setting than those of higher ability); level of education; gender (females are more likely to set mastery goals and make accurate assessments of their progress towards those goals than males); personality traits of need and value of achievement; Type A behaviour (where the individual is more driven); self-esteem and depression (which may cause an individual to set themselves higher and less achievable standards); need for independence; internal or external locus of control (although this may be more to do with self-efficacy); task complexity and situational constraints. Having high goals and high self-efficacy may mean that although the individual may possess one or a number of these factors which may have a negative effect they will exert more effort to deal with obstacles in their path (Locke & Latham, 1990).

Students may choose to set mastery goals or performance goals. Performance goals (also called ego goals) are goals aimed at completing a task or achieving a certain grade and may involve social needs of approval or avoidance of the appearance of incompetence. Mastery goals (also called learning or task goals) are aimed at improving skill or understanding in a

certain area of learning and often increase self-efficacy, task value, interest, and affect (Bandura, 1989; Pintrich, 2000b; Ames, 1992 & Schunk, 1996, cited in Schunk & Ertmer, 2000). According to Butler (2000), mastery goals also appear to be more adaptive when failure occurs and thus should be advantageous for less able students. Linking goal orientations to epistemological beliefs, Schutz, Pintrich and Young, 1993, cited in Pintrich and Garcia (1994) have shown that those students who espouse non-absolutist epistemological beliefs (see epistemological beliefs in Appendix C for an explanation of this term) are 'more likely to be mastery-oriented and use deeper processing strategies' (p. 120) which have been shown to aid academic success. Furthermore, the deep processing of information and greater use of self-regulated learning strategies associated with mastery goals seems more likely to encourage change in epistemological beliefs (Linnenbrink and Pintrich, 2003). In contrast, these same authors commented that the setting of performance goals, which seems to produce less perseverance when difficulties occur in learning than when mastery goals are set, is more likely to result in a helpless reaction to failure as the individual may view these problems as demonstrating their lack of ability and thus produce negative affect (Molden & Dweck, 2000). Pintrich, Marx, & Boyle (1993) cite research by Ames and others which showed that teachers can encourage the setting of mastery goals by providing students with real life challenging tasks, allowing choice and control over these tasks and eliminating comparison between learners, rewards and striving for grades. However, Pintrich et al. (1993) warned that too much personal choice and control before the student is ready for it may be detrimental to their learning.

More recently, goal theory has divided both performance and mastery goals into approach and avoid dimensions as well (Elliot, 1999; Elliot et al., cited in Pintrich, 2000a). Elliot's research (1999) has demonstrated that performance approach goals, where one aims to achieve high grades for personal satisfaction and to beat others, may result in positive grade outcomes, while performance avoidance goals (where one seeks to avoid failure or embarrassment, for example) are linked to lower results and performance, and decreased interest in the topic. In addition, performance approach goals appear more likely to produce high grades than mastery goals (Elliot & Church, 1997, cited in Linnenbrink & Pintrich, 2000) and are adaptive in classrooms where grading is emphasized (Harackiewicz, Barron, Tauer, & Elliot, 2002), while mastery goals are more likely to produce student continuance in a subject, interest and persistence in a task (Harackiewicz, Barron, Pintrich, Elliot & Thrash, 2002; Pintrich, 1999; Ames & Archer, cited in Wolters, 2004) and preference for challenging tasks (Meece, 1994), but not necessarily high grades.

Furthermore, Patrick, Ryan and Pintrich (1999) mentioned that a mastery goal orientation is usually positively linked to self-regulated learning, while a performance goal orientation is usually negatively linked to self-regulated learning. Research also suggests that if a student has a performance goal they are more likely to use ineffective learning strategies since they view learning as simply a means to an end (Hagen & Weinstein, 1995). Nevertheless, Pintrich and Garcia (1994) have also pointed out that extrinsic or performance goals of high grades may be useful (especially in a compulsory course, such as a Foundation Studies course) as they may provide the motivation for students who are not particularly interested in the course to engage constructively with its content.

Research by Shi et al. (2001) and Wolters (2004) has linked mastery goals to self-efficacy, greater challenge and enjoyment, deep learning, more adaptive strategy use and persistence in difficult tasks (Ablard & Lipschultz, 1998); and performance goals to effort avoidance, disengagement, and lack of perseverance (Shi et al, 2001; Wolters, 2004). Wolters commented that those students with performance goals may have the skills to succeed but not the will or motivation. However, Shi et al. (2001) mentioned, as did others (Pintrich, 2000a; Ames, 1992), that the pressure of workload and assessment, and need to succeed in higher education all have a negative effect on mastery goals, yet a positive effect on performance goals. Yet, despite this possibility, according to Barron and Harackiewicz (2000), 'what proved more critical than the type of goal pursued was whether the goal fostered competence valuation and task involvement' (p. 240), therefore, if performance goals serve this purpose they may not be disadvantageous to learning. Shi et al. also said that Chinese students' self-efficacy seemed to be increased by demonstrating to themselves that they could succeed, which may explain the positive link between self-efficacy and performance goals.

Bembenutty and Karabenick (2004) have suggested that future time perspective (a person's orientation towards future distant goals and how these goals affect their present behaviour) and academic delay of gratification (delaying present chances to indulge needs and desires and moving towards distant but better academic goals) are part of self-regulated learning. If the two are present, students are more likely to persevere and complete academic tasks. They commented that 'Students, whose time perspective extends to distant future goals, embed their self-regulatory activity within a longer period, have a more elaborated set of goals, and perceive greater instrumentality in reaching them' (Bembenutty & Karabenick, p. 43). Bembenutty and Zimmerman (2003) proposed that not delaying gratification may result in academic failure and thus, delay of gratification may be necessary for successful use of self-regulatory strategies. In addition, Gjesme (1979) suggested that future time perspective is

more closely linked to an approach goal orientation and females tend to have a more positive perspective than males.

The type of goal a person develops is often activated by the context and it is quite possible for the context to be both interesting (a mastery goal) and important for future needs (a performance goal). Pintrich (2000b) reported that an individual may have multiple goals, and Boekaerts and Niemivirta, (2000) proposed a hierarchy of goals where higher level goals hold more value for the individual and have more of an influence on their self-concept. Furthermore, Hagen and Weinstein (1995) said that joint mastery and performance goals are possible and may be beneficial since the possession of a mastery goal should lead to more effective strategy use, because mastery goals are linked to self-regulated strategy use (Ablard & Lipschultz, 1998; Pintrich & Garcia, 1991, cited in Hagen & Weinstein, 1995).

However, research by Meece and Holt (1993), cited in Wolters, Yu and Pintrich (1996) found that mixed goals were not as effective as straight mastery goals to improve task value, strategy use and grades. This may be because multiple goals, while useful if they do not conflict with each other (Schunk, 2002), require good self-regulatory learning skills to organize all the goals and the degree of value the student places on each one may decide which one receives priority (Wentzel, 2000). Meece and Holt's and Pintrich and Garcia's research (both cited in Wolters, Yu, & Pintrich, 1996) indicated that a combination of a high mastery goal and a low performance goal resulted in better cognitive engagement, strategy use, grades and achievement as well as more 'adaptive motivational beliefs' (p. 215). The next best seemed to be a high extrinsic or performance goal; however this did not appear to help academic performance, motivation and self-regulated learning. According to Brophy (2005), considerable research has shown that multiple goals, especially if there is conflict between the goals, may put too much pressure on an individual's 'cognitive resources' and make it difficult for them to concentrate on specific goals.

Students have many different reasons for choosing the goals they do. Performance goals are hard to ignore because, as Wolters, Yu, & Pintrich (1996) commented, most students regard high grades as important. Pintrich (2000a) suggested that while an individual may have a preference for one type of goal orientation which they would normally use, in situations which are important and where it seems that another type of goal orientation would be more effective, an individual may chose that orientation instead. Sansone and Smith (2000) divided goals into target ('behavioural referents specific to that activity at a given point in time') and purpose goals which provide the reason for the target goal behaviour (p. 343). These authors hypothesized that the personality trait of Conscientiousness (or Dependability), normal goal

orientation, beliefs about intelligence and individual interest all work together to decide which target and purpose goals the individual chooses.

Although there is debate over the effectiveness of multiple goals, it may be, according to research covered in Montalvo and Torres' (2004) review of the self-regulated learning literature, that a combination of mastery and performance goals are very beneficial for academic learning and these appear to be the type of goal orientations epoused by Chinese students in their achievement orientation to learning, as dedicated students may espouse both a high mastery and a high performance orientation (Rogers, 1998). Furthermore, Montalvo and Torres commented that other research seemed to show that a social orientation, which means the learner feels the need to succeed for the sake of others (which is also part of a Chinese achievement orientation) combined with mastery and performance goal orientations, might be the most advantageous orientation for successful learning. Thus Chinese students' goal orientations may be particularly adavantageous to their learning.

Adaptive help-seeking

Other aspects of self-regulated learning may be impacted by the type of goals a student holds. For example, students holding mastery goals are often not concerned about how they present to others academically so are willing to seek help when needed. However, students espousing performance goals may feel that they will be seen as incompetent if they ask for help in class, and thus may avoid seeking help so as to hide their lack of understanding or ability (Middleton & Midgley, 1997; Tanaka, Murakami, Okuno & Yamauchi, 2002). Tanaka et al. (2002) proposed that this behaviour may be particularly true of males with performance avoidance goals. The same authors further commented however, that it is possible that if students have very strong mastery goals they may actually avoid help seeking in order to retain their autonomy; that is, they may see help seeking as a threat to that autonomy. In contrast, students with performance approach goals may use help seeking as an aid to achievement, as help seeking may result in a reduction in their academic problems and teach them skills for future self-help (Tanaka et al., 2002). According to Newman (1991), '"Adaptive help-seeking" is a strategy of self-regulated learners' (cited in Karabenick and Sharma, 1994, p. 191; Newman, 2008). This type of help-seeking is where learners seek help in order to improve and continue learning rather than to avoid work and have the answer provided. Those who utilize other self-regulatory strategies also report the use of help-seeking and espouse a mastery orientation. In addition, higher ability students and more achievement and mastery oriented students report that they would be more likely to seek help strategically (Karabenick and Sharma, 1994).

Motivation and goal setting

Motivation is an important factor in carrying out one's goals and persisting in self-regulated learning (Dembo & Eaton, 1997; Pintrich & De Groot, 1990) and, according to Biggs (1999), takes a number of different forms. One form is extrinsic motivation which Biggs described as a desire to carry out a task because of how important the results of that task are. He further subdivided extrinsic motivation into expectations of reward or avoidance of punishment. A second form of motivation is intrinsic motivation which develops within an individual who has been academically successful in the past and enjoys learning and as a result is motivated to learn for the sake of the enjoyment and interest it provides. It has been found (Hidi, 2000) that this motivation tends to decline as children age. Biggs (1999) mentioned two other forms of motivation which are achievement motivation where students study in order to do better than others and boost their own self-efficacy and social motivation where learning is carried out in order to make other people, such as their parents, proud of them. These last two motivations, especially the social one are said to be common among students from Asian countries. Biggs (1999, p. 132) cited Hess and Azuma (1991), who commented that for Confucian Heritage culture students:

> Motivation tends to be complex and stronger than for Western students. Pressures to succeed are collectivist – familial, peer – as well as personal. Socialization practices 'create a sense of diligence and receptiveness that fit uncomfortably into … concepts of intrinsic and extrinsic motivation'.

A student's motivation to learn is affected by their goals and the value they place on those goals (Sansone & Smith, 2000), their freedom of choice (Biggs & Telfer, 1987; Davis, 1993; Deci & Ryan, 1985, 1991, cited in Deci, Ryan & Williams, 1996; Paris & Turner, 1994; Pintrich & Schunk, 1996, cited in Silverman & Casazza, 2000) and control of learning, degree of challenge, intrinsic interest in a task, the students' perception and valuing of the task and their level of self-efficacy. Boekaerts, (1997, cited in Archer, Cantwell, & Bourke, 1999, p. 48) commented that one's 'motivational orientation' is just the start of a process of 'motivational events culminating in successful performance'. Furthermore, according to Barron and Harackiewicz (2000) and Hidi (2000) the most effective form of motivation requires both extrinsic motivation for grades as well as intrinsic motivation to develop mastery and depth of learning.

Task value

Task value is important for making future choices. According to Jacobs and Eccles (2000), this comprises attainment value (the personal importance of doing well on the task); intrinsic

value (the enjoyment or interest derived from carrying out the task); utility value (how well the task relates to one's present and future goals); and cost (any negative aspects to engaging in the task). While task value has no 'direct' effect on a student's academic success, if students value a task they may invest more effort in it, whereas if they see little value in it or its value reduces, their effort may be minimal (Pintrich, Marx, & Boyle, 1993). Intrinsic interest in a task appears to result in deeper learning, more persistence, higher level study strategies, and increased belief in ability to succeed in learning. Thus, task value may affect the degree of self-regulatory strategies that students use (Paris and Turner, 1994).

However, task value judgements may be affected by other influences. Task value without real interest in the task may not result in task perseverance (Wigfield, 1994), whereas a task, which students view as relevant to their future goals, which is interesting, and seems to be achievable, is more likely to engage a student in meaningful learning (Barron & Harackiewicz, 2000; Miller & Brickman, 2004). In addition, Hidi (2000) proposed that if the long term goal held by an individual is intrinsically interesting then this may be sufficient to maintain motivation for any boring steps along the way. Furthermore, students with low academic self-efficacy may judge the assigned task to be too challenging and threatening and as a result, avoid the task, while those with a higher academic self-efficacy may find the challenge increases their motivation and, by attaining further academic success, increases their self-efficacy still further.

Effort regulation or volition control

Despite their goals and motivations, at times a student may find extreme difficulty in studying. This may be due to exhaustion and ego depletion, low mood or strong aversion to the topic that must be learned. In this situation, students will either cease learning or activate what Rheinberg, Vollmeyer and Rollett (2000; also Corno, 1986) termed 'volitional control strategies'. Volition control is defined by Boekaerts (1999) as the 'ability to initiate, persist, and disengage from a task' (p.6) and takes place after the decision making process is complete (Kuhl, cited in Corno, 1993). Snow, cited in Corno (1993) also called volition 'one of several key conative aptitudes for education, that is, a measurable potential for responsibility, dependability, or conscientiousness predictive of success in academic settings' (p. 15). These volition control strategies are self-regulatory strategies such as attention control and encoding control processes, which help the student to decide what is important to the task and to then concentrate on action; emotion and motivation control processes such as self-talk, self-reinforcement and rewards; environment processes (enlisting social pressure to make oneself persevere) and cognition control or information processing control which helps an individual to decide if they have enough information to commence working on a task (Boekaerts, 1999;

Rheinberg et al., 2000). Rheinberg et al. (2000) said that 'People use the strategies … when they force themselves to control their actions in aversive activities … However, people differ in their ability to do so' (p. 516). It would seem that these strategies are quite effortful as 'force' is needed and 'Learners have to remind themselves why learning is important (i.e. awareness of consequence-related incentives; …) and have to consciously use self-regulatory strategies' (p. 517). Snow, Corno, and Jackson (1996), cited in Masui and De Corte (2005, p. 3), distinguished motivation ('the formation and promotion of decisions') from volition (the thing that 'mediates their implementation and protection'). Rheinberg et al. (2000) also suggested that as a result of constant volitional use of self-regulatory strategies the individual's 'working memory' may be almost full leading to less effective learning of the task for which volitional control strategies are being used.

Chinese students may be very good at using these strategies (which may be the same as 'effort control' in the Motivated Strategies for Learning Questionnaire; see Appendix B, page 301, for an explanation of this questionnaire) when learning becomes tedious and unpleasant due to their cultural need to show filial piety to those in authority over them by achieving academic success and since, as noted earlier, Chinese students report themselves to be very good at perservering with learning when it becomes boring.

Study strategies

Students who are self-regulating their own learning need to use a number of study strategies to aid learning, and Zimmerman (1986) found that effective use of these strategies is closely linked to academic success; as well as enhancing students' self-efficacy and motivation. These self-regulatory study strategies may include rehearsal strategies of reciting, clustering, mnemonics, or passive highlighting; elaboration strategies of 'paraphrasing or summarizing … creating analogies, generative note taking', explaining concepts or producing and responding to questions; and organization strategies of listing main ideas, outlining, organizing by mapping, identifying text organisation and so on (Hofer, Yu & Pintrich, 1998, p. 66-67; also Nisbet & Schucksmith, 1986). Hofer and Pintrich (1997) suggested that, in general, rehearsal strategies are less likely to be effective strategies at university level than elaborative and organizational strategies which appear to lead to deeper processing and comprehension of information. However, Pressley (1994) pointed out that elaboration may be an ineffective strategy if background domain knowledge is not available to the learner. As Chinese students utilize rehearsal strategies regularly, yet Biggs and Watkins (1996) have reminded us that they are often used for understanding, it would be interesting to see whether continued use of rehearsal strategies aids or detracts from academic success.

Self-efficacy

Self-efficacy, a key component of self-regulated learning (Bandura, 1997; Pajares, 2002a), is developed as the individual makes assessments of successful task performance, experiences vicarious learning or verbal persuasion and also through assessments of how they feel emotionally as they undertake and complete tasks (Bandura, 1986; Pajares, 2002a). Bandura labeled self-efficacy beliefs the 'foundation of human agency' (2001, p. 10); in addition, Zimmerman, Bandura, & Martinez-Pons, (1992, p. 674) commented that 'a significant causal path was found between efficacy for self-regulated learning, efficacy for academic achievement, and academic attainment'. Bandura also suggested that the self-efficacy beliefs of students, teachers and institutions have an effect on academic development of students (1995; 1997) and that an individual's self-efficacy has a significant effect on all areas of their behaviour and performance (1986, 1999); for example, the amount of perseverance and effort a student uses in their studies (Biggs & Telfer, 1987). These self-efficacy beliefs may exist at different levels in different areas of their life; for instance, learning, social skills, health (Pajares, 2002a); and male students and those who are older may hold higher efficacy beliefs than females and younger students (Volet, 1999b, p. 210; also Pajares, 2002b).

Many factors within an individual's society and the tasks they carry out may affect how they assess and make self-efficacy appraisals and choose future tasks. As mentioned previously, self-efficacy is developed by experience of success in a task; however, experience of repeated failure, especially early on in learning may decrease self-efficacy (Bandura, 1995). Furthermore, a learner's self-efficacy beliefs will have a powerful predictive effect on what they choose to learn, how they go about it, how long they persevere when things become difficult, how well they achieve, to what they attribute their success or failure in the learning task, and thus will also affect the level of challenge they choose in future goals (Bandura, 1986, 1997, 2001; Pajares, 2002b; Pintrich, 1999; Zimmerman, 2000a; 2000b). This predictive effect is much stronger than that provided by an individual's outcome expectations or self-concept (Bong & Clark, 1999; Bandura, 1997, cited in Wigfield & Eccles, 2000). Those with high self-efficacy beliefs tend to attribute failure to low effort or inappropriate strategies (Bandura, 1986) and because of this, highly self-efficacious learners do not become anxious and stressed when tasks are difficult and this behaviour tends to lead to further success.

Despite this self-efficacy may not always be a good indicator of academic performance. One reason for discrepancies between a student's past grades, efficacy beliefs and present responses may be due to non-ability factors, such as organisation, time management and

planning one's study environment (Bandura, 1997). He suggested that if numerous non-ability factors have had an effect on a student's grades, then it is less likely that they will judge the discrepancy between their grades and their beliefs to be due to ability. Therefore, if students make judgements that non-ability factors are why their grades are lower it may not have an effect on their future self-efficacy beliefs. Bandura also commented that different students will use different ways of assessing how much effect each non-ability factor is having on their self-efficacy and thus each student will react differently depending on the judgements they have made (Bandura, 1986, 1997).

Furthermore, self-efficacy levels may affect effectiveness of learning. Bouffard-Bouchard, Parent, & Larivée (1991) in their research said that when students have equal ability yet different levels of self-efficacy beliefs, those with higher self-efficacy eliminate incorrect hypotheses more rapidly and retain correct answers rather than rejecting them prematurely as those with lower self-efficacy tend to do. Thus these students with higher self-efficacy may learn more quickly and effectively. Also, Bandura (1997) wrote that 'in activities in which outcomes depend on quality of performance, efficacy beliefs determine the types of outcome that are foreseen' (p. 126). Thus, for a subject such as English, results may be affected by how well a student performs and it is possible that the student may choose to reduce their previous goal for the subject if self-efficacy beliefs from past performance cause them to perceive that they may not achieve that goal.

Volet (2001) and Bandura (1995) suggested that, when students move to a different culture to study, they may need high self-efficacy beliefs, that is, confidence that they can succeed academically and not lose face even when a task is challenging, if they are to cope academically and socially. Furthermore, Wood and Bandura (1989) cited in Bandura (1995), mentioned that low self-efficacy beliefs in a stressful or new environment may affect an individuals' ability to think clearly and these beliefs appear to mediate the use of an individual's metacognitive skills when they are under stress or experiencing difficulties; and 'a person with the same knowledge and skills may perform poorly, adequately, or extraordinarily depending on fluctuations in self-efficacy thinking' (Bandura, 1993, cited in Lodewyk & Winne, 2005, p. 4). What is more, in a time of stress or difficulty individuals may perceive their situation as worse than it is in reality (Pajares, 1997) and thus decide to reduce the level of previous goals and work less effectively. These stresses may affect some Chinese students if they possess low self-efficacy and are experiencing culture shock. It may be that those with higher self-efficacy beliefs experience less culture shock as Bandura (1995) linked effective migrant adaptation to possession of high self-efficacy beliefs.

Although Oettingen (1995) proposed that self-efficacy has similar effects across cultures, Stipek, Weiner, and Li (1989) reported that collectivist Chinese students were less likely than Western students to report feeling proud when they succeeded (also Niemi & He, 2002). Oettingen, who cited Stipek et al.'s research, then suggested that this might be only true towards an individual's in-group as they attempted to self-efface themselves to prevent others in the in-group losing face, whereas they might have no problem with expressing their pride in personal achievements and future confidence to a researcher who is a member of an out-group.

Also, self-efficacy may present a different 'face' in a non-individualist culture. While Chinese culture is viewed as a collectivist culture and American culture as an individualist culture, a number of authors have pointed out that within each of these cultural groupings there will be members who act more collectively or more individually. Thus some Chinese may be very individualistic and some Americans may prefer group collectivist behaviour. Earley (1994, cited in Bandura, 1999) mentioned that those members of a group or culture whose preference best fits the culture they inhabit will experience higher self-efficacy and be more productive and successful that those whose preference is in conflict with that of the majority of the society they belong to. Nevertheless, Earley, Gibson, and Chen (1999) reported that collectivists' feelings of self-efficacy were not based solely on group feedback as expected but on both individual and group feedback, while individual feedback appeared to be the key factor influencing individualists' self-efficacy.

An individual's self-efficacy beliefs are very closely linked to academic achievement, especially if they are close to the individual's actual ability. However if these beliefs are much higher than a student's actual ability, then it may have a negative effect on their performance (Bandura, 1986, cited in Silverman & Casazza, 2000). For example, when a mastery oriented student finds enjoyment in a subject and receives no negative personal feedback on their performance due to lack of anxiety, they may not be motivated to work harder and thus may receive lower grades in tests than if they possessed a performance orientation (Okun, Fairholme, Karoly, Ruehlman, & Newton, 2006). In addition, Leblanc, Leroux, Laveault, Oliver, & Shaffer (2000) have said that gifted students tend to more accurate and moderate in their self-efficacy task beliefs than regular or learning-disabled students who often had self-efficacy beliefs that are too confident.

Slightly elevated, but reasonably accurate self-efficacy judgements are most effective for success in any area, while overly high or low judgements may result in failure in that area due to excessive challenge or stunted and restricted opportunities respectively (Bandura, 1986).

Those with low self-efficacy may experience greater stress, especially in exams, be unable to use skills effectively and ascribe failure to lack of ability; while those with high self-efficacy may conclude that they did not try hard enough. Test anxiety is not clearly linked to academic achievement, however perceived self-efficacy is, and those with high self-efficacy report low test anxiety, according to Bandura (1997). Bandura (1995, p. 13) commented that 'Normal' people have a tendency to slightly overestimate their ability to do a task, thus enhancing their ability to succeed and successful people have an 'optimistic view of their personal capabilities to exercise influence over events that affect their lives'. In contrast, those with low self-efficacy tend to avoid challenges, display low persistence when tasks become difficult, worry about their inability and as a result, do not work efficiently, accept lower outcomes than originally envisioned and become very stressed and anxious. All of this leads to lower success (Bandura, 1986). Nevertheless, self-efficacy itself is insufficient to ensure success; these students still need the 'necessary sub-skills' (p. 395) and the appropriate social and physical conditions to perform the task successfully (Bandura, 1986).

Also, if students become tired and suffer 'ego depletion' so that their self-efficacy beliefs decrease, their ability to self-regulate their learning may be affected. Schmeichel and Baumeister (2004) have suggested that 'ego depletion' and limited self-regulatory resources may affect an individual's physical endurance, persistence and ego regulation. This does not appear to affect regulation of simple automatic tasks but just those which require self-regulatory skills; however, while low self-efficacy is unhelpful for self-regulated learning, individuals do not need very high self-efficacy to self-regulate effectively. In fact, Salomon (1994, cited in Schunk, 1995b) reported that lower self-efficacy may mean that students exert greater effort and thus attain more effective learning as a result of some doubt about success than when they have no doubt of their ability.

There may also be gender differences in self-reports of efficacy. Pajares (2002b) cited Wigfield, Eccles, and Pintrich (1996) who said that boys may be 'more self-congratulatory' and girls 'more modest' about their ability. Thus boys may be more confident than girls of the skills they have and report ability to use skills they do not have. Wigfield et al. (cited in Pajares, n.d., p. 16) also suggested there may be differences in 'response bias' between girls and boys. Whether this is also valid for students from Mainland China is unknown.

Zimmerman (1995) linked self-efficacy beliefs to attribution theory and expectancy-value theory, commenting that what students attribute their success or failure to will affect their motivation, future choices, and behaviour (also Biggs & Telfer, 1987). This is because those with high self-efficacy may see their failure as inadequate effort expenditure, while those with

low self-efficacy may see their failure as due to low ability. Also, if the outcome of a particular behaviour is valuable enough a student will exert effort and be motivated to succeed, yet if the task or behaviour is not valued by them they may not attempt it. In addition, Bandura (1991) proposed that even if students view a task or behaviour as valuable, if they feel inefficacious to succeed in this area they may still avoid undertaking the task or being very effortful in their behaviour (cited in Zimmerman, 1995). Zimmerman also mentioned locus of control or perceived control as theorised by Rotter (1966) who linked belief in an internal locus of control to self-directed behaviour in individuals. However, research by Smith (1989, cited in Zimmerman, 1995) appeared to have demonstrated that while an individual's perceived efficacy was able to predict performance improvement and decreased task anxiety, locus of control was unable to. Thus, this research will concentrate on students' self-efficacy reports rather than their locus of control.

Metacognitive behaviour

While self-efficacy is very important for self-regulated learning, individuals also need the ability to control and use their self-regulatory strategies by self-monitoring and self-directing their behaviour by their personal standards, using self-reflections to motivate themselves and activating appropriate strategies (Zimmerman, 1995). Metacognitive behaviour, another key area of self-regulated learning, involves the processes of planning; monitoring and evaluating one's learning behaviour. Planning occurs before a task is undertaken and involves deciding what is required, what background knowledge to activate and which strategies will be most effective in carrying out the task. Then, by monitoring their learning as it happens, students can quickly discover whether understanding is occurring and, if they judge that this is not happening, can adjust their behaviour or attention in order to improve this. Evaluation and self-reflection occur when students complete a task and assess whether they have completed the task successfully and to their own satisfaction. If they judge that they have not, they may then make decisions about what might be done differently in a future task. Cassidy (2005) found that experienced and higher ability students tend to underestimate or be accurate in self-evaluation while lower ability students tend to overestimate how they have done. Veenman and Spaans (2005) cite Bergere and Reid (1989) who commented that 'IQ mediates metacognition but does not explain it' (p. 161). This metacognitive behaviour and high self-efficacy beliefs are essential for successful learning, according to Bandura (1997; Resnick cited in Somuncuoglu & Yildrim, 1999; Zimmerman, 1989).

Hennessey (2003) proposed that there are two different levels of metacognitive processes. The first is the representational level where, although one is aware of one's inner thoughts, they may be more automatic and less intentional and study skills may be used without thought

of their appropriateness for the task. The second level, the evaluative level, is where one is able to look at one's own thinking and evaluate it. This level is believed to be more intentional and less likely to be automatic (also Biggs, 1988). Biggs and Telfer (1987) suggested that second language learners may report high levels of 'metalearning' or metacognitive strategies due to the necessity of constantly monitoring their language and behaviour, yet, despite this, their low English level may result in lower than would be expected performance.

In addition, accurate metacognition requires a degree of self-knowledge (McMahon, 2002; Pintrich, Wolters & Baxter, cited in Weinstein, Husman & Dierking, 2000). Boekaerts (1995b) commented that 'novices' in metacognition may be ineffective problem solvers since metacognitive knowledge is valuable to effectively deal with difficult tasks (also Veenman & Spaan, 2005). It is possible that Mainland Chinese students dealing with a new and foreign culture of learning may lack the metacognitive knowledge necessary to work appropriately and effectively at tasks and may need to acquire new and appropriate metacognitive knowledge.

Student beliefs

Whether students hold an incremental view of intelligence (that intelligence can be developed and expanded) or an entity view (that intelligence is fixed and unalterable) will determine student goal choice and direction, their learning and their willingness to self-regulate (Dweck & Elliot, 1983, cited in Bandura, 1986; Dweck & Master, 2008). Holding an entity theory of intelligence means believing that exerting effort demonstrates lower intelligence, while incremental beliefs mean effort is useful to develop and utilise intelligence. As self-regulation of learning requires effort to develop and maintain, individuals holding an entity view of intelligence may see no reason for increasing their effort at learning or self-regulation and when they fail may reduce their task challenge in order to avoid demonstrating less ability; whereas those with an incremental theory ought to be willing to maintain effort to advance learning and often seek more challenging tasks (Dweck & Master, 2008; Schunk, 1996). This may be the case in a CHC as these cultural beliefs hold that ability is incremental and effort will improve it (Li, 2001). Nevertheless, while this is the belief of the culture and is supposed to be endorsed by its educational culture, not all students may actually believe the incremental theory fully. In fact, if they have, as higher ability students, seen others exert more effort and fail, they may well think differently.

In addition, Molden and Dweck (2000) suggested that failure in a performance goal when the individual believes in fixed intelligence may affect their self-worth and result in them

switching to a performance avoid goal orientation. These authors also mentioned that even a learning goal can be threatening when this belief is held and thus researchers need to consider the individual's underlying meaning system for the task before reaching conclusions.

Development of SRL

Self-regulation is developmental (Paris & Paris, 2001; Ruban & McCoach, 2005; Watkins, 1996; Zimmerman & Martinez-Pons, 1990) and is acquired over time as an individual first *observes* another self-regulating their behaviour, then as they *imitate* that person's behaviour. The third step is that of *self-control* where the individual starts to use the behaviour of their own choice and the final step is *self-regulation*, where the behaviour has become the individual's own behaviour (Zimmerman & Kitsansas, 1999; Schunk & Zimmerman, 1997, both cited in Lan, 2005).

Zimmerman (2001, p. 1) pointed out that while 'self' may seem to indicate social isolation, 'The key issue defining learning as self-regulated is not whether it is socially isolated, but rather whether the learner displays personal initiative, perseverance, and adaptive skill pursuing it'. In this vein McInerney (2008) further added that behaving with conformity, respect, hard work and even rote learning may, in some cultures, be a more appropriate way of self-regulating one's learning, while Western ways of choice, freedom, questioning and challenge may be viewed by those within such a culture as inappropriately regulated and culturally unacceptable.

Pressley (1995) suggested that full self-regulation takes a very long time to develop, as does the ability to transfer self-regulatory behaviours learnt in one domain to another domain and this may involve some relearning (Demetriou, 2000). Boekaerts (1995b) suggested that self-regulated learning is domain specific and Alexander (1995) proposed that it is linked to context and that the task, interest in the task and an individual's knowledge affect its use.

Degree of self-knowledge and background knowledge in a subject may also affect an individual's ability to self-regulate effectively. Barnett (1997), Kanfer and Ackerman (1989), and Winne (1995a, 1995b) all said that lack of background knowledge might make it difficult to self-regulate learning and have a negative effect on learning. Furthermore, Bandura (1986, p. 19) said that learners may:

> … make faulty judgements when they base their inferences on inadequate
> information or fail to consider the full consequences of different choices … moreover

they often missample and misread events in ways that give rise to erroneous conceptions about themselves and the world around them.

Nevertheless, it seems that teachers often take this faulty knowledge into account. Corno (1986) commented that in school learning, teachers:

> … do not assume students have the cognitive competencies to enact all tasks. On the contrary, we assume that the possibility of not knowing how to approach a given task is an important potential explanation for a failure to protect the intent to learn (p. 337).

Furthermore, in each area or domain of learning the amount of self-regulation used for a task will depend on the learner's domain knowledge and how much of that knowledge is needed for the task (Winne, 1995b). Students who lack background knowledge or are uncertain of whether their background knowledge is applicable in another learning culture may find it difficult to self-regulate their learning, at least initially.

Fortunately, self-regulatory ability increases with age, practice and time (Silverman & Casazza, 2000). In the process, according to Kanfer, Ackerman, and Heggestad (1996), while self-regulation is seen to aid learning, its effect is actually complicated, as while often goal setting may improve learning, at other times no improvement is seen. These authors have suggested this difference is due to the high cognitive load enforced by using self-regulatory strategies, especially when these strategies are not automaticised, as is the case with novice users.

Older students are often mastery oriented, have a more positive attitude to their studies and are more effective self-regulators (Archer, Cantwell, and Bourke, 1999). As well as being more mature, wise and having had more experience at learning, according to Bigg and Telfer (1987), they usually use more metacognitive strategies, plan better and have greater self-knowledge, and, according to Alexander, Pate, Kulikowich, Farrell, and Wright (1989, p. 317), have 'knowledge structures that are not only more information dense, but also better organized and more accessible'. In addition, they usually have more intrinsic motivation to study, more background knowledge and experience of success as well as being more self-directed, more frequent self-monitors (Lan, 2005), more diverse and desiring more real context-based problems. Finally as older students, success and failure are more important for their self-esteem (Alexander et al., 1989). In contrast, according to Lan (2005), younger, immature students are less able to self-monitor (an aspect of self-regulation) and choose less detailed learning strategies when they do attempt to self-regulate their learning.

There is also some evidence that gender may have some effect on an individual's self-regulatory development. Researchers (Zimmerman and Martinez-Pons, 1990) have found that females are more likely to report using learning strategies and setting goals than males and are also likely to be more self-regulated, but less self-efficacious about their abilities. Gifted seventh grade females had a slightly higher total self-regulated learning score than did gifted males and possessed 'higher mastery goals' (Ablard & Lipschultz, 1998). Furthermore, while females appeared to have lower self-efficacy for maths, they nevertheless reported higher cognitive and metacognitive strategy use and effort management than males (Patrick et al.; Pokay & Blumenfeld, all cited in Meece & Painter, 2008). It appears that females may also express more intrinsic motivation and mastery goals, while males hold more performance goals (Ablard & Lipschultz, 1998). In addition, females also appear to consider learning strategies to be more useful than do males (Mok, Ma, Yuk, Liu, & So, 2005) and report that they are able to transfer and apply learning to real world situations more than males (Leblanc, Leroux, Laveault, Oliver, & Shaffer, 2000).

A key finding in numerous studies, according to Meece and Painter (2008), is that self-beliefs, including self-efficacy beliefs demonstrate a gender difference (even when differences in ability are noted). This appears to be the case in science and maths, where males have higher self-efficacy, compared to arts subjects and they suggest that it may be due to socialization processes within cultures which 'teach' children their roles in life. Some of those 'teachers', both parent and school, adhere to traditional stereotypical views of male and female education and skill areas and explicitly or implicitly pass these views on to their 'students'. Teachers, also, may attribute academic success to ability for males and to effort for females. Despite these considerations, the authors cite Ruble et al. who commented that sexual stereotyping among children may be more relaxed than in the past (Meece & Painter, 2008). Furthermore, while Chinese Confucian beliefs, like many other traditional beliefs worldwide, may tend to favour male education and superior ability (Cleverly, 1991; Peng, 2000), the only child policy in China which has resulted in a considerable number of families with an only female child, especially in the cities, may have caused this male superiority belief to waiver somewhat. If the only child they have is female, it is most likely that parents will still desire the best educationally for that child.

Ability appears also to have some effect on SRL. Zimmerman and Martinez-Pons (1986; 1990) wrote that gifted students use more self-regulated learning strategies connected to behavioural factors, such as self-consequating (deciding on and carrying out consequences for effective self-regulatory behaviour and perhaps for ineffective behaviour also); personal factors such as

organizing and transforming information and environmental factors such as rereading notes and requesting help from classmates. However, Zimmerman, Bandura and Martinez-Pons (1992) found no direct connection between self-regulation and intelligence.

Nevertheless, those students who are more skilful self-regulated learners have been shown by researchers to be academically successful; considerably more so than those who are ineffective self-regulators (McInerney, 2008; Pintrich, 2003, cited in Schunk, 2005; Zimmerman & Risemberg, 1997). Inadequate, or lack of, self-regulation is a major cause of academic underachievement and may be due to impulsivity or inability to delay gratification, decrease in academic goals, inaccurate self-assessment, increased self-criticism, decreased self-efficacy and perseverance, increased worry, decreased self-esteem, increased need for approval and increasing influence by external factors (Zimmerman, 1994; Zimmerman & Risemberg, 1997). Furthermore, self-regulation which includes the setting of mastery goals has also been shown to result in greater enjoyment of learning (Ames, 1992) perhaps due to the combined positive effects of high self-efficacy, effective goal setting and intrinsic motivation.

Other factors may also affect a student's ability to self-regulate. According to Bembenutty & Karabenick (2003), students who are able to delay gratification (able to defer present pleasures in anticipation of gaining a much better future reward or goal) may be more effective self-regulated learners and more academically successful than those who cannot bring themselves to postpone immediate gratification. Paris and Paris (2001, p. 99) commented that 'Mood, affect, impulsivity, impatience, and aggression may also prevent students from appraising and managing their own behaviour. Such factors may be considerably more resistant to change than the lack of appropriate goal orientations or knowledge about useful strategies'.

Self-regulation is developmental and, according to Lan (2005), low student self-regulation is reported at junior high (early New Zealand high school) level. Lan cites researchers, such as Eccles et al. (1993), who have found that the move to student autonomy at junior high level creates social and academic problems for a large number of students. Lan also cites Bronson who suggested that the acquisition of SRL may ease the transition for these students. Mainland Chinese students may not be low self-regulators due to the necessity of intensive study for university entrance exams, yet how does the change to a less teacher-regulated form of learning affect Mainland Chinese students' acquisition or maintenance of self-regulated practices in a Foundation Studies programme and even more so as they move on to the freedom of an unregulated university environment? McInerney (2008, p. 378) suggest that,

while in highly controlled learning these students have been academically successful, in the less controlled learning of 'an overseas university system' they may be less successful.

Zimmerman (1994; also Boekaerts, 1999) said that an essential element of self-regulation is personal choice and learning control. Furthermore, research by Zimmerman and Martinez-Pons (1990) seems to have shown that areas of students' self-regulation become more developed as they gain greater autonomy from their parents; something that happens to all Chinese students as they move to New Zealand to study and leave their parents behind. However, highly teacher-regulated learning, as seems to be experienced by Mainland Chinese students, may have prevented students from learning how to self-regulate their learning; since Boekaerts (1999) pointed out that too much external regulation by parents and teachers may compensate for and prevent the development of an individual's metacognitive processes which are necessary for effective self-regulated learning. 'Self'-regulation is more likely, but not guaranteed, to be maintained in the face of cultural and learning difficulties, whereas early automatic or externally learned regulation, as experienced by these Chinese students (see proviso on Chinese culture, page 12), may not survive these onslaughts. It is to be hoped that this research may provide some insights to clarify this.

It is also possible, according to Boekaerts (1999), that a student may have good metacognition and self-regulatory skills, but be unwilling to work hard in certain areas of their studies if they find the task or subject difficult or boring. These students need to control their motivation in order to value a task and overcome their lack of motivation so that they can continue to engage deeply in it (Wolters, 2003). If their motivation is low, however, they may be able to use volition or effort control (Boekaerts, 1999) which Pintrich (2002) called a very important part of self-regulation, enabling students to demand more effort of themselves in order to succeed. By doing this, students may be able to exert greater effort to complete a task, although they may not utilize more effective study strategies; for example, if they have always memorized information they may continue to do so, despite the fact that it is an inefficient, difficult process for the task in hand (Wolters, 2003).

Furthermore, despite its benefits, Pintrich (1999, p. 467) commented that the development of self-regulation of learning is not 'easy or automatic' and that students need motivation to work at acquiring it. Winne (1995a) and Kanfer and Ackerman (1989) pointed out that research had shown that when learning a new skill, an individual may utilise the majority of their cognitive processing capacity to learn the new skill. Thus, as these students attempt to learn while being inexperienced self-regulators, the need to self-regulate may demand a considerable cognitive load since their self-regulation is not yet automatic and this may result

in reduced academic achievement (Kurtz & Weinert, 1989, cited in Boekaerts, 1999). Therefore, requiring them to self-regulate and monitor their learning at this early point in skill acquisition may reduce the amount of processing capacity available to learn the new skill and thus affect successful learning. This, said Winne (1995a), is more likely to affect low ability students and those with low prior knowledge in a subject. Kanfer and Ackerman (1989) commented that when cognitive processing demand is high, more gifted students will perform better. In addition, lack of accurate declarative knowledge or 'knowledge about facts and things' (Anderson, cited in Kanfer & Ackerman, 1989) may restrict or prevent effective goal-setting or self-regulated learning.

However, Winne (1995b) also suggested that there is a point in the learning of the new skill when it begins to become proceduralised and at this point learning may not be affected by the introduction of instructions to monitor learning. For example, Kanfer and Ackerman (1989) found that '… a motivational intervention during the intermediate stage of skill acquisition (i.e., when ability-attentional demands are partly attenuated) enhanced task performance' (p. 678). Thus, once basic 'declarative knowledge' is learnt, goal-setting will help lower ability students to be more successful. As Mainland Chinese students come from a different cultural background and often exhibit limited English skills, it would seem that certain ESL (English as a second language) students could be included in this low ability category. In fact, while international students from Asian countries are often very successful in Western universities, one of the key areas that will affect this success is an inadequate English level (Biggs & Watkins, 1996; Ginsburg, 1992; Kirby, Woodhouse & Ma, 1996).

According to Jensen (1989), experts possess a large amount of automaticised knowledge and skills which enables them to learn new things in their field faster than others who do not possess this. This is because automatic processes do not put the same pressure on working memory as do those carried out using self-regulated processes. However, although automaticity in self-regulated learning should be advantageous to the learner by reducing this cognitive load, there has been some uncertainty as to whether automatic behaviours in individuals may be termed self-regulated (Pintrich, 2000b) and whether these behaviours may aid or hinder self-regulation when the behaviour is so automatic that the individual does not realise that it is occurring. This usually applies to individuals who are very effective self-regulators of their learning, but perhaps it may also be an issue when they regulate automatically because this is what they have been taught to do throughout their schooling. The question might be asked if this is self-regulation or not? Also, if the behaviour is unconscious, can the learner assess the behaviour metacognitively in order to decide whether it is the most effective strategy for the learning task? Lindner, Harris and Gordon (1996)

proposed that students who have been successful throughout their schooling have adapted to academic requirements and know what is required of them. These students, they suggest, may be able to maintain their academic success, at least at undergraduate level, due to the possession of 'high motivation' and a repertoire of previously effective learning strategies without necessitating the use of the metacognitive processing of a self-regulated learner. Nevertheless, some of these previously learned strategies may be 'adaptive or maladaptive' in another culture. McInerney (2008, p. 395) states 'This issue is of crucial importance in educational environments characterized by diversity, particularly when a newly arrived "out-group" is educated in Western educational environments'.

Developmental Self-regulated Learning and Inaccurate Perceptions
Although Chinese students are very adaptable to learning (Volet & Renshaw, 1995; 1996), they still struggle initially with the new culture and learning environment (Berno & Ward, n.d.). Yet, this is not unusual as even adults may need to learn and develop skills to assess the new environmental requirements correctly (Bandura, 1986). He suggested that students may struggle for the initial six months to a year due to cultural gaps in knowledge and environmental differences. Some may be quicker than others to work out the differences, especially as they may achieve different results for the same actions compared to their own culture and initially it is not always clear to them why this occurs; therefore, according to Bandura, 1986, p. 129) '… their behaviour is better predicted from their beliefs than from the actual consequences of their actions'. Within their own culture students may misinterpret connections between their actions and their effect and it may be even more difficult to interpret when a different culture of learning is involved (Bandura, 1986). Due to this difficulty, students may initially develop their self-efficacy on incorrect beliefs of what they can do and thus things may not work out in practice if the gap between their beliefs and the outcomes of their actions are too great. Adaptation to the new learning environment may depend on the cognitive and study skills that are available to them which affect how quickly and effectively they adapt to new successful ways of learning. Initial failure (or some degree of it) may challenge the student to think more deeply and develop more effective strategies, since, as Weinstein (1994) pointed out, learners are unable to rectify their misunderstandings and knowledge deficits until they realise they exist.

Issues with Self-regulated learning
Students from Mainland China may come here with varying degrees of ability to self-regulate their learning and may not realise how much independent learning is expected of them in a Western university setting. Boekaerts (1999) said that if learning is teacher regulated (especially if the student possesses low personal SRL skills) then academic achievement may decline when the students are required to self-regulate due to less teacher regulation. Also, if

there is high teacher regulation, students do not get a chance to self-regulate. This may be the case for many Chinese students, for example, where exam pressure, strict classroom control and memorization of large amounts of knowledge take place (Biggs, 1996). In spite of the fact that they may be quite metacognitive learners in their own educational culture, Boekaerts (1995a) mentioned that they may be 'novices' in metacognitive knowledge in the new situation of learning in a foreign culture, since their previous metacognitive knowledge (such as reflection, domain and learning knowledge, educational expectations) may not be as applicable in a Western setting; therefore students are unable to evaluate tasks accurately by standards they have used in the past. Boekaerts cites Brown and Campione who found that only slight changes in task difficulty are required to cause performance problems for weaker and younger students. However, once students are used to the different expectations their learning and metacognition should improve.

Boekaerts (1995a) also mentioned that students may have good metacognition and self-regulated learning yet may be unwilling to work hard in certain areas that are not what they would choose (1999). For most of the eleven students in this study the Foundation Studies course was a compulsory course to provide entry to university and a number admitted that they were not willing participants in the course but regarded it as a means to an end. Research has suggested (Davis, 1993; Schunk & Pintrich, 1996, cited in Silverman & Casazza, 2000) that those who choose their own learning are more highly motivated to study and tend to be more successful and enjoy it; while those who view learning as a necessity but not their own choice may not invest as much energy, motivation and appropriate study strategies in the process and may be less successful. Despite this, it has been noted that Chinese students are quite successful at making themselves learn in spite of boredom and lack of desire for learning. Yet to do this successfully, students need to be able to control their motivation to value the tasks and also to believe they can be successful. If they have low motivation it is possible that they may use volition control to make themselves continue studying diligently (Rheinberg, Vollmeyer, & Rollett, 2000). In addition, high achievement motivation and/or family orientation and filial piety appear to have a powerful effect on Chinese students' study strategies, even if the motivation underlying their effort and success is purely extrinsic.

Boekaerts (1995a) also noted that perceptions of ability and emotions surrounding a domain of learning may change throughout one's educational life and measurement scores may depend on when questionnaires are administered. This may also have an effect on academic outcomes; for example, while students may have answered a questionnaire in September and expressed high self-efficacy for learning, it is possible that, despite their previous high self-

efficacy, by exam time in October they may have realised that they have not prepared adequately during the year for these exams and their self-efficacy and performance declined.

Cross-cultural self-regulation?

There may be considerable differences in the acquisition of self-regulated learning skills and beliefs and the roles these play in academic achievement in different cultures. Purdie & Hattie (1996) cited in Purdie (2001) mentioned that 'A comparison of Japanese and Australian high school students found that although a similar range of SRL strategies was used, the pattern of use for cultural groups was different' (p. 263). In social cognitive theory 'children's efficacy beliefs play a prominent role in regulating cognitive, affective, and motivational factors that operate in concert in the development of children's capabilities to manage their own learning and intellectual attainments' (Bandura, 1993, cited in Zimmerman, 1995, p. 225). Zimmerman also commented that 'Development of academic and self-regulatory efficacy increases academic attainments' and 'cognitive engagement' (p 216). However, more recent cross-cultural research has raised the question of whether self-efficacy beliefs remain the key to academic success in another culture, since Oettingen and Zosuls (2006) found that for Asian American students test anxiety fostered by parental expectations of achievement appeared to occupy a stronger role in achievement.

Although the theory of self-regulated learning from a social cognitive perspective does not appear to have been explored with Mainland Chinese students, Niemi and He (2002) defined a collectivist perspective on self-regulated learning where 'individuals self-regulate and monitor their actions within a network of socially mediated factors, such as family, organisational, and group-based needs, goals and desires' (p. 2). Furthermore, McInerney (2008, p.389; italics added) commented that:

> It seems that self-regulation, including time management, metacognitive and learning strategies, effective and strategic practice, goal directedness, and a sense of self-efficacy, are related to motivation and high achievement regardless of the cultural background of the learner. It is also apparent, however, that *there are differences in the way these qualities may be manifest across cultures specifically regarding the nature and valuing of education, the relative salience of effort and ability, the role played by fear of failure, the salience of different learning strategies such as memorization and help seeking, the salience of self-efficacy, and the role played by parents and other social agents.*

Therefore, social cognitive theory recognises the social context of learning. Jackson, MacKenzie and Hobfoll (2000) commented that:

> … the impact of socially mediated factors often assumes a status that is far inferior to individually based components … theories that emphasize self-regulation place the individual as the figure and the social context as the ground … In contrast, the notion of *self-in-social-setting regulation* places social context as the figure and individual factors (e.g., goals) as the ground. (p. 280)

and 'Unlike individualism, interreliance acknowledges that people do not act in isolation from each other or have complete control over their own actions' (p. 282). Thus, self-regulation is an 'interdependent, social process' (Jackson et al., 2000). These authors also pointed out that despite all attempts to self-regulate, 'external conditions can facilitate or hinder individuals' ability or desire to optimally self-regulate their behaviour' (p. 286).

Thus, social cognitive theory would appear to be a valid theory for examining self-regulated learning within interdependent collectivist societies such as China, since Yau and Smetana (2003) reported that parents still seek to enable their children to become independent and successful and that these children desire autonomy from their parents. In order to be academically successful and accepted by one's social group a student must maintain the ability to self-regulate their learning and also be linked to their in-group of family and friends and fulfil social and familial expectations (Markus and Kitayama, 1991; McInerney, 2008). Urdan and Giancarlo (2000), cited in McInerney, (2008), found more self-regulatory behaviour among higher achievers, those with high family orientation or filial piety and those with a high mastery goal orientation. Furthermore, while these students may be striving to meet others' expectations they are using their own self-regulatory skills to do so. Their self-regulation may be for the purpose of being successful and thus experiencing acceptance in their interdependent relationships, yet again this success must be achieved by their own self-regulatory strategies and skills.

Summary of social cognitive theory and self-regulated learning
In summary, within social cognitive theory the theory of self-regulated learning incorporates the areas of goal setting and motivation; task value; effort regulation or volition control; study strategies, self-efficacy, metacognitive behaviour and student beliefs. Self-regulated learning is developmental (Paris & Paris, 2001; Ruban & McCoach, 2005; Watkins, 1996; Zimmerman & Martinez-Pons, 1990) and during its development learners may hold inadequate perceptions of their abilities (Bandura, 1986). Furthermore, it may be necessary

for Chinese students to reassess and relearn some of their previous perceptions and strategies if they are inappropriate and/or have negative effects on their learning in their new learning environment (Boekaerts, 1995a; Volet, 1999a). In Western culture, self-regulation has been found to have positive effects on academic achievement (Boekaerts et al., 2000, cited in Schunk, 2005); however, it is still uncertain as to whether in a collectivist culture where filial piety is highly valued it has the same appearance and effect.

C. Research examining Chinese students' adaptation to English-speaking universities

Now that all these areas of research have been examined, one final area, that of Mainland Chinese students' adaptation to English-speaking universities and the challenges it may bring them, will be explored. In discussing Western high school students' transition to university study, Doring, Bingham and Bramwell-Vial (1997, p. 4) found that when students lose the 'previous environmental supports' they had from parents and teachers they need to rapidly acquire new skills or reduce or reassess their goals. These authors stated that while some students see the need to change their learning behaviour due to different expectations at university, not all realise this. Even if they do, the change to the independent learning requirements of university is difficult, especially so for weaker students, and it is the effective self-regulated learner who will be more likely to remain successful or make the changes that are necessary in their learning to achieve this (Doring et al., 1997). Chinese students studying in our universities must also make this transition; however, in addition, they must deal with language and cultural issues as well as encountering the different culture of the university (Silburn, 2006).

Language, cultural and pedagogical issues

Chinese students come to New Zealand with a level of English sufficient to enter the Foundation Studies course (or aspiring to acquire this level), yet often, despite their IELTS (International English Language Testing System) level their English is considerably weaker than other nationalities. In the past, most English teaching in China involved the teacher teaching grammar and providing practice from the textbook (Ross, 1992), while in Western education language teaching is communicative and interactive (Ross, 1992) and students are expected to be more self-reliant. In their research Beaver and Tuck (1998) reported that Asian students in their New Zealand tertiary institution study were less confident than other nationalities in their language skills. Bellingham (1993) found that while other factors as well as language may affect the academic success of international students, those with low English levels were more likely to fail their courses and she suggested that lighter workloads and language support might improve these students' results. In addition, Berno and Ward (n.d.) pointed out that 'English language proficiency is critical to successful sociocultural,

psychological and educational adjustment' (p. 19) and suggested that educational institutions should continue to provide help through English language courses throughout these students' studies.

Although some Chinese students gain entry to university by achieving the required IELTS in a language school, Skyrme (2004, 2007) suggested that skills acquired at language school are not easily transferred to the university setting (also Deakin, 1997, cited in Johnson, 2008). Thus, despite the fact that IELTS is seen as the quickest way to university, these students may not acquire the 'academic literacies' they need in their undergraduate study. For example, Ginsburg (1992, p. 6) pointed out that students need knowledge of the 'cultural assumptions and academic conventions' of a English speaking Western university as well as good English if they are to succeed. Ginsburg also suggested that Chinese students' cultural training may affect their ability to think analytically and that the difference between Western linear thinking and writing and Chinese non-linear thinking and writing may cause difficulties in understanding English texts and in writing essays in English academic style (also Rutledge & Blackford, 2001). Another difficulty may be their lack of understanding of decontexturalised academic language and if they also lack the academic vocabulary and knowledge and understanding of the structural links used in academic writing they may misunderstand what they read (Kirby, Woodhouse & Ma, 1996). These authors mentioned that if students have better English fluency they are then able to concentrate on more than just the surface details of the language and understand the meaning, yet many arrive with inadequate English that prevents or inhibits this. Therefore, Kirby et al. (1996) suggested that teaching students the discourse patterns of English, plus the skill of summarising may be of assistance to these students. Also, it will be necessary for Chinese students to use the effective learning strategies they acquired in their first language along with some automaticity in their second language in order to function and learn effectively in their new environment (Cantwell & Biggs, cited in Biggs & Watkins, 1996).

Due to these problems, Skryme (2004, 2007) proposed that a Foundation Studies programme is a useful step in their learning for these students, who often struggle and feel ill-prepared (Johnson, 2008) to deal with the different types of teaching they encounter in New Zealand, compared to their previous experiences of schooling in China. Furthermore, although a large number succeed in acquiring an IELTS score of 5.5 for entry to the Foundation Studies programme and then achieving the Certificate in Foundation Studies, which enables them to move into the wider university environment at first year level, for many, this success has been a struggle and will continue to be a struggle (Skyrme, 2004, 2007). This is often due to their inadequate levels of English for university study (Beasley, 1990; Johnson, 2008) and their

need to continue adapting to a more independent form of learning than they have been used to which may not come easily. Skyrme (2004) said that for some students, failing a paper seems to provide the necessary incentive to instigate new 'learning strategies', but for some these new learning strategies come 'rather too late, and at considerable cost' (Skyrme, 2007, p. 369) to them and their parents.

Nevertheless, research has shown that, especially if there is no language problem, Chinese students from Singapore studying in Western universities are often more academically successful than their Western counterparts (Volet, 1999a, 1999b). This is because these students are able to transfer their high value for education; deep processing; high task value; attributions of failure to lack of effort; informal peer learning and high motivation to their new educational setting, and thus 'try to maximise their learning' (Volet & Renshaw, 1995, p. 428). Unfortunately, Volet commented that other skills such as cue-seeking; help seeking from teachers; memorising (especially if it is used to compensate for low English levels); expectations that information will be provided fully and clearly; copying; and their ability to conform to what they see as task requirements do not transfer as effectively to a Western learning environment. However, she also reported that these students seemed to adapt rapidly to the new learning requirements placed on them (Volet, 1999a, 1999b; Volet & Renshaw, 1995) including the necessity to make themselves work as pressure from teachers and parents was not as apparent (Volet, 1999b). Yet this adaptation was not easy and she suggested (2001) that, in a new country, students need high self-efficacy to cope with the changes in their study and social lives. Volet (2001) also mentioned that group work cooperation can be of high academic risk for Chinese students who may feel they cannot rely on the other students in their group. As final success for the task is not totally in their control, this may threaten their high expectations of success to please their parents. Volet and Renshaw (1996), writing about Singaporean Chinese students in an Australian university, commented that these students are able to make themselves study despite the lack of an external push from their parents, as they realise how much money their parents are spending to educate them. Also, Chinese success at education may be due to the strong performance goals they espouse (Qian & Pan, 2002), even if their motivation is extrinsic and due to a 'sense of duty to fulfil the student role' (Lee & Brophy, 1996, cited in Qian & Pan, 2002, p. 378).

As success is attributed to effort in CHC culture, Chinese students tend to be more task oriented, avid cue-seekers and skilled at spontaneous collaboration, and may use deeper learning strategies and thus be more academically successful than Western students (Biggs, 1996). However, it is possible that the cue-seeking and collaboration may not be so successful in Western university environments where students are discouraged from collaborating on

work unless it is group work and where they may find it hard to recognise the lecturers' cues correctly due to inadequate English or divergent cultural factors (Boekaerts, 1998). They also struggle when lecturers use local culturally bound examples without considering whether the prerequisite background knowledge is available to all listeners (Volet & Kee, 1983, cited in Volet & Renshaw, 1995).

Another area where Chinese students may have difficulty adapting to different cultural expectations is in the area of plagiarism. Plagiarism is one of the academic conventions that Ginsburg (1992) mentioned that Chinese students may not understand, coming as they do from a country where copying the work of wise and respected writers is acceptable. Furthermore, it should be remembered that plagiarism, when it occurs early in a student's career at a Western university may be simply a mistake, rather than a deliberate act of deception (Biggs & Watkins, 1996; Rutledge & Blackford, 2001). It also appears that those students who are less self-efficacious in their language skills may more readily resort to memorisation without understanding, while those more self-efficacious in their second language have a greater tendency to utilise deeper learning skills (Kirby, Woodhouse, & Ma, 1996; Watkins, Biggs, & Regmi, 1991). This tendency to memorisation may also be the cause of instances of plagiarism.

Despite these issues, a number of authors (Grimshaw, 2007; Watkins & Biggs, 1996, 2001) provide necessary reminders that we, as Western educators, should not label the different behaviours (tendency to rote learn which in Western educational theories is linked to a surface approach to learning; Biggs, 1999), beliefs (extrinsic motivation for study is not the best; Watkins & Biggs, 1996) and expectations (teachers will provide all the information and the student will remain silent in class; Biggs, 1996), of Chinese students as 'deficient' compared with Western educational behaviours, beliefs and expectations, but instead see their experiences as equally valid and often equally if not more effective for learning, although somewhat different culturally. In addition, they provide a reminder that research (Biggs & Watkins, 1996) has demonstrated that rote learning is more likely to be memorisation in order to understand and learn deeply; also, that these students are adept cue seekers (Biggs & Watkins, 1996; Volet & Renshaw, 1996) who desire to be academically successful, and often are more successful than Western students in the same courses (Biggs, 1996; Volet & Renshaw, 1996).

In addition, Paris and Byrnes (1989, cited in De Raad and Schouwenburg, 1996) made a connection between effective learning and self-regulated learning and comment that these learners 'are aware of what they know, what they believe, and what the differences between

these kinds of information imply for approaching tasks' (p. 326). Given that Chinese students are in a new environment, this knowledge may be inaccurate or inaccessible to them and affect their efficiency and control of learning. Therefore teachers should hesitate to judge these students' behaviours as deficient, but instead allow them time to adapt and acquire more accurate knowledge, guiding them into understanding of Western university expectations in the process.

Adaptation to New Zealand Universities

After the intense pressure of Chinese school learning, students coming to Western universities are very strategic in their learning and adapt quite rapidly to Western learning requirements (Volet, 1999a; 1999b; Volet & Renshaw, 1995). Despite this, not all of their learning behaviours are transferable (Volet, 1999a), and most students will struggle until they discover which skills to retain and which to relinquish (Volet, 1999a).

Differences in teaching methods, strategies and expectations between the Mainland Chinese culture and New Zealand university culture may affect these students' learning success. McClure (2007) found that it took 6-12 months for the Chinese international postgraduate students that she researched to make the adjustment to their new environment, mainly due to the influence of their previous expectations of learning and inadequate English. Berno and Ward (n.d.) pointed out that it appears that Asian students may come with high expectations of their New Zealand educational experience which are not met fully and this, these researchers said, seems to result in 'poorer psychological and sociocultural adaptation' (p. 16), and thus less academic success. What is more, Ward (2001, p. 3) commented that 'Evidence suggests that for the most part educators (particularly those at the tertiary level) make few, if any, changes in either the process or content of educational activities' when they have international students in their classes.

Inadequate English skills will usually cause students some stress. Chinese students choosing to study in New Zealand are often not top students as these seem to have a preference for studying in countries such as the US and UK if they can gain entry. Thus students coming to New Zealand may not have high English skills. New Zealand universities require an IELTS of 6 for entry to degree study, however this level of English is a long way from a native speaker level of 9; furthermore, native speakers still struggle with the different meanings which words acquire in an academic context. Since universities, including New Zealand ones, have their own academic vocabularies (Ginsburg, 1992) it would be expected that ESOL students will find this language difficult to understand. Berno and Ward (n.d.) found that those skills rated by Asian students as most challenging were those that required the greatest language ability

and also that students' higher self-ratings of English ability were linked to better adjustment socially, psychologically and academically (p. 17).

These Chinese students also seem quite unused, and perhaps unwilling, to think for themselves initially due to expecting the teacher to provide all the knowledge (Biggs, 1996; Ginsburg, 1992), as well as acquiring a realisation of the inadequacy of their English skills. As this independent thinking is an expectation of Western universities, this initial struggle may have an effect on their ability to learn and succeed; and on their ability to self-regulate their learning, at least to begin with.

Academic workload issues may also affect students' adaptation. The University of Canterbury's Foundation Studies programme has in the past set quite high workload requirements for its students. Diseth (2005) found that perceptions of an acceptable workload may encourage a deep approach to learning (see Achievement motivation, page 27, and glossary, for an explanation of deep and surface learning). While Chinese students are used to working very hard at their studies, Kember and Leung (1998) found, when researching Hong Kong students' learning that students with lower English levels tended to perceive their workload to be higher, probably because this meant that more time was required to understand their work. In addition these may have been lower ability students who seem to prefer a surface approach to learning. These authors found that the number of hours spent in class was more relevant to workload perceptions than how long students studied on their own. They suggested that workloads for ESL (English as a Second Language) students should be kept at acceptable levels as it is student perceptions of learning environments that affect the approach they take to learning. As Chinese students have English as a second language and are reported to have high workloads in their own country (Biggs, 1996) and as a result seem to utilise a surface approach to learning, this suggestion may be important for future courses if teachers aim to encourage them to develop 'more effective' ways of learning.

Culture shock may also create difficulty adapting to Western life and study. When students arrive in a totally different culture with quite different expectations both socially and academically, they may, after the initial excitement, experience stress and possibly depression (Berno & Ward, n.d.; Chirkov, Vansteenkiste, Tao, & Lynch, 2007) as they learn to deal with these differences. Furthermore, Berno and Ward (p. 17) have found that the personality trait of 'neuroticism was related to post-arrival psychological and academic adaptation problems'. For many this adaptation may take a number of months and in the interim 'culture shock' may have a detrimental effect on their academic performance.

Those Mainland Chinese who made their own choice to study overseas also appeared to adapt better emotionally and academically (Berno & Ward, n.d.). However, Ward and Masgoret (2004) pointed out from their 2003 survey of international students in New Zealand that Chinese students expressed less satisfaction with their life in New Zealand than other nationalities, and yet preferred to remain in New Zealand after completing their studies more often than students from other countries. Despite this desire to stay, the Ministry of Educations' 2007 report entitled 'Experiences of international students in New Zealand' also found that compared to other Asian groups Chinese students were less likely to put much effort into acquiring and cultivating friendships with New Zealanders (Ministry of Education, 2007). This would also diminish their chances of improving their English skills.

Despite the need for adaptation, these students often succeed academically (Biggs, 1996; Volet, 1999a; 1999b). Nevertheless, Salili, Chiu & Lai (2001) and Smith, Miller, & Crassini (1998) have reminded us that these Chinese students who come to Western universities are not average Chinese students but are usually wealthier, more motivated and often higher achievers than the average student in China. They have therefore suggested that further research in China needs to be carried out before saying that Chinese methods of teaching and learning are better than methods used in Western countries.

Why this research is valuable

As mentioned earlier, New Zealand universities, which require self-regulated (independent) learning from their students, have experienced an increase in the number of Mainland Chinese students entering them. Yet, while there has been an expansion of research on these students at English Language, undergraduate and postgraduate level (Johnson, 2008; Skyrme, 2004, 2007), there appears to be a gap in the literature on the experiences of Mainland Chinese in Foundation Studies programmes in New Zealand universities. Furthermore, there appear to be educational differences between China and New Zealand and a dearth of research into whether the theory of self-regulation, a North American theory, has the same positive academic effects in other cultures, especially with students from Mainland China (Zeidner, Boekaerts & Pintrich, 2000). Therefore, all of these above areas would benefit from further investigation and this research thus aims to do this.

Chapter Three – Methodology

The Process and the Participants

Since this research aims to fill in some of the gaps in the prior literature on the experiences of Mainland Chinese students in a New Zealand university Foundation Studies programme, it was important to determine the most appropriate methodology for this study and the most effective way of acquiring data to answer the following Research Questions.

1. *How is the ability to self-regulate learning related to the academic outcomes of Mainland Chinese students in a Foundation Studies programme?*

2. *Which factors appear to help or hinder the development of self-regulated learning in these students, and in what ways?*

3. *Is the North American theory of SRL applicable to learning for students from Mainland Chinese culture, and if so, which factors within SRL theory are more important to their academic outcomes?*

4. *In what ways can the University of Canterbury (a Western university) work to influence and improve the self-regulated learning behaviours of these students?*

Rationale for a mixed method design with multiple case studies

To answer these research questions, ethical approval from the University's Human Ethics Committee and informed consent from the student participants was obtained and data was collected in the areas of Chinese culture and its educational legacy, independent or self-regulated learning ability, personality traits, beliefs about knowledge and students' academic achievement. Prior reading (as elaborated in the Literature Review) was also carried out to facilitate a context for and understanding of what students expressed in interviews (Seidman, 1998, p. 32).

Social cognitive theory was chosen as an overall conceptual framework for this research, since, as explained in the Literature Review (pages 76-77) it can allow for cultural differences (Bandura, 1986), identifies the social aspect of learning (Jackson et al., 2000) and contains the idea of reciprocal causation or determinism where the individual's environment, personal

factors and behaviour have a bi-directional influence on each other (Bandura, 1986; 1989; 1999; Pajares, 2002a). This influence illustrates how the individual's culture and family background may affect their personal factors and behaviour (self-regulated learning and academic outcomes) and this bi-directional influence may help in interpreting the data from student questionnaires and interviews.

It was initially planned to utilise both quantitative and qualitative approaches (thus a mixed-methods design of equal status; Johnson & Onwuegbuzie, 2004) in order to increase depth of knowledge and to 'look at the same phenomenon in quite different ways' (Tolich & Davidson, 2003, p. 128). Within this mixed methods research both 'pen and paper' questionnaires, semi-structured interviews and background information (such as previous grades) were used as part of the data collection. Mixed methods research is *'the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study'* (Johnson & Onwuegbuzie, 2004, p. 17; italics in original), and involves the inductive method of finding patterns within the data as well as deductive methods of testing existing theories, and discovering and trusting what appear to be the most likely reasons for the results obtained (abduction) (also p. 17). These authors have suggested that: 'A tenet of mixed methods research is that researchers should mindfully create designs that effectively answer their research questions' (p. 20), which this research has attempted to do.

Johnson & Onwuegbuzie (2004) cite Greene et al. who have noted five key purposes for using mixed-methods research. According to them, these purposes are to provide fuller information from different methods to aid 'corroboration' (triangulation); to complement and add understanding and detail to one methods' results using the results from another method; to highlight areas of disagreement so that research questions may be reassessed; to use quantitative data to inform qualitative and vice versa; and to be able to obtain wider and deeper research by using a mixture of methods (Greene et al. cited in Johnson & Onwuegbuzie, 2004, p. 21-22). Table 3.1 below summarises the key specifications and purposes of this mixed methods research and determines whether this research has met them.

Johnson & Onwuegbuzie (2004) mixed methods research specifications (pp. 17-22)	Has this research met them?
Mixed *qualitative* and *quantitative* approaches.	Yes: Qualitative semi-structured interviews; Quantitative MSLQ, MER, CPAI-2 questionnaires.
Uses the *inductive* method of findings patterns within the data.	Yes.
Uses the *deductive* method of testing existing theories.	Yes
Uses *abduction* (discovering and trusting what appear to be the most likely reasons for the results obtained).	Yes
Mindful research design creation.	Yes, see pages 92-93 (Data Collection)
Purposes of mixed methods research are: 1) To obtain fuller information from different methods *to aid triangulation*. 2) To complement and *aid understanding and detail* to one method's results using results from another method. 3) To *highlight areas of disagreement* so the research questions can be reassessed. 4) To use *quantitative data to inform qualitative and vice versa*. 5) To obtain *wider and deeper research*.	1) Yes. 2) Yes. 3) Yes. 4) Yes. 5) Yes.

Table 3.1: A mixed methods design of equal status research specifications met by this research (Johnson & Onwuegbuzie, 2004).

As detailed more fully further on in this chapter, a reduction in available students resulted in insufficient research participants for quantitative measures to be statistically reliable; therefore, what was originally envisioned as mixed-methods research with quantitative and qualitative research methods of equal status was altered due to the circumstances and became mixed-method research with a *dominant qualitative paradigm* (Johnson & Onwuegbuzie, 2004). As a result of this change, questionnaire data in the form of means (and comparison of these means between students) and other quantitative questionnaire data were used to evaluate

information gathered from students in the form of semi-structured interviews. This was then written up as student case studies which were compared using a comparative or cross-case method of analysis (Bogdan & Biklen, 1992; Paré, 2002). This mixed methods research was also intended to strengthen the credibility, transferability, dependability and confirmability of the data (See glossary for explanations of these words: Lincoln & Guba, 1985) and research conclusions.

Other reasons for deciding to use and emphasize qualitative methods were that qualitative research, according to Tolich and Davidson (2003), is advantageous for use with those who have weak language skills, including second language learners. Secondly, it was desired to explore individual students' university experiences and their ability to self-regulate in depth.

Lincoln and Guba (1985, pp. 37-38) highlight five principles of qualitative research (note: bold italics have been added to highlight points important to this research inquiry) which are:

1) That 'there are multiple constructed realities … which will inevitably diverge … so that prediction and control are unlikely outcomes although *some level of understanding … can be achieved'*.

2) That 'the inquirer and the "object" of inquiry *interact to influence one another'*.

3) That generalization is not possible, but 'the aim of inquiry is to develop an idiographic body of knowledge in the form of *"working hypotheses" that describe the individual case'*.

4) That everything is constantly being influenced by everything else *(thus includes reciprocal causation)* so that 'it is impossible to distinguish causes from effects'.

5) That *all inquiry is 'value-bound'* due to influences from the inquirer's own values, the paradigm chosen to guide the investigation, the theory through which the research is conducted, and its interpretation, the values in the context and that all four of the above must reinforce each other (be 'value-resonant') 'if the inquiry is to produce meaningful results' (also Johnson & Onwuegbuzie, 2004).

Lincoln and Guba (pp. 39-43) also describe fourteen characteristics of naturalistic inquiry; many, although not all, of which are applicable to the setting of this research. Table 3.2 illustrates those that are applicable:

Lincoln and Guba's characteristics (1985)	Has this research met them?
The research takes place in a natural setting rather than a laboratory	Yes, in a Foundation Studies programme at a New Zealand university.
It uses the researcher and others as information gatherers (partly because they can recognise and allow for biases).	Yes, the researcher is a teacher in the programme; also Chinese grades and background information are gathered by administrative staff.
Tacit knowledge is acceptable as values are always present in any interaction.	Yes
Qualitative methods are used (although quantitative may be allowable).	Yes
Purposive sampling is preferred.	Yes
Inductive data analysis is preferred.	Yes, to some degree from interviews (although questionnaires dictate areas of analysis to a great degree)
Meaning is made by discussion with those being researched	Yes, in semi-structured interviews (to gain clarification)
A case study format may be preferred.	Yes
Data is interpreted 'in terms of the particulars of the case' rather than from what most people would do.	Yes
The researcher is cautious about generalising from the data.	Yes
The research is judged for trustworthiness by the criteria of a) credibility; b) transferability; c) dependability; and d) confirmability.	a) Yes, prolonged engagement in the literature and with the students, as well as teaching in the course; also triangulation from different data collection methods (Lincoln & Guba, 1985, p. 301; p. 306); and peer debriefing (see note 1 below) b) Yes, thick description in Findings and Appendix A. c) Yes d) Yes (audit trail – see note 2 below)

Table 3.2: Characteristics of Naturalistic Inquiry met by this research.

Note 1: Peer debriefing was carried out with Betsy Arrington-Tsao who is studying for her doctorate in Higher Education with an international research topic and holds a Master of Education in International Education. Therefore she has background knowledge in this area, although her studies up to this point have been in the US. She examined the data from a student's interview transcripts and the same data presented in the Findings chapter of this study and agreed that the two were in alignment and thus could be seen as credible.

Note 2: The Audit trail – all of the 'raw data', 'data reduction' and 'reconstruction', 'analysis' and 'synthesis products', 'process notes', 'materials relating to intentions and dispositions' and 'instrument development information' have been kept by the researcher and are available to be examined (Lincoln & Guba, 1985, pp. 319-320).

Therefore, while this research uses a mixed methods approach, and the qualitative dimension is to some degree controlled by the use of quantitative measures, it nevertheless also encompasses a number of the characterisitics of a Naturalisitc approach.

Participants

Student volunteers from Mainland China were requested from the February and June 2006 intakes of the Foundation Studies course. However, while the course had had an overwhelmingly Chinese presence in previous years, due to market conditions, the exchange rate, the desirability of other locations such as the US or UK for tertiary study, and possibly due to a major disruption of the course in the previous year, Mainland Chinese numbers for both intakes dropped markedly in 2006 and therefore the number of those who volunteered to participate over the two intakes comprised only 18 students. It had been expected from numbers in previous years that 40-50 Mainland Chinese students would be available for this research. Due to these low numbers the choice was made to carry out the initial questionnaires with all volunteers.

Furthermore, initially, it was planned to research only those students who had come directly from Mainland China to study in the Foundation Studies programme, however on further discussion with those employed in Student Services dealing with international admissions, it was discovered that it was more common for these students to participate in English language classes at the university or elsewhere before entering the course. Due to this information and because numbers were lower that year, volunteers were also requested from Mainland Chinese students who had just arrived at the English Language Centre and were proposing to later complete the Foundation Studies course.

Changes to the methodology and sample

Once the June student intake arrived, it was realised that while a quantitative analysis of Mainland Chinese students' questionnaire results was possible, numbers were definitely too low for this to provide a robust statistical analysis. Therefore, it was decided to concentrate on a qualitative research project using the quantitative data from the three questionnaires to inform the qualitative data (Johnson & Onwuegbuzie, 2004). All 18 students completed the three questionnaires before their course began and after examining all student responses to the questionnaires and some careful consideration of the best way to continue the research, 'purposive sampling' of maximum variation cases (Cohen, Manion & Morrison, 2003; Davidson & Tolich, 2003; Flyvbjerg, 2006; Lincoln & Guba, 1985; Seidman, 1998) was used to choose 11 students with whom to carry out two semi-structured interviews during their year in the Foundation Studies course. Case studies, according to Flyvbjerg (2006) provide 'thick description' and may be difficult to summarise since they are rich stories of reality in their own right and may have no need to be generalised. Within case studies 'maximum variation sampling' is used 'to detail the many specifics that give the context its unique flavor', according to Lincoln & Guba (1985, p. 201), and attempts to acquire a range of people who are 'fair to the larger population' (Seidman, 1998, p. 45).

Reasons for choosing the eleven that were interviewed were, firstly, that the researcher had undertaken not to interview anyone she was teaching. This was due to the possibility that previous research undertaken with her own students for the Postgraduate Diploma of Tertiary Teaching may have had an adverse effect on the learning of at least one of those students interviewed (perhaps due to conflict between the role of teacher as authority and teacher as researcher) and the subsequent desire not to risk any possible harm to future students. This decision eliminated four student volunteers. Secondly, according to Davidson and Tolich (2003), in purposive sampling, a researcher may 'deliberately seek certain types of elements because those cases are judged to be typical of some case of interest to the researcher' (p. 118). With this in mind, students were chosen whose first Motivated Strategies for Learning (a self-report questionnaire of self-regulated learning behaviours and beliefs) overall means were low, medium-low, average, medium-high and high when all the students' means were ranked in order to explore differences in behaviour, environment and personal factors that might be present for each of these students with different reported levels of SRL, and elucidate factors which would aid in answering the second research question. Thirdly, the researcher desired to include a male and a female at each level of SRL scores, where possible, in order to ascertain whether any sex differences seemed to exist as another area of maximum variation (Cohen, Manion, & Morrison, 2003; Lincoln & Guba, 1985). This process eliminated another three student volunteers. The final eleven students chosen using the above

criteria and interviewed included five females and six males. Some of these students had come directly from Mainland China, others through University of Canterbury language classes. The majority of these students were aged 18-20 years, with two students in their early twenties and one student aged only seventeen when the course began.

One of the final eleven students was accessed while studying English in the Language Centre as mentioned several paragraphs earlier and was the only one of the English Language Centre student volunteers who had an English level sufficient to enter the Foundation Studies course in the same year. Therefore, his first questionnaire and demographic responses occurred at the time of the February intake. However his first interview did not take place until he was almost due to commence the course in June. Similarities with the other ten students should be that his first questionnaire responses would have been reporting how he perceived learning after just having arrived from China, and one of the only discrepancies may be that his initial interview was recorded prior to his commencing the course while other students participated in interviews after one or two months in the course. Also, being a high ability student he may have thought about the questions encountered in the questionnaires before beginning the course and there is the possibility that this could have had an effect on his ability to learn and adapt within the course. While these factors may have created differences in response between him and the other students, his individual case study is still useful as information on what happens to specific Mainland Chinese students' self-regulation in a Foundation Studies course.

Data Collection

Three questionnaires and a demographic sheet were administered to these volunteers in their pre-course orientation week in either late February or early June 2006 to assess their self-perceived level of self-regulated learning, their personality traits and their beliefs about knowledge (epistemological beliefs) as a measure of the maturity of their thinking in the area of academic studies. A measure of student maturity (apart from the uncertain indicator of age) was desired as it appeared from past research for the Postgraduate Diploma in Tertiary Teaching (Hardie, 2006) and other research (Zimmerman & Martinez Pons, 1990; Hofer, 1994, cited in Hofer & Pintrich, 1997) that maturity of thinking may play a part in the ability to self-regulate effectively. Student personality traits were also assessed because the researcher's Postgraduate Diploma research seemed to indicate that students, who sound as if they are exercising a degree of self-regulation in their behaviour, may still fail to self-regulate in times of stress or when the pressure is on to achieve, thus it was important to see whether personality factors might have an effect on this.

A number of researchers into cross-cultural research have discussed the problems and dangers of using a questionnaire developed in a Western country containing Western concepts and beliefs in a non-Western setting (Cheung & Cheung, 2003; Cheung, Cheung, & Zhang, 2004a; Li, 2002; Pintrich, Zusho, Schiefele, & Pekrun, 2001; Salili, Chiu, & Lai, 2001). One of the reasons this is often done is that a corresponding questionnaire does not exist in the culture within which researchers wish to carry out research. Another reason is that it has been proposed that some questionnaires in areas such as personality represent universal traits and therefore it is acceptable and quite valid to use them cross-culturally (McCrae et al., 2000, cited in Triandis & Suh, 2002). However, other researchers have disputed this claim (Biggs, 2001; Grant & Dweck, 2001; Markus & Kitayama, 1991, 1998; Triandis & Suh, 2002). Using imported measures to assess variables in another culture is termed 'etic' research, while developing culturally valid questionnaires and measures within the same culture is termed 'emic' research. A number of researchers have argued that this 'emic' research is more likely to sample any differences within a different culture (Cheung, Leung, Fan, Song, Zhang & Zhang, 1996; 'Chinese Culture Connection', 1987, cited in Cheung, Leung, Zhang, Sun, Gan, Song et al., 2001) and that translated and imported 'etic' measures may contain culturally inappropriate ideas and values (Cheung, Leung, Zhang et al., 2001) as well as the risk that translations do not carry quite the same meaning as in the original version, thus making comparison or generalisations impossible. Despite this, both emic and etic questionnaires have been used in this study due to the necessity of accessing questionnaires which measure the desired areas and also the researcher's lack of expertise and inability to create new measures for another culture from a Western viewpoint. Thus, for this initial piece of research these issues and the limitations they produce are recognised.

The Chinese Personality Assessment Inventory (CPAI-2) – an emic measure
The first questionnaire was a measure of personality, which according to Markus & Kitayama (1998), in a collectivist culture is seen as a person's usual behaviour in particular roles with specific other people. It had been planned to use a short form of the NEO Five Factor Personality questionnaire to assess students' basic personality traits, however, it was decided, after some reading on the subject (Cheung, Leung, Zhang, Sun, Gan, Song, et al., 2001; Cheung & Cheung, 2003; Cheung, 2004; Cheung, Cheung, Leung, Ward & Leong, 2003; Triandis & Suh, 2002) to use a Chinese Mandarin version of the Chinese or Cross-cultural Personality Assessment Inventory version two (CPAI-2), an indigenous (emic) personality questionnaire.

The CPAI-2 had an original Mandarin Chinese version and was developed for Chinese people from Hong Kong and tested in Mainland China (Cheung, Cheung, Leung et al., 2003). The

CPAI-2 has four personality factors which are labelled Accommodation, Dependability, Social Potency and Interpersonal Relatedness. While the first three factors 'converged' with the Neuroticism, Extraversion and Agreeableness Factors of the Five Factor model, no CPAI-2 factor converged on the Openness Factor and the Interpersonal Relatedness factor of the CPAI-2 did not converge with the NEO at all (Cheung, Cheung, Leung et al., 2003). Cheung and Cheung (2003) commented that 'personality constructs' cannot be assumed to be universal without empirical research and that imposing Western measures of personality on non-Western cultures may miss important cultural factors that are present in these different cultures. The authors suggested that indigenous measures, such as the CPAI-2, might more accurately demonstrate the factors that make up personality traits within a CHC country, particularly as they include some specifically Chinese traits such as Harmony, Ren Qing (relationship orientation), Modernization, Thrift versus Extravagance, Ah-Q Mentality (defensiveness) and Face (Cheung, Leung, Zhang et al., 2001). Furthermore, these researchers commented that 'the absence of Interpersonal Relatedness in a Western instrument may "point to a blind spot" in Western personality theories, specifically the interdependent domains that receive relatively less attention in Western personality theories' (Cheung, Leung, Zhang et al., cited in Cheung, Cheung, Leung et al., 2003, p. 450).

The form of the CPAI-2 which was used contained 341 questions about respondents' thoughts and behavioural tendencies and consisted of 28 personality scales, 12 clinical scales and three validity scales (Cheung & Cheung, 2003). Examples of questions from the CPAI-2 are 'I have many new and creative ideas'; 'Even if I could benefit from telling lies, I would rather stick to the truth'; 'It seems that noone understands me'; 'I am scared of big changes'; 'I get irritated if I do the same thing for a long time'; 'I am prepared to take the lead in doing many things'; 'I always like to finish what I have started'; 'I like to save money for future necessities' and so on, to which respondents were required to reply either 'yes' or 'no'. (See Appendix E and F for more information on CPAI-2 scales).

Questionnaire Translation into Mandarin

The other two questionnaires were etic questionnaires translated from the English original by a bilingual speaker (a Taiwanese woman who has been in New Zealand for around ten years from her intermediate school days and has successfully completed her university studies in English) into Mandarin Chinese in order to facilitate student understanding of the questions. In the process of this translation another Mainland Chinese Mandarin speaker, who had been in New Zealand for about 20 years and completed her tertiary education here, was employed to back-translate and check this translation and thus the discovery was made by the researcher that the Taiwanese use more traditional and complicated characters to write Mandarin and

also expressions that are not understood by Mainland Chinese Mandarin speakers. This discovery resulted in very careful checking and discussion of the real meaning of questionnaire questions and also the employment of a third checker from Mainland China who provided a commercial translation service. His suggested changes to the questionnaires were then rechecked with the other Mainland Chinese Mandarin speaker who approved of most of his suggestions. Thus translation was quite time-consuming, but as accurate as could be achieved.

These questionnaires were then trialled with a group of students from Mainland China already in the course and any issues dealt with. One problem with the translation of these questionnaires was that certain ideas such as that of 'assignments' were unknown to those students who had just arrived from China, since in China they received nightly homework for completion the next day, but appeared to have no experience of longer-term assessments. Cheung and Cheung (2003) have mentioned that gaps in cultural equivalence may cause problems when trying to translate and adapt a questionnaire to another culture. This was only a problem initially as once students had entered the Foundation Studies course they became used to assignments. Nevertheless this exemplifies one of the issues in utilising Western questionnaires cross-culturally since despite what may be very accurate translation of concepts, the concepts themselves may be foreign to the student from another culture (Cheung & Cheung, 2003).

The Motivated Strategies for Learning Questionnaire (MSLQ)
One of these two translated questionnaires was the Motivated Strategies for Learning Questionnaire (MSLQ), developed by Pintrich, Smith, Garcia, & McKeachie, (1991) which is a self-report questionnaire which assesses different areas of self-regulated learning. This questionnaire was important, as it provided a baseline view of how students reportedly regulated their learning as they began the course. However, it was uncertain, at that point, whether it would aid in distinguishing between students' self-regulated and externally regulated behaviours which may be engrained and automatic because they have utilised them all the way through primary and secondary school. This might be an issue, especially with results from the initial MSLQ, when students may not yet have been obliged to control their own learning away from parental and teacher control. It was hoped that the second MSLQ and the semi-structured interviews would illuminate what was actually happening. Another issue, which may always be present and is difficult to overcome, is Chinese students' apparent tendency to say what they think the authority figure or teacher wants to hear or to avoid disagreeing with the teacher (Biggs, 1996). This behaviour could cause problems or inconsistencies in results. It also seemed possible from the researchers' past research that

students' levels of self-regulated learning might decline during the course as they were required to manage their learning completely on their own for perhaps the first time.

The MSLQ is a Western (northern American), etic measure of students' self-reported self-regulated learning and motivation strategies (see Appendix B for more details); however, as it was planned to research the validity of the Western theory of self-regulation on Chinese students, it seemed acceptable to use it as an imported measure. The MSLQ comprises 81 questions (31 for the Motivation scales including intrinsic and extrinsic motivation and self-efficacy, and 50 for Learning Strategies such as rehearsal and organisation) and is answered using a Likert type scale numbered from one to seven where one means 'not at all true of me' and seven means 'very true of me'. This questionnaire has factor validity; however no norms have been established as the developers assumed 'that student responses to the questionnaire might vary as a function of different courses, so that the same individual might report different levels of motivation or strategy use depending on the course' (Pintrich et al., 1991, p. 5). Some examples of questions in the MSLQ from Part A: Motivation are – 'I am certain I can master the skills being taught in this class'and 'Getting a good grade in this class is the most satisfying thing for me right now'and from Part B: Learning strategies – 'When I study for this class, I set goals for myself in order to direct my activities in each study period'; 'When course work is difficult, I either give up or only study the easy parts'; 'I often find myself questioning things I hear or read in this course to decide if I find them convincing'; 'During class time I often miss important points because I'm thinking of other things'.

Challenges with using the MSLQ to measure general SRL
It must be acknowledged that there is some difficulty with using the MSLQ to measure general beliefs and behaviours of self-regulated learning, as Pintrich et al. (1991) commented that they had 'not provided norms for the MSLQ'… since 'it is designed to be used at the course level' (p. 5). Despite this it seems likely, as Bandura (1997, p. 40) commented for self-efficacy, that students 'asked in an academic context to judge their general beliefs about their capabilities will most likely consider their academic skills', also students' study skill reports are likely to be reasonably generic. Yet this questionnaire is not intended to be a global measure of self-regulation; therefore, results may not be good predictors of beliefs and behaviours in specific domains. Thus, information from interviews may be invaluable at this point to develop and explain specific domain behaviour and beliefs. Nevertheless, Bandura (1986) also suggested there is some transfer of efficacy beliefs between tasks and domains and using the MSLQ as an intermediate measure of general 'efficacy predictiveness for common conditions is gained at the loss of some predictiveness for conditions within the same generic context that have fewer common features' (Bandura, 1997, p. 50). Therefore it

seems acceptable to use the MSLQ to test general academic self-efficacy and other features of self-regulated learning, supported by interview data.

The Measure of Epistemological Reflection (MER)
The third questionnaire was the qualitative Measure of Epistemological Reflection (MER) developed by Baxter Magolda and Porterfield in 1988 (Baxter Magolda, 2001b; Baxter Magolda & Porterfield, 1985) which was not normed. This questionnaire examines the area of a student's view of learning and knowledge, which has been shown (Baxter Magolda, 1999; Kitchener, King, Wood & Davison, 1989; Kitchener, Lynch, Fischer & Wood, 1993; Perry, Jr., 1999) to change over the course of university study in American society. This questionnaire was chosen as it appeared to be less culturally bound than others such as the Reflective Judgement interview, of which there is no adequate pen and paper version (Wood, Kitchener & Jensen, 2002), and slightly less time consuming and more reliable than some more recent pencil and paper versions (Hofer & Pintrich, 1997). Despite this it is not perfect.

The MER was also developed in North America and used as a measure of student maturity of thinking. If inconsistencies were present when using this questionnaire with students from other cultural backgrounds, it would be necessary to ask whether a more 'emic' (culturally appropriate) measure of epistemic belief needs to be developed for non-Western cultures. It may be that a number of the questions posed in this questionnaire may be culturally invalid and that the significance of the levels of belief may be different, at least initially, for students from Mainland China. However, as teachers at Foundation Studies have in the past often viewed students from Mainland China as immature in their thinking (despite any empirical support for this assumption) due to their perceived inability or unwillingness to actively participate in classes and their desire for the teacher to provide everything and guide their learning, it was considered it would be interesting to see whether they reported lower stages of epistemic thinking than do those students in American university studies.

The MER takes the form of six short answer essay questions on areas relating to the university classroom. The six questions ask about the areas of decision-making, role of the learner, role of the teacher, peers and evaluation and the nature of knowledge. It is suggested by the author (Baxter Magolda, 2000, 2001b) that an interview is held with each student after assessing the questionnaire responses, in order to verify meaning. Assessing responses required detailed reading of background theory and practice at assessment of family and friends' epistemological beliefs before using the questionnaire with Chinese students. It also required finding a second person who was also willing to be trained in order that two people could assess each student's responses and assign them a stage of thinking (Baxter Magolda,

2000). Students answered the MER in Mandarin, and thus, a bilingual Chinese/English speaker was also required to translate their responses into English in order that both assessors could analyse responses. The second Mainland Chinese translator and checker performed this task.

Hofer and Pintrich (1997) have pointed out that a fault of the Measure of Epistemological Reflection (MER) is that it may focus more on classroom learning than on the nature of knowledge itself. However, this focus on teacher, peer and student roles and the information it may provide on changes in these role beliefs may be useful support for changes in study strategies reported by participants in the Motivated Strategies for Learning Questionnaire.

Semi-structured Interviews

Finally, semi-structured interviews took place twice during the course with each of the eleven volunteers (see Appendix G for potential questions). There are a number of reasons why interviews as well as questionnaires were undertaken (Davidson & Tolich. 2003; Kvale, 1996; Seidman, 1998). Firstly, the initial desire was to acquire qualitative, as well as quantitative data. Secondly, data from different viewpoints aids in triangulation (Cohen, Manion, & Morrison, 2003; Lincoln & Guba, 1985; Johnson & Onwuegbuzie, 2004) and thus provides stronger evidence of what seems to be happening. Thirdly, as mentioned above, it is recommended that student responses to the MER be checked and clarified by interviews (Baxter Magolda, 2001a). Fourthly, Pintrich (2004) suggested that his questionnaire, the MSLQ, is better used for domain specific self-regulation, not for general self-regulation. However, the MSLQ was used as a basis for general academic self-regulatory assessment and, although the students were requested to think of a subject they were studying or had just finished studying, interviews enabled verification of MSLQ scores by the researcher asking more subject specific questions about self-regulation. (Unfortunately, the researcher forgot to ask students to record what subject they were thinking about on their questionnaire form). A fifth reason is that Pintrich (2004) also commented that the fault of the MSLQ is that it does not measure student affect which is linked to self-regulatory behaviour, therefore this could be asked in interviews, although, (and this will always be an issue), from previous research it seems clear that what students say may be what they think the researcher wants to hear, rather than what they actually believe. Ultimately, interviews provided another opportunity to explore students' perceptions of their learning experiences (particularly with regards to SRL) in a less formal, and perhaps less scripted, setting than that provided by questionnaires.

Furthermore, as there appears to be a paucity of recent reliable information in English on schooling in Mainland China, these interviews were also useful to ask in-depth questions

regarding students' experiences of schooling in China and how teacher-regulated their learning was. It would be difficult to construct questions on this topic without adequate background information, and thus, interviews were useful to expand my knowledge of their educational experiences in China since this was likely to affect their approach to self-regulated learning. Interviews also enabled questions about family background to be asked in more detail and exploration of how much students perceived that their parents controlled their learning. Finally, as different teachers in our Foundation Studies Programme teach in different ways and expose the students to different degrees of dependence and independence in their learning throughout the year, it was possible to ask students whether teacher control was similar to their previous learning in China or whether teachers here were requiring them to think and learn for themselves. This is important, because if teachers continue to provide all the knowledge and guide the students constantly, this may have the effect of slowing the development of self-regulated learning; whereas a teacher who requires the students to plan and organise their own learning and slowly relinquishes control may encourage more rapid development of self-regulated learning. However, there are numerous factors which may need to be taken into account here, including student readiness for self-regulated learning, and level of epistemic beliefs.

These semi-structured interviews included key topics which the researcher desired to gather information on, and during the interview the researcher provided prompting questions on these topics if the student did not introduce them first. Thus, initial interviews consisted of questions about student family background in China; whether they came from rural or urban areas; what their schooling in China was like; what study skills they may have practiced; how their teachers taught at Foundation Studies; as well as checking any areas of confusion or interest arising from their questionnaire responses. Interviews were carried out in English as students' levels of spoken English are often better than their written skills and, since interviews took place later in the semester, their speaking skills should have improved. In the second interview some of the interview topics were derived from questions or confusion arising from the student's first interview and questionnaires and these issues were clarified, as well as continuing to explore how each student was dealing with learning in a foreign environment. (See Appendix G for a sample of first and second interview general areas of questioning).

All interviews were taped, transcribed by the researcher and then examined and edited for background on the students and their degree of self-regulation. These were then compared against MSLQ responses initially and coded for verification of questionnaire responses or the lack of it. This process was also utilised to examine MER and CPAI-2 responses and issues as

well. Issues of confusion or conflict between questionnaires and interviews were noted and questions were planned for the second interview to enable understanding of these areas of confusion. Interview transcripts or copies of their particular interview tape were offered to the participants and some accepted, while others were not interested.

Part way through the second semester or towards the end of 2006 (depending on the intake), before the students commenced their first year of undergraduate study, the MSLQ and the MER questionnaires were repeated with all 18 students who were continuing on to university study (since the researcher was at this point still not completely certain of the direction this research was developing and thus surveyed all 18 students to allow for future changes in research direction; Research plans develop as the research progresses; Lincoln & Guba, 1985) and once again semi-structured interviews with the 11 students chosen by the criteria given above were administered. This second interview took place with each student in the second part of their Foundation Studies course before final assessments became too onerous, in order to observe if there have been any changes in students' reported self-regulation, motivation strategies and epistemic beliefs.

The CPAI-2 was not repeated for several reasons; firstly because it was a long questionnaire and took up a lot of student time which might deter them from being willing to continue participation in the research. Secondly, although there is some disagreement about whether personality is fixed from adulthood, for example, Bandura (1999) argued that it is not fixed; a number or writers (McCrae & Costa, 1990, cited in McCrae, et al, 1999; McCrae, et al., 2000) suggest that personality traits are fixed and do not change over time, or if they do, the change is only very slow and is more stable over the age of thirty. If personality change does occur (and these students are younger than thirty), then perhaps it might be useful to repeat the CPAI-2 later in their studies. Nevertheless, despite this uncertainty, for convenience sake it was chosen to use a one-off personality assessment for this piece of research.

Other data collected
The demographic sheet requested information such as: students' age, sex, and family background and estimated family prosperity, parental occupations, previous living or academic independence, length of schooling, time in New Zealand. Most students were willing to answer all questions on the sheet; however one student chose to omit responses to parental occupation and prosperity.

Final student exam grades from their Chinese high schools were also collected to assist in assessing a student's initial ability on entry to the course and a measure of their English

ability, usually measured by an International English Language testing system (IELTS) score or English language grade, either of which is required for entry to the Foundation Studies Programme. The minimum entry requirement is an IELTS 5.5 average with no individual score (reading, writing, listening and speaking) less than 5. (Note that a score of 9 is judged to be equal to a native English speaker). Alternatively, a Level three English language pass (preferably in the B range) from the English Language course of Bridging Programmes was acceptable. Lastly, their final grades in the Foundation Studies course were collected to demonstrate whether they had maintained or changed their grades.

Issues with Questionnaires and Interviews

One issue with questionnaires and interviews which require self-reporting is the possibility that students will deliberately self-report inaccurately in order to maintain face with the interviewer or unintentionally self-report inaccurately due to lack of self-knowledge. In addition, Tanzer (1995), cited in Rogers (1998), suggested that Chinese students avoid agreeing with things that imply 'self-praise' as this behaviour is less acceptable in their culture. However, when talking to a researcher from outside their in-group (see glossary), this may not be the case. This will always be an issue to some degree, but nevertheless is an important part of qualitative research. The use of a number of different measures or sources of information (triangulation) may serve to avoid this or at least indicate inconsistencies in self-reporting which should be taken into account.

Another issue mentioned earlier is that of translating a questionnaire into another language. Despite checking and back-checking of language and meaning it is still quite possible that some items may be unclear or misunderstood by the respondents. The process of translation for this research was as rigorous as was possible.

A third issue is the use of etic questionnaires for both self-regulated learning and epistemological beliefs. Having given reasons why it was important to use an emic questionnaire for personality, it may seem that the other two questionnaires were inappropriately chosen. However, this was discussed previously under Data Collection; also given both the challenges of translating existing questionnaires and of the researcher not being Chinese, it is suggested that for this research it was acceptable to use the instruments which were available and invite future research efforts to focus on developing more appropriate emic instruments.

Given also that the researcher is a Western observer of Chinese culture and learning, despite being a teacher involved in teaching the course, there is always the issue that the

interpretations of events will stem from a Western individualistic perspective, not matter how much background reading and attempts to understand the Chinese culture are carried out. As Lincoln and Guba have pointed out 'what is found in some particular context has meaning only in the idiographic sense *for that context at that time*. … what is found depends also on the particular interactions the investigator has with the elements of the site, including the values he or she brings to it' (p. 216).

As numbers of students were much smaller than expected and thus only using quantitative statistical measurements was inappropriate, it is important to emphasize as mentioned by Lincoln and Guba (1985), that this data can not be generalised to other students from Mainland China and that any conclusions made from examining data from student interviews and questionnaires are very tentative and only fully applicable to that individual student.

As with any data involving interviews, inadequacies in technique, unclear information especially as students wished to save face before the teacher, or the possibility that questions may have been too leading, may have resulted in some inconsistencies with the data and perhaps may have led to erroneous conclusions about individuals' experiences in the course. Nevertheless, it is to be hoped that this was not often the case and that the majority of the conclusions and explanations have some validity; for example, due to peer debriefing and an audit trail (see page 90 for further information). Further research would be useful to provide further validation of these ideas.

Furthermore, although grades were chosen as a measure of ability, Bandura warned that:

> … the use of performance as the unalloyed index of actual ability should be tempered by considerable caution, however, because performance is usually confounded with interacting motivational, self-regulatory, and affective non-ability determinants. … Given fluctuating performance, it is no easy matter to determine whether discrepancies between efficacy judgement and action reflect misjudgements of capability or unrepresentativeness of the particular performance sample used as the reality marker (1997, p. 71).

As most Mainland Chinese students have just completed several years of serious study for university exams it is anticipated that they were operating at maximum capacity when they achieved the grades they did. Therefore, it is possible that for some these grades will not be repeated, either due to additional cultural stressors or simply because they do not see the year in Foundation Studies as a time of great academic interest but rather as 'a means to an end'.

Furthermore, it should be noted that students entering the course from Mainland China are usually students who have been more successful in their own academic system compared to many New Zealand students, although they may still have failed to gain Chinese university entrance, and/or are students from advantaged and affluent backgrounds compared with the majority of Chinese students in China. Thus, any suggestions that these students might be more or less effective self-regulators than students from Western nations from their responses to questionnaires and interviews can in no way be generalised to other Mainland Chinese students.

Finally, while more detailed and intense research may have been able to explore areas of SRL that are influenced by culture during the year from an observational point of view and thus acquire more fine-grained information about these students' learning adaptations, nevertheless, this particular piece of research was undertaken within the restraints of the knowledge possessed by the researcher at its conception and by the practical and logistical restraints of her part-time teaching, timetabling factors within the course which prevented classroom observation, and limited funding. In the future it may be valuable to investigate students' classroom behaviour and self-reported learning strategies by more in-depth observation and exploration; however for this piece of research this was not feasible.

Data Analysis

Due to the shortage of participants mentioned previously, the three questionnaire results and individual means were utilised as background information on each student to inform the qualitative analysis.

The CPAI-2 and the initial MSLQ responses were entered into Excel spreadsheets and double checked for accuracy before means were calculated for each factor for both questionnaires and also for the whole questionnaire for the MSLQ. These spreadsheets were examined for differences and possible trends between students' responses.

After being translated, each student's individual MER responses were read and compared to examples of each stage of epistemological belief from the Baxter Magolda (1992) book 'Knowing and reasoning in college: Gender-related patterns in students' intellectual development' (see Appendices C and D for more detail). The first rater made decisions about epistemological beliefs based on this comparison and then passed the student comments to the second rater for them to make their own conclusions about student stages of belief. These

decisions were then compared and where different decisions occurred, both raters conferred and agreed on a stage for those in dispute (as required by Baxter Magolda, 2000).

At the same time individual MSLQ responses were analysed to identify those students who appeared to be practising some self-regulation and those who did not. Then, from the criteria explained above (page 91) eleven students were chosen by purposive sampling (Lincoln & Guba, 1985; 'Qualitative research', n.d.) and these eleven were interviewed twice during the course. Interviews were taped and data from these interviews was transcribed and double checked by the researcher before being examined and coded for any confirmation and clarification of questionnaire responses (or the lack of it) in order to connect, compare and enrich questionnaire responses (Johnson & Onwuegbuzie, 2004).

Initially, the MSLQ, MER, and CPAI-2 questionnaires were used as 'templates' for information (Paré, 2002) to assess student responses in the areas of personality, self-regulated learning and epistemological beliefs. These 'units' of information (Paré, 2002), or the smallest meaningful pieces of information that need no further explanation except general knowledge of the research context (Lincoln & Guba, 1985), as well as the areas of family, culture and schooling then became prime areas to guide transcript reading and 'within case analysis' (Paré, 2002) of individual student interviews. Additionally, the researcher was interested in learning from the interview data (inductive data analysis), rather than attempting to impose theories upon the data; especially in areas where any presumed correlation did not occur. Thus, student data from interviews, demographics, and questionnaires was compared, coded (Seidman, 1998) and displayed in charts, tables and text 'to discover connections between coded data' (Paré, 2002) and then reordered into 'categories that facilitate insight, comparison, and the development of theory'(Strauss & Corbin, cited in Paré, 2002). While, according to Seidman, 1998, this may not be the most appropriate way to analyse qualitative data, nevertheless, for a mixed methods research (Johnson & Onwuegbuzie, 2004) involving questionnaires and interviews this would seem to be an acceptable way of comparing and triangulating the data.

Where links were made between questionnaire responses and student interview comments, these were then combined together to provide greater understanding and richer description. As data was compared, areas of agreement and conflict within the different areas of data were highlighted. This data was then examined through the conceptual framework of Pajares's 'reciprocal causation' organising data into the areas of environmental, personal and behavioural factors within, or affecting, each student as laid out in social cognitive theory and this structure was used to aid analysis of the data. Finally, qualitative and quantitative data

were, where possible, 'integrated … into a coherent whole' (Johnson & Onwuegbuzie, 2004, p. 22), creating student profiles or case studies. Where congruence was not possible the incongruence was commented on and discussed within the limitations of the research (Johnson & Onwuegbuzie, 2004) and past research was explored to aid in achieving some understanding of these incongruencies.

Cross case analysis (Paré, 2002) was then used to discover key areas or themes which a number of students mentioned or which appeared to affect a number of the students. However, as this research encompassed a wide area, unless factors outside the areas of the questionnaires and demographic information were repeated by a number of students in interviews, they were not followed up on at this time for this research project.

Peer debriefing was carried out with a colleague who was experienced with international student affairs (See Note 1, p. 90). This colleague compared student interview transcripts and the data written up within the thesis and confirmed that the two were synonymous and that the researcher had been accurate in representing student comments.

Finally, to protect student anonymity and privacy in the process of analysis and writing, pseudonyms were provided for each student when data was written up and all questionnaires and interviews were stored in a locked filing cabinet in a secure office.

Communicating the results through a conceptual framework of analysis

After briefly considering Bronfenbrenner's (1977, 1979) theory of the 'Ecology of Human Development' based on a social cultural view of interaction as a conceptual framework for organising and presenting the findings of this research, it was decided to remain with Bandura's social cognitive theory where 'reciprocal determinism or causation' (Bandura 1986, 1989, 1997, 1999; Pajares, 2002a) views environmental, personal, and behavioural factors as points of a triangle acting reciprocally on each other. While this is in some ways quite close to Bronfenbrenner's theory it does not contain encircling ecosystems, yet the two-way interaction between factors is still present. This conceptual framework for analysis and interaction is depicted in Figure 3.1, showing factors which could be expected to have an influence on the Mainland Chinese students surveyed for this research. Note that from this point on, and within the Findings, the students' cultural and family background and schooling in China are included within personal factors in this model, since these factors are seen as part of their past environment which may have affected them personally but are not part of the present environmental factors they encounter in New Zealand.

Behavioural

Factors

Academic success or failure, goals,
motivation, effort, self-regulated
learning, time management, planning
and so on.

Personal

Factors

Personality, age, epistemological
beliefs, self-efficacy, affect,
intelligence or ability, Confucian
Heritage cultural background,
Mainland Chinese educational
system, parental occupations and
influence on decisions, whether
students have siblings or are an only
child, any prior Western influence
on learning.

Environmental

Factors

The New Zealand educational
system; student's length of time
studying in New Zealand prior to
starting the Foundation Studies
course; the teaching style of New
Zealand teachers.

Figure 3.1 – Reciprocal Causation – adapted from Bandura (1989, 1999); Pajares, F. (2002a).

In the following chapter students will be introduced in order of their final grade and whether their grade has remained the same as their initial high school grade, or increased or decreased from what might be expected from this initial grade. Then, findings for each student will be organised by presenting the results of these three factors (personal, environmental, and behavioural) from the research and comparing results across students. (Please note that due to the large amount of data accessed, only data which appeared to affect student experiences and outcomes has been presented in this document).

The results, which will hopefully provide insight into how these international students adapt to learning in a Western university, may be useful to this Foundation Studies programme and

English Language Centre, to other Foundation Studies programmes throughout the country and also at undergraduate level. If teachers and lecturers are aware of the advantages of Chinese students' previous learning and the disadvantages that they bring with them to New Zealand universities, they may be more able and willing to teach in ways that will facilitate their learning more successfully and with less stress. Also, for Foundation Studies Programmes, this research may validate and illuminate the most useful ways in which to teach students from Mainland China. Finally, in a wider research sense, this research may help to demonstrate whether Western theories of self-regulation and epistemological beliefs are valid with Chinese learners.

Chapter Four – Findings

Eleven Mainland Chinese students speak

In order to investigate the potentially influential factors of educational environment, personal backgrounds, and behaviour on the academic experiences and outcomes of these students from Mainland China, the following findings from data collected from student interviews, questionnaires and a demographic sheet are presented. Student perceptions of their teaching and schooling in China and New Zealand will be introduced first, in order to provide a self-reported description of the learning environments they have come from and the perceived differences with the learning environment they encounter in New Zealand, then an introduction to the format and intake differences of the Foundation Studies course will follow.

Following this, the eleven students will be introduced in order of academic success as judged by grades combined with changes in their self-regulated learning scores, and their potentially influential environmental, personal and behavioural factors will be presented. Those students who succeeded academically in the Foundation Studies Programme (Yi Sen, Yang, Lisheng, Hui Xin, Jing, Dayi, Huaqing, Yi Jie, and Fei) will be introduced first followed by those who were unsuccessful (Zhaopei and Min Min). Findings for each student will be summarised using the 'reciprocal causation' triangle from Bandura and Pajares (see end of Methodology, page 106) in an attempt to explain student outcomes, then student factors and their outcomes will be compared across cases.

Educational Environments

Chinese Educational Environment

Students were asked about their school experiences and learning in China and a number of things were mentioned by most of the students. What follows is information from student interviews which should be viewed as student perception and opinion; and the information has been summarised by this researcher when the information from a number of different students has concurred. Furthermore, some students such as Min Min, Zhaopei and and Yi Jie (who perhaps may have had more negative experiences of school) were quite articulate about their schooling, while others such as Yang and Yi Sen, higher achieving students, were less articulate. It should also be noted that students may have generalised and, perhaps, 'exaggerated' some events; nevertheless a considerable amount of what was said by these students reinforced the available literature about Mainland Chinese education.

According to students, classes were very large (40-70 students) in both urban and rural schools; school days began early (7-7.30 am) and often ended late (6.30 or later for some); and students were expected to remain passive and silent in class while the teacher taught. Although they were sometimes permitted to ask questions in class, few students did so; most preferring to ask the teacher after class. This was partly to avoid interrupting the teacher's teaching flow, partly from politeness, and partly due to the large class size and the difficulty of achieving anything if each student asked questions in class. Despite this, Zhaopei commented that he thought that not many Chinese students asked questions after class.

Teachers were seen as figures of authority not just for teaching appropriate behaviour but also as purveyors of knowledge. A number of students commented that, even if they doubted the teacher, they would not dispute the information publicly, especially if it was information required to pass an examination. Hui Xin considered that in New Zealand if you tried to answer you were right, but in China 'you must say the right answer'. She seemed to imply by this that in China there was one exact answer whereas in New Zealand it was 'different'.

As all students agreed that their studies were very important for their future, teachers could be very strict and report lazy students to their parents for punishment, according to Min Min, but could also be good friends out of class time. Teachers had the responsibility to make students succeed, although Yi Jie thought that teachers in private fee paying schools might have less authority due to their fear of losing pupils. Apparently some parents delegated the responsibility for their child's academic success to the teachers, especially in high fee-paying private schools. The teacher might achieve this, according to Min Min, by:

> Just keep … speak bad things about you … They hardly say any good things. They thought that if they say the good things then the student not going to work hard. Only they say bad things, then back home the parents going to get more pressure on them, then they work hard (First interview, 10.5.06).

A university degree was seen as the way to get a better job in China (a polytechnic degree was not as good) and as entrance exams for university were so important and entry so competitive, students were dedicated to learning, which has its consequences. Most commented that they could make themselves learn even when subjects were boring because they knew it was their chance to get further education that was at stake. However, a few students, including Min Min, said that they could not make themselves study unless they wanted to learn the subject. A number of students commented how this pressure and the limited places in universities meant

that students were unwilling to help each other with school work as helping someone else to understand and succeed might mean that you failed the final exam and lost your chance of a place at university.

This final exam decided whether a student could gain entry to a university or not and thus the exam was more important than the process of getting there and it was 'terrible' if a student failed their studies, according to Yi Sen in his first interview. Lisheng thought that this emphasis on exams meant that students who had good practical ability but were less able in exams could be disadvantaged by the system of exams for entry to institutes of higher education.

Also, due to the importance of these exams, teaching was often repetitive with a great deal of practice, perhaps so that by constant repetition the large amount of information required for exams could be absorbed and remembered without having to do last minute study, according to Min Min and Zhaopei. To study for the exam, students needed to do a great deal of revision of all their notes and books, perhaps writing down some key points, as well as a lot of practice and exercises.

Tests and exams appeared to be frequent, every month and sometimes every week, at high school level. Zhaopei's perceptions of teaching in China were that 'teachers just follow the books and we just follow the teacher and the book follow the exam' (First interview). Studying for tests just involved reading the teacher's notes because what the teacher said was usually what was in the exam. Also, according to Zhaopei, you could not disagree with the teacher in China; you might think of disagreeing but there was not time and 'during the exam, they follow the teachers because we need the marks' (First interview). The pressure of studying for exams was such that, although a student might wish to explore a subject more deeply for their own satisfaction, there was no time to do so. In addition, several students, including Yang, commented that there was no need to do extra research since all the answers were found in the textbooks. Min Min, in her first interview, also asserted that schools were mostly interested in preparing students to do well in final university entrance exams and the whole three years of high school were aimed at this, which often made schooling very boring for the students. Several students commented on this and it seemed that, for some, during the first year of high school they were taught all the new information they needed for their university exams, the second year it was repeated and reviewed and the third year they were regularly tested on it.

Apparently teachers set some of the exams and thus they knew the answers. Anecdotally from Min Min, it appeared that in some schools 'the teachers have to study for the exam first then tell the students what … should be in there' (First interview) and a number of students commented that you must believe what the teacher said; in fact, it seemed that even if you disagreed, you believed what the teacher taught if only to pass the exams (a practice which happens in New Zealand schools and other educational institutions as well). One consequence of this exam pressure was that, as Huaqing mentioned, what was taught could be irrelevant for a student's future as:

> … large population … the test is harder. They just want a few of people to come to the university so every time the things we're learning I think a lot of people found they can't use in their life, just for the test; so sometimes we say in the maths class with this sum, it's too difficult, "I'm not going to be a professor of maths" (First interview, 19.7.06)

The heavy workload involved in exam preparation may have resulted in students' desire to complete tasks without worrying about quality or depth of learning, especially as the teacher would mark their efforts just right or wrong, yet provide no feedback. Zhaopei, in his first interview, mentioned that the large amount of nightly homework 'not count for final marks, so sometimes students don't care about this homework and we just focus on the final exam' and this homework was often impossible to complete. Zhaopei and Yi Jie likened this workload pressure to students working like machines. The homework was often just for practice and in some schools students could acquire the answers from their teachers the next day even though they had not completed the homework. Dayi thought that in China teachers 'teach us to just finish the job' and 'it's so boring'. Most students commented that reciting and reviewing were the ways that they learned information, although a few talked about linking that to understanding or needing to understand to remember ideas properly and long term.

While urban schools for these students may have been expensive, prestigious schools, Hui Xin, the one student who experienced study in a rural high school, commented that in these schools teachers may know no more than the students and thus students learnt to become more independent learners from necessity.

> If you are in a big city, maybe the teacher is very nice and you can ask the teacher any time if you have the difficult, but in the village … maybe the teacher don't understand. He just … read the textbook and he know how to do practice, but maybe he didn't

understand, the teacher don't understand, so that … kind of support students not so experienced (Hui Xin's first interview, 24.7.06).

New Zealand Educational Perceptions

In contrast to education in China, New Zealand teachers were seen by these students as friendly and approachable, classes more leisurely and, whereas in China teachers were only able to be questioned after class, in New Zealand you could ask questions in class if you did not understand, and, according to Min Min, different ideas were tolerated. In his first interview Zhaopei was impressed that 'In China … if the teacher say something and then the students disagree … the teacher will angry, but in New Zealand we can talk in class, just about this knowledges'. Some students found this enjoyable whereas others, such as Dayi, found it a distraction and thought students should not ask questions and thus disrupt his learning.

Students frequently viewed the lessons in Foundation Studies, except for English, as very easy, often because, for the science students at least, they were repeating information they had already covered in China. Mathematics was also easier and taught at a lower level. A number said that they had had to complete a lot of very difficult maths problems in China. Commerce students were learning new information but at a slower pace than in China. Almost all commented on how the subject was not difficult but that the amount of new English vocabulary they needed to learn to understand it fully was difficult. Some science students, such as Hui Xin and Lisheng, commented that they enjoyed doing more practical experiments in New Zealand, and for Zhaopei this helped him to understand and remember the work.

A few students thought that studying in New Zealand was helping them to understand ideas and they enjoyed the less stressful learning situation. Teachers also provided feedback to students on their work thus helping them to improve. Furthermore, there was cooperation between students in the classroom and they could help each other and have more fun. For some this meant they became too relaxed about their learning which may have affected their final grades. Zhaopei commented that the lack of pressure and competition in New Zealand meant he thought it was easier to study in China. With no parental pressure and less pressure from teachers he said that if 'my classmates don't want to do that class, so I just follow them. But sometimes it's just my own choice' (Second interview) as he thought that some classes were not helpful. He also perceived that it was easier to enter university here as:

… in here you get a C grade, you go to university; but in China of course it's not good … but if you've got 60 percent it's impossible to go to university, you must go to more than 80, 90 percent … if you fail any subjects, of course it's impossible to go to university, whereas here you fail one subject it is okay [but it's no good]' (Zhaopei's second interview, 4.9.06).

In addition, Min Min commented 'in China every year is different and the universities … only want 4000 students this year and they will from the top mark to the 4000. You never know how good you have to do when you get in' (Second interview, 13.9.06).

These different perceptions of learning in the two cultures may have had an effect on students' academic success in the Foundation Studies programme.

Table 4.1 below summarises the student reported differences between China and New Zealand education.

Differences	China	New Zealand
Teacher authority	Absolute	More relaxed and friendly
Questioning in class	No	Yes
Teaching style	Repetitive practice	Encourage critical thinking
University entrance exams	Extremely important	Less important
Information	All provided by teacher and texts	May need further research
Feedback	Right or wrong	More often feedback to help improve
Cooperation between students	Not often	Is encouraged
Feelings about learning	Repetitive, and boring	More relaxed and enjoyable
Workload	Very intense	Less intense

Table 4.1: Student perceptions of differences between Chinese and New Zealand education

Intake Differences

In the Foundation Studies course in 2006, the year this research was carried out, as mentioned earlier, there were two intakes during the year. The first commenced in late February when the university year began and continued until mid-November, while the second, the June intake, commenced in early June and continued through till late January of the following year.

Each intake had 26 weeks of classes, however for the February intake this was interspersed with a number of two to four week breaks from study, while the June intake was much more condensed, so that, except for the Christmas break, all breaks were no more than one week. This difference tended to make the June students very tired by the end of the course, while the February students had a tendency to loose momentum with their studies due to the large breaks.

Nevertheless, it should also be mentioned that the February intake had a greater workload, as they were required to study the compulsory New Zealand Studies course. This was an unpopular course with the students and was removed from the programme after the February intake. They were also required to take an optional subject in their second semester which gave them more choice but also more work than the June intake. As a result their daily timetable was quite busy with five to six subjects and thus with little free time for personal study. By contrast, the June students (due to a lower number of students and the removal of New Zealand Studies from the compulsory subjects) were only required to take four subjects, which meant that their daily timetable was much freer, enabling them to have time to self-study if needed. These factors may have had quite an effect on the difference in results, and possibly the behaviour and motivation of the two intakes.

Furthermore, while there is no way of empirically proving this, staff members teaching this specific February intake commented early on how the students did not seem to be working very hard and that there appeared to be a group attitude that they did not have to exert themselves too hard as the course was not difficult. Those staff members who then also taught the June intake commented on the difference between the two intakes; how the June students were much more motivated and hardworking students. Final exam marks have borne this out to some degree as, despite entry grades which would have indicated comparable ability within the two intakes, a larger number of February students failed the course than June students and February grades were noticeably lower than June grades. While the February intake was larger, eight of the highest marks for the year were achieved in the June intake for those subjects they took, except for one February student from Hong Kong who achieved three top course marks.

Student personal backgrounds, environments, and behaviour

The eleven students, who are all members of the majority Han Chinese ethnic group, will now be introduced in order of academic success as judged by grades combined with changes in their self-regulated learning scores, and their potentially influential personal, environmental and behavioural factors will be presented. Figures containing relevant data in these three areas for each student can be found in Appendix A towards the end of this document. Each student will be introduced by a quote in italics from either their first or second semi-structured interview which this researcher considers exemplifies that student.

Please note that as this data has only been statistically measured for means, there is no possibility of proving statistical significance with the data (especially from the MSLQ). Therefore as this information is presented qualitatively, and thus mostly descriptively, the expressions 'slightly/slight increase/decrease' have been used to describe slight difference in MSLQ individual scores from self-report data which may or may not be significant, but which may be a normal variation of student self-reporting at different questionnaire application times. In addition, 'marked(ly)/strong(ly) increase/decrease' have been used to describe more distinct differences in MSLQ individual scores over different questionnaire administration times. These larger differences are usually more than 1.0 change in self-report level on a Likert scale of 7.

Yi Sen

… a good student can force themselves do anything.

Personal Factors
(See Figure A.1, page 266)

Chinese Educational Environment
A twenty year old male, Yi Sen chose to come to New Zealand after 13 years of schooling due to the stress and boredom of study in China and also since improved English and an overseas degree would be more useful for acquiring a job with a good income. He had discussed his decision to come to New Zealand with his parents.

Initial Grades
Yi Sen appeared to be a high achieving student with excellent A grades in his final high school results and adequate English (IELTS 5.5 with 5 for listening and speaking and 6 for reading and writing) for the Foundation Studies course. (Note that an IELTS score of 5 for reading or writing is quite low for the Foundation Studies course which demands a

considerable amount of academic reading and writing, whereas a score of 6 in these areas should be adequate for dealing with the language in the course).

Personality

He scored very high on emotionality and face and low on optimism for the Dependability factor in the CPAI-2, and high on discipline and thrift for the Interpersonal Relatedness factor. (For the CPAI-2 results please note that for the purposes of this CPAI-2 reporting, when a score is termed 'extremely high' or 'extremely low' this indicates that the score was 6 points or more from the established Chinese mean for that scale; 'very high' or 'very low' means scores between 3 and 6 points from the established mean; 'low' or 'high' is from 1 to 3 from the mean and average is within 0.5 points either way from the established mean – see Appendices E and F for explanations of scales within a factor and for Mainland Chinese means).

Final Grade Expectations

Yi Sen expressed positive feelings about the Foundation Studies course and expected to obtain A+s for all subjects, except English, for which he still expected a pass or a low B grade. This inability to do well in English had caused him to lower his expectations of how successful he would be in the course, but it was not causing him great concern. Furthermore, despite not enjoying his studies in China, in New Zealand, while still not particularly enjoyable, they were 'okay' as they were easier '… because I have learnt [them] in China' and in his second interview he described them as 'like holiday' and 'easy … except … English'.

Epistemological Beliefs

In both his first and second MER results Yi Sen appeared to express absolute beliefs about knowledge (see Figure A.2, page 267). Please note that while the MER investigated students' beliefs regarding other areas of academic study only their beliefs about knowledge are reported here. For further information on their responses to other areas, see Appendix A.

Environmental Factors

Social and Educational Environment

Yi Sen began the Foundation Studies course in the mid-year (June) intake studying science. When the course commenced he had been in the country for only 18 days and was living in a Chinese home-stay. Towards the end of the Foundation Studies course he acquired a job driving a forklift at a local supermarket and demonstrated some ability to manage his time by completing all his homework during the week, in order to work for sixteen hours in the weekends.

In New Zealand he thought that there was a lot of free time and appeared to recognise that independent learning was expected as he commented that the teacher would explain something once and then would expect the student to learn it independently. Despite the relaxed atmosphere of a New Zealand classroom where students were permitted to interrupt the teacher, he said that his preference was for quiet Chinese classrooms.

Behaviour - Self-regulated Learning
Yi Sen's MSLQ scores appear in Appendix A, Figure A.3, page 268. From initially having the second lowest mean MSLQ score, it should be noted that all of his scores within the MSLQ increased, often markedly, except effort regulation which decreased. (Note please that MSLQ mean scores indicate the mean for these eleven students since the MSLQ does not appear to have been used with Mainland Chinese students previously).

Effort Regulation
In his first interview he said 'in China … a good student can force themselves do anything' and thus, although in China he had found lessons 'very boring', he and other students in China could make themselves study because it was needed for their future. Despite this, his MSLQ scores showed that this effort regulation was the one area in which his score decreased.

Future goals
Yi Sen's short term goals were to achieve A+ in all subjects, except English and his goal for the following year was to study electronic engineering at university. These appeared to be challenging, proximal and achievable performance goals and he was the only one of the eleven students who showed a marked increase in their MSLQ scores whilst maintaining their high school grade level. For his final Foundation Studies grades, while he obtained a C+ in English, he received A grades in his chosen subjects of Mathematics, Chemistry and Physics, an average score of 81 per cent and first for the year in Physics and Chemistry.

Summary of factors affecting Yi Sen's outcomes
Being in the environment of the June intake with its seemingly better motivational atmosphere (see comment on page 114), lighter workload and fewer study breaks as well as the brief amount of time he had been in New Zealand prior to the course commencing may have had a positive maintenance effect on any achievement motivation that Yi Sen brought with him from his upbringing and study in China. Also his previous high achievement, high goals and a personality measure of high 'face' may have kept him working towards success and endeavouring to avoid failure. The perseverance generated by his achievement motivation could also have affected the reported increases in his MSLQ scores as he strove to succeed,

and found the learning more valuable and interesting due to experiencing much less pressure from the learning environment than in China. His absolute epistemological beliefs may have meant he was determined to follow the teacher's leading and gain a successful academic outcome, which he did. This achievement motivation to succeed and a successful outcome may have continued to feedback motivation to other students in his group to continue striving for better grades.

Behavioural

Factors

Increases in all initially low SRL scores, except effort regulation

Personal → **Environmental**

Factors **Factors**

20 years old
High grades
High short and long term goals
High score for face
Absolute epistemological beliefs
Final grade A

18 days in NZ
June intake (less workload, higher work ethic and fewer breaks)
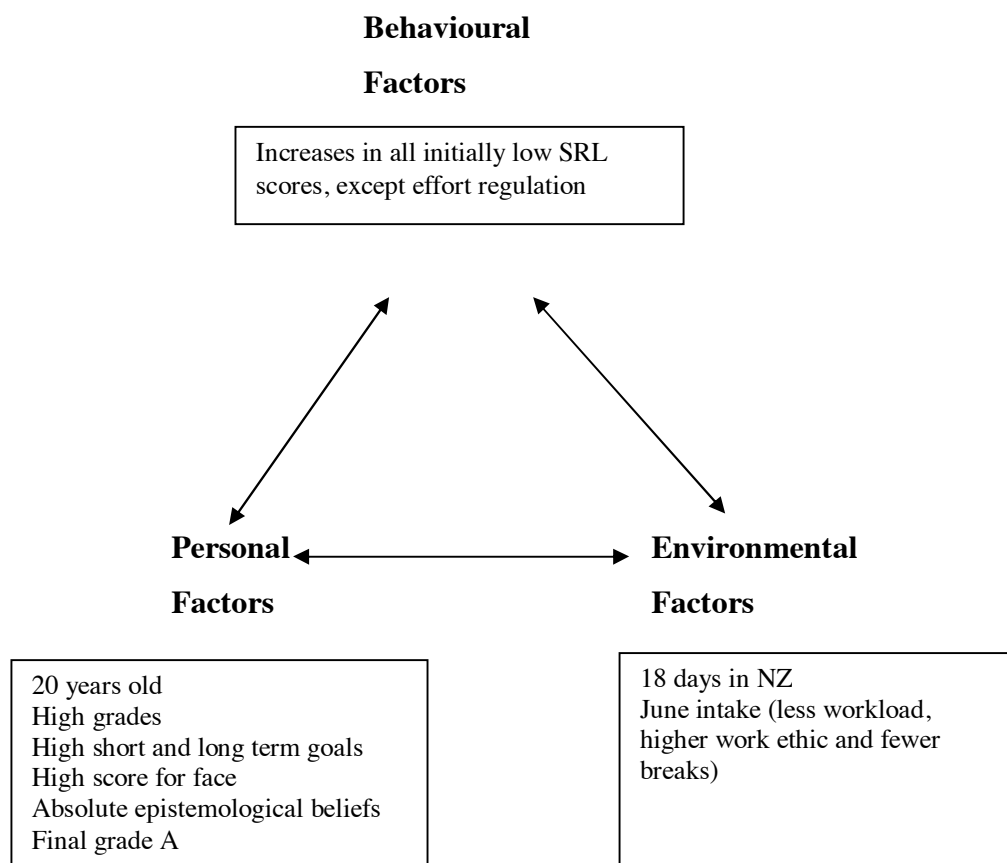
Figure 4.1 – Reciprocal Causation diagram for Yi Sen

Yang

… although it's boring, but it's helpful to find a job later, so I will work hard … to overcome that.

Personal factors

(See Figure A. 4, page 269)

Chinese Family Environment

Yang, a 17 year old, said that he made suggestions to his parents about studying commerce abroad and they made the final decisions. Like most Chinese parents, Yang's parents considered that study was very important and he said he understood that.

Initial Grades

Yang had achieved almost all excellent or A grades from his eleventh year at his high school which was attached to one of the universities; he called it a 'key' school. This probably means it was a more academic school channelling successful students into the university. His English entry grade was an IELTS average score of 6 with a 5 for writing.

Personality

He scored very low on inferiority, low on optimism and high on face, meticulousness and responsibility for the Dependability trait of the CPAI-2.

Epistemological Beliefs

Yang's initial epistemological beliefs about knowledge appeared to be absolute since although he commented that one could not make absolute judgements, he also said that we do not know enough which suggests there is still final knowledge out there to be known, which is an absolute belief. His second MER comments indicated that his beliefs about knowledge had not altered (Figure A.5, page 270).

Environmental Factors

Social and Educational Environment

He commenced the course in the June intake, four days after arriving in the country. During the year he lived first in a home-stay and then in a boarding situation in a flat. In his first interview he thought that the New Zealand 'lifestyle is very boring at weekend or in holiday. You don't have so much homework and just reading a book and go somewhere. So it's very boring'. As he had just arrived in the country he had perhaps not yet made friends and learnt how to relax.

In China, Yang thought that what the teacher said was very important and you could only ask questions after class. However, in New Zealand he could ask the teacher for help and revision practice during class. Despite this, he thought that teaching in New Zealand and in China was more or less the same. It should be noted here that his English teacher was extremely helpful to the students.

Behaviour - Self-regulated Learning

Behaviourally, Yang experienced decreases in most areas of self-regulated learning and his MSLQ mean decreased from 5.79 to 5.28 (see Figure A.6, page 271, for more details).

Self-efficacy

His initially high self-efficacy beliefs decreased slightly. At the beginning of the course Yang was confident he would get A grades and was enjoying all his subjects; and in his second interview he reaffirmed this. Nevertheless, he commented that 'the course getting harder and harder … but the goal … doesn't change'. He considered Foundation Studies to be a 'bridge' and also said he wanted 'to prove the self-worth thing'. He stated that he did not enjoy study in China or study in general ('although I dislike the study, but I have to'); but was enjoying Foundation Studies (except English) as it was easier than in China.

Effort Regulation

He considered that he was capable of making himself learn if something was boring and said:

> I think the subjects you choose … the one thing is you enjoy it and the other thing is it helpful you to choose it to find a job from graduate from university. So … if the subject is boring, although it's boring but it's helpful for to find a job later, so I will work hard … to overcome that (Yang's First Interview, 21.7.06)

Yang realised 'study is … most, is very important … help you find a job in the future'. Because of this he was willing to 'choose study' rather than social life when an assignment was due; yet he was not so certain of his choice when the assignment was more distant. The only subject he considered 'a little boring' was English, 'but we have to learn' and:

> I think I have to … I just want to stay here, I just want to graduate from the university, so everything that can manage it to … I want to find a good job here, so everything can deal with … (First interview, 21.7.06)

Study Strategies and Study Environment

In Yang's opinion his way of studying had not changed during the course. At the beginning of the course he felt 'I can organise my spare time and do something interesting I want'. In his second interview he still felt confident that he was able to get his study done on time. He mentioned that he studied by reviewing his notes while listening to music in his bedroom. He was not sure whether the music helped him, but said it was 'just a habit'. The one other area where his study strategies increased slightly was in the area of help seeking, perhaps since, as noted earlier he had an English teacher who was very willing to help the students.

Future Goals

His goal for the year was to gain a pass with excellent grades in Foundation Studies, which he achieved; and the following year to study either Accounting at the University of Canterbury or Logistics Management at a nearby university. Originally he had planned to study Management, but a New Zealand friend had advised him that it was more difficult to get a job both in China and New Zealand with a degree in Management. His plan was to stay in New Zealand and work here. For him in the future he said, 'it is necessary for me to balance the money and the happy and everything, so the successful life means both the rich and happy' (Second interview).

Final grades

Yang achieved an overall A (82 per cent) average grade in the course with an A+ for all his subjects except English, for which he attained a B grade.

Summary of factors affecting Yang's outcome

For Yang, as for Yi Sen, the June intake may have provided the motivation and lessened work pressure (along with his very helpful English teacher), which helped him to maintain his achievement motivation and attain high grades, despite arriving in New Zealand only days before the course commenced. Although as a younger student with only eleven years schooling he may have been more at risk of failing, absolute epistemological beliefs and the perception that classes in New Zealand required the same kind of learning as in China (which meant he may have seen little need to change the way he learnt) would seemingly both result in less immediate stress to the student. Furthermore, high face, responsibility and meticulousness scores may have meant he was striving to succeed and avoid failure; he was a high achiever, who aimed for high grades and achieved them; he made use of the help seeking opportunities available to him; all of these factors may have caused his effort regulation behaviour to increase (despite decreases in almost all other areas of his MSLQ scores) and enabled him to have a successful academic outcome.

Behavioural

Factors

```
Increase in effort regulation
No change in learning strategies
```

Personal ← → **Environmental**

Factors   **Factors**

```
17 years old
High short term goals
High grades
Absolute epistemological beliefs
High face, responsibility and
meticulousness scores
High final grade - A
```

```
June intake (less workload; higher
work ethic; shorter breaks)
4 days in NZ
Very helpful English teacher
Teaching in NZ just like in China
```

Figure 4.2 – Reciprocal Causation diagram for Yang

Lisheng

I think I have my own ideas, so probably I can understand some ideas, disagree the others.

Personal Factors

Chinese Family and Educational Environment
Eighteen year old Lisheng had achieved excellent grades in his final (twelfth) high school year (See Figure A.7, page 272, for more details). When he had completed high school his mother, after considering a number of countries, had made the decision with his agreement that he would continue studying in New Zealand.

Previous Independent Learning
Unlike most of the other students, Lisheng thought that 'Chinese education … help us to practice for our self-study' because in his school there was so much to learn that the teacher only mentioned things briefly and students needed to work on their own and ask questions if

they desired to understand more fully. In China he said his high school was a famous school and only accepted students who had achieved high grades in their exams so he considered that 'the more famous the school, the more hard and careless the teachers'. These teachers apparently expected their students to learn quickly and independently.

Entry grades
His final high school grades were all A grades and he obtained a Level three B- grade from the English Language Centre before entering the Foundation Studies course.

Personality
Lisheng scored very low on defensiveness, inferiority and face and high on optimism for the CPAI-2.

Epistemological Beliefs
He expressed contextual beliefs about knowledge in his first MER; while his second results show knowledge beliefs were transitional (Figure A.8, page 273). It should be noted that he and his father, a philosophy teacher, would sometimes discuss philosophy together and he stated that he did not always agree with his father; therefore from this he may have learnt to think critically rather than accepting all the ideas presented to him.

Environmental factors

Family and Educational Environment
Lisheng spent three months improving his English in the Bridging Programmes English Language classes before entering the June intake to study science, and during the course he lived first in a home-stay, then in Uni Hall and then returned to a home-stay. He said that study in New Zealand was easier, partly due to having a lot more free time than in China, although his perception was that in New Zealand there was a lot of theory and little practice, the opposite to China. However this did not worry him as he considered he had covered all of the theory in China so lessons were not difficult and he thought that teaching was much slower with more explanation of concepts and theories. Nevertheless, he repeated the common refrain from these students that the easier work did not include English and the large amount of English vocabulary needed for other subjects.

Behaviour - Self-regulated Learning
Lisheng's mean score for the MSLQ increased from 5.02 to 5.22 over the course of the year. Along with almost all the other eleven students, he had a decrease in his critical thinking score. His reported help seeking behaviour and study strategy of effort regulation increased strongly, and metacognitive self-regulation also increased slightly (Figure A.9, page 274).

Self-efficacy

His self-efficacy increased slightly to the maximum (7) as the year continued. He stated that he had enjoyed his study in China and was 'absolutely' confident of success in his studies here. He was still expressing confidence in an A or A+ final grade for his science subjects in his second interview due to his ability and interest in these subjects, whereas in English 'I'm not interested' and 'I think I will try my best but if I tried my best I think although I get not very good mark I feel I still succeed'.

Effort Regulation and task value

Lisheng considered that he was capable of making himself learn if something was boring. He commented in his second interview that 'I think I'm not spend lots of time in study, but I do spend little time in English because English is very hard and very important'. He saw the value of English for his later study; therefore, although 'English is boring compared to the others … I keep learning it'. To prevent himself giving up, he reminded himself, 'I think if I am not good at English I will fail my next year course, so that's one reason why I continue to [read] English'.

Study Strategies

By his second interview, Lisheng thought that his way of study had changed during the year in that 'now I spend of my time on doing research or something … to try my best to learn lots of things … a large range about this subject' because not only did his teacher require it but 'probably my interest in thing, so I spend much more time' and 'I feel very good …'. He also thought that he did more planning than in the past, and while he had never checked work before submitting it in China he was learning to do it here as it was more important. He said he still used repetition to help him remember information yet, 'if I can understand the theory I can memorise this one very good, but if I can't understand it is very hard to memorise'. In the same interview, he also said that if a topic was boring, he 'would relate it to some of [his] interesting things' to help him learn; an example he gave was linking ideas in statistics to maths which he liked. Lisheng also commented that 'I like difficult, I like challenge' and said that he would make diagrams to summarise information and help him to learn it even if it was difficult.

Future Goals

His future goals were to study Computer Science at university, find a job in New Zealand for a year or so and then continue studying to Masters or Doctoral level.

Final Grades

Lisheng maintained his high entry grade, achieving an overall A (80 per cent) average, with a C+ in English, and an A+ in Statistics, Mathematics and Physics.

Summary of factors affecting Lisheng's outcome

Despite three months in New Zealand prior to beginning the course, Lisheng also may have benefited from the reduced workload and higher motivation of the June intake, by maintaining his high optimism and his ability to make learning changes where a heavier workload and less motivated intake may have stifled these possibilities. His high achievement and goals, high optimism; high epistemological beliefs, some previous experience of independent learning and the fact that he enjoyed a challenge, may all have worked to help him change his learning strategies, motivate himself when learning became difficult and increase his self-efficacy, effort regulation, task value and help-seeking behaviours. These in turn worked to ensure a successful academic outcome. His individual effort to succeed may have further stimulated the environment of the June intake and encouraged other students to succeed.

Behavioural

Factors

Increase in self-efficacy, effort regulation, task value and help-seeking behaviours
Change in learning strategies

Personal **Environmental**

Factors **Factors**

18 years old
High goals
High grades
High optimism
High epistemological beliefs
Previous experience of independent learning
Final grade A

3 months in NZ
June intake (reduced workload, higher motivation/ work ethic).

Figure 4.3 – Reciprocal Causation diagram for Lisheng

Hui Xin

I never remember something because I think you can understand … you can remember the first thing connects to this one … if you don't know something you may want to know the reason. So because of this I study.

Personal factors

Previous Independent Learning

Hui Xin, a twenty year old female, had studied for twelve years in China and, while other students had studied in only urban schools, she had spent her primary education in a rural school. In her first interview she explained that although most of her secondary schooling was in the city, she had chosen to return to the village to complete her education. Her middle school in the city was the 'key school' in her province and the teacher was very helpful, but at her village high school, which was also a 'key school', she thought 'the teachers are not very good … but the students … can learn by themselves and if they even have any problem they could work by themselves without teacher'.

Hui Xin also commented that there was less teacher control in a rural school because the teachers were not as well educated as those at urban schools and therefore students were required to do a lot of independent study if they wished to succeed. She had heard that in New Zealand 'it is very easy to go to university, but it is hard to graduate … so I think I may have a try'. She thought teaching in New Zealand was totally different to China, and appreciated that here, instead of just being told the theory and what happened in science experiments, she could see it for herself and thus was gaining more understanding. However, by her second interview she thought that the reason she was not working as hard in New Zealand was that she received less homework and and was repeating information learnt in China.

Although here you could depend on the teacher if you wanted to, she preferred her independence and thought that she was 'compared with China less independent'. In Hui Xin's opinion, asking the teacher was the 'easy way' because you did not waste much time, but she still felt that if she could not express her question clearly to the teacher she was better to look up the textbook instead. She also mentioned that exams and tests in China were very numerous but also useful as 'through examination you may know which part your learning not well, not good; just help yourself …'.

Entry grades

Hui Xin obtained only B grades from her Chinese high school and entered the course with an IELTS average score of 6 with 5.5 for both listening and reading.

Personality

She scored very high on optimism, and family orientation for the CPAI-2 (see Figure A.10, page 275) and very low on inferiority. She also mentioned spending six hours writing up her first Chemistry lab report and said 'I don't know why I choose to do something perfectly, but I just want to [perfectly]' (First interview), thus might have perfectionist tendencies.

Epistemological Beliefs

She expressed transitional responses in her first MER, except for beliefs about knowledge which were independent and her second MER response showed knowledge beliefs had remained independent (Figure A.11, page 276).

Environmental factors

Family and Educational Environment

After making her own decision to come to New Zealand, Hui Xin, a science student, had only been in the country for seven days when the June intake commenced. In contrast to the other students, she had three siblings and in New Zealand was living in a flat with her twenty-four year old sister who was studying finance, and her sister's boyfriend.

Behaviour - Self-regulated Learning

She experienced a marked decrease in her mean MSLQ score (down 0.9) during the year from 5.11 to 4.22. Her only increase was in the area of effort regulation, which increased from 4.5 to 5.5; for almost all other areas of the MSLQ her scores decreased, often dramatically (Figure A.12, page 277); however, her metacognitive self-regulation score remained the same. Her critical thinking and task value scores were high and while critical thinking decreased only slightly, task value decreased more. Peer learning also decreased dramatically. In the past she had placed considerable reliance on her classmates to help understand her study as there was not often time to ask the teacher and she commented that 'the classmates are bet[ter]' (Second interview).

Self-efficacy

Over the course her self-efficacy decreased from 5.12 to 4.12 as she was mildly worried about the course, 'because my listening is not very good so it's hard to understand teacher; I must spend lots of time in each subject by myself' (Second interview). At the beginning of the course she was uncertain about passing and said, 'I don't know'. Yet, despite this, by the second interview as she became accustomed to course level and requirements, she became more confident and thought her English was improving.

Effort Regulation

She was also able to make herself study and learn even when she disliked a subject or found it boring. She admitted not preparing well for the English seminars as they came directly after the researched essay which had taken a lot of effort and she said she was 'so tired, so I think this is boring … I didn't spend lots of time preparing for the seminar … and most of the time I was preparing for English I can't stand [it] and I still prepare' (Second interview), yet she still passed with an average mark. This gave her, she said, more time to play, which she preferred.

If something was not interesting to her it was more difficult and she admitted she tended to 'just avoid' it, yet:

> I have to hand in the homework, usually I study it the day before I must to hand it … in; I will stay at home all night until I finish it. But before that day I really don't want to do it (First interview, 24.7.06).

Study Strategies

Much of what Hui Xin was studying except for English and Chemistry experiments she had done before. Nevertheless, although she found it boring listening to it all again, she treated her class sessions as revision, as otherwise she might not study. Her study strategies included practice of key points and skills, and practicing more in the areas she was weak. She would also take notes from the teachers' notes and summarise them. In addition, in her second interview she commented that she thought Chemistry was logical and 'so I am logical and I can learn it. But Chemistry have many details that must learn by heart. I hate it'.

She also thought she was studying in the same way here that she had done in China. In China she said:

> … the teacher may talk of things taught us; actually I study by myself because if I don't understand something instead of asking teacher … I may reading the books and doing some tests, exercises and then I know which one I misunderstand. It's through practice I can understand (Second interview, 18.12.06).

Furthermore, she thought that in China the way of learning she describes below made her remember things for much longer.

> I never remember something because I think you can understand the … you can remember the first thing connects to with this one, and then remember this and then I

think you can divide it into many parts, they have … logical relationship (Second interview, 18.12.06).

Her perceptions were that the Foundation Studies Course was not too hard. For her, New Zealand study was 'funny' and interesting when she was doing scientific experiments in the laboratory, but boring in class 'because just sit there and listen to the teacher' and 'Some of them I learn it before so it is boring' (Second interview). She admitted that she preferred the practical sessions in the laboratory. Also, when she met new information, she said, 'I'm a little bit lazy thinking, so maybe something which is new, I may don't understand'. However, in that case she might 'surf the internet' to find information to help herself understand more fully.

Study Environment
In China she had chosen to go back to the village to complete her education because 'in the city it is noise and the students have many entertainments … and I quiet environment so I just return back' (First interview). In the same way, in New Zealand, as her flat was noisy and small she chose to study in the library where it was quiet.

Goal Orientation
Foundation Studies was important to her to help improve her language as preparation for university; also she said she had actually enjoyed studying science in China 'for it is interesting. If you don't know something, you may want to know the reason. So because of this I study'; an intrinsic motivation (Second interview). She thought she would be interested in anything that was new and so would spend time discussing it with others and thinking about it until she understood it; a mastery goal.

She also commented that for her, study is:

> … not very important. I think you must study so that you can go to university and graduate and then get a job, but I think study itself is not very important. Just study, it prove that you can do something which is new by yourself; it's ability, but study itself is not important' (Second interview, 18.12.06).

She said that what was important for her was being able to 'communicate and learning'.

Future Goals
Hui Xin's goal for the Foundation Studies course was to achieve a high grade and a scholarship if possible, but she admitted in her second interview, 'maybe I can't … because

sometimes I feel boring [when] I studies; I will give up studies. Maybe some of the marks not very good … I just follow my feelings'. She agreed that at times during the year she had struggled to make herself study, because 'sometimes … I don't understand what the teacher was talking about because language and some words I don't know and some content I never learnt before'.

She planned to study Engineering the following year in the university and her goal for the distant future was to 'get a better job' (one that allowed for relaxation and more money). In her second interview she expanded that to explain that 'I want a job which there are no limit on the boundary, so maybe I won't go back to China, stay here long term, move to another country [if I can]'. She also stated that being successful for her would mean 'first I can earn much money … my family is a big family so I need lots of money and then I have another family … which is a happy family'. In addition, it was important that her father and mother were happy too.

Final Grades
Hui Xin improved her initial grade to an A minus average (78 per cent) with an English grade of C plus and grades in the A to A+ range for her science and maths subjects.

Summary of factors affecting Hui Xin's outcome
Again for Hui Xin, the environment of the June intake may have been advantageous as a motivating place for a student who had only just entered the country to begin her New Zealand studies. This may have enabled her to maintain her very high optimism, very high goals of a scholarship and high family orientation, all of which may have driven the achievement motivation she probably brought with her. These factors would also have enabled her to utilise her past experience of independent learning (including linking concepts, using repeat classes to revise material, using exam feedback for self-testing and studying independently) without being overwhelmed by the new environment. Along with this her high epistemological beliefs allowed her to see that learning could change. Despite this she still seemed to struggle (perhaps due to culture shock and the change from a rural Chinese high school to a New Zealand university setting), experiencing declines in her self-efficacy scores and most other MSLQ scores. Despite this her effort regulation increased and she managed to improve her final grade which none of the ten other students succeeded in doing.

Behavioural

Factors

```
Decreased SRL scores, including
self-efficacy
Increased effort regulation
Used adaptive/higher level learning
```

Personal ← → **Environmental**

Factors   **Factors**

```
20 year old
Average grades
Very high goals
Very high optimism
High family orientation / siblings
Previous experience of independent
learning
High epistemological beliefs
Improved final grade A-
```

```
7 days in NZ
June intake (reduced workload and
higher motivation/ work ethic)
Flatting with sister
```

Figure 4.4 – Reciprocal Causation diagram for Hui Xin

Huaqing

I'm not going to [push myself] when I do that study. I study because I have to and the degree probably necessary for me to get a job. In theory, if I can got a job without a degree, I won't do it [study] actually.

Personal Factors

Chinese Family and Educational Environment
Huaqing, a nineteen year old female, had studied for twelve years in China prior to coming to New Zealand and came from a family where her parents let her have her freedom because, according to her, they were too busy to check how hard she was studying. She also helped with housework 'because sometimes they [her parents] don't have time to do housework' (First interview). Huaqing said that her parents did not force her to study any particular subjects and when it was decided she was going overseas and she could not get a visa to study in Canada, they let her make the choice to come to New Zealand.

She mentioned that one difference between China and New Zealand learning was that in China all a student's time was taken up doing exercises and:

> The teacher tell you do this and that and you have to just follow the teacher … but when study in New Zealand … they didn't [given] nearly no homework, which is the normal, I think. I think you have to study more by yourself … here (Second interview, 18.12.06).

She also commented that in China 'teacher …talking and tell you what you have to remember … and quite often I just can't listen and I just fall asleep in the classroom' (Second interview).

Previous Western Influence on Learning
Her primary education in China took place in a special school which her parents had chosen for her which had American teachers. Huaqing boarded there from age six to twelve in order to learn good English and appeared to have spent most of her schooling, except middle school, boarding at school, thus her parents had little input into her studies and did not check up on her.

Entry grades
Huaqing entered the course with B grades in English and Chinese and a C in mathematics and had an IELTS average score of 5.5 with a 5 for writing.

Personality
For the Dependability factor of the CPAI-2, she scored very low on responsibility, low on optimism and very high on emotionality. (See Figure A.13, page 278)

Epistemological Beliefs
Huaqing's first and second MER (Figure A.14, page 279) showed that her beliefs about knowledge appeared to be independent. She commented in her second interview about student seminars 'They arguing about one question and actually I don't think the question not really right or wrong … depends on which side you stand. I think that's okay'. She thought this was the case for certain questions but not for all. Each person had to make decisions about which one was more logical.

Environmental factors

Educational Environment

Before joining the June intake Huaqing had spent 60 days in New Zealand living in a home-stay and studying English. She thought that in China students listened to the teacher because high marks were needed to succeed and the teacher knew what was in the tests, whereas in New Zealand they learnt the same knowledge as in China but the problems were easier. She was coping with these differences and preferred the way things happened in New Zealand, having not enjoyed her learning in China; but was enjoying studying commerce in Foundation Studies and finding it relaxing.

Behaviour - Self-regulated Learning

Huaqing's MSLQ scores all declined, except test anxiety, both forms of goal orientation and effort regulation. There was a strong decrease in her study strategies of organisation, rehearsal, metacognitive self-regulation, and elaboration (Figure A.15, page 280); her critical thinking score initially much lower than other students, experienced a large decline and at times in her interview she seemed to be struggling to understand how to study in the new educational environment.

Self-efficacy

Huaqing's self-efficacy score decreased from 5.0 to 4.25 during the year. Initially she thought the course was not difficult and in her first interview she said 'I think I will be successful', yet by the second interview it was '… not that successful that I thought at that bit of time because I thought English probably I can do better [unintelligible] but actually I didn't' and 'It's more difficult than I first imagined'. She expected to be less successful overall because of her English, but still considered that her English skills had improved over the course. 'I'm a little bit worried about English so maybe I can't pass', but 'overall … I think I can pass … if I'm working really hard this three weeks, I probably can pass' (Second interview). Despite her concerns about passing in the second interview she commented 'I think I still enjoy it' and she thought English 'although it's difficult … [it would be] good for my whole life I think'. Therefore, despite lowered expectations and certainty as the year went on, Huaqing still expected to pass.

She said her studies were important because the degree was important and 'when you want to go to the company you need it; they need that degree, even some students have the degree but they didn't have the ability to, that's still important' (Second interview).

Effort Regulation

Huaqing commented in her first interview that she was able to make herself study a boring subject. '…sometimes when it's boring, I just do another homework or listen some music or relax myself for maybe fifteen minutes or a little bit longer and just … keep on going. We don't have choice, we have to study'. She also said she could make herself study when extra homework was not set as she had to.

If something was really difficult she would ask the teachers to explain, because 'you have to ask your teachers because that may appear in your test'. She was sure she could still make herself work even when she was not enjoying something or was bored as 'the whole course sometimes there got a little bit boring … because probably I done before' and because 'if I don't do it …probably can't pass the course'.

Study Strategies

In her first interview Huaqing felt reasonably organised, although she might sometimes forget to take something to class, but the busy course load meant that 'I think most of us focus on the English class … I spend less time on [the Accounting and Economics tests] so I probably can't do very well in these test'.

In her second interview she commented that 'the things that … I study in China probably not very necessary but I think the [understanding] is necessary'. By this time she had noticed that in the Foundation Studies exam papers for Accounting and Economics students 'have to explain it, so you have to really know what it is, not just remember', unlike in China where, according to her, students were often just asked for definitions which could be memorised. Thus she thought her learning was expected to change; nevertheless, she commented that she did not think that her ways of learning information had changed much since for all subjects, except English, memorisation of ideas was required.

Goal Orientation and Future Goals

She said in her second interview that she knew she only had to pass and did not want to repeat as 'I don't have time, I'm twenty-one years old now; my classmates are graduation from university' and she did not wish her parents to have to provide more fees for her studies. Yet, she explained that it was not that she wanted to study further but:

> … we have to study more because if … I know in New Zealand if you only graduate
> from high school, you can also find a job, but in China you can't, you really can't. Or

you can just find a job with a little bit of wage and so you have to keep on studying (Second interview, 18.12.06).

She was planning a Commerce degree, (as her father wanted her to help him with his business which involved international trade), followed by returning to China and 'working for four or five years and then back to New Zealand for the Masters degree in marketing'. This decision was partly her choice because 'I need to earn some money to keep going on my life' and partly her father's desire for her to help him. She mentioned in interview two that 'I really afraid I have no interest in that', but 'I need to do something that can help me to survive in society'. Her real desire was to open a café, however she knew this was not financially viable in China. Thus, when it came to her university studies she admitted:

I'm not going [push myself] when I do that study. I study because I have to and the degree probably necessary for me to get a job. In theory, if I can got a job without a degree, I won't do it [study] actually (Second interview, 18.12.06).

Final Grades
Huaqing's final course grades included an A minus in Accounting and a C in English, with an overall grade of B (66 per cent).

Summary of factors affecting Huaqing's outcome
An average student in the June intake which seemed to provide some motivating features for other students, Huaqing scored very low on responsibility and also appeared to have low goals which she admitted were her parents goals and that she would prefer not to study. Despite these things and a decrease in almost all her MSLQ scores, including critical thinking, her effort regulation score increased and she managed to maintain her average grade. At the same time high epistemological beliefs may have helped her to realise that her learning strategies needed to change, although she had not put that into practice by the end of the course. Two months in the country may have meant she did not experience culture shock in the same way as those who had just arrived, which may also have helped her to maintain her learning.

Behavioural

Factors

Marked decrease in all SRL scores except effort regulation

Personal ← → **Environmental**

Factors   **Factors**

Average entry grades Low (parental) goals Very low score for responsibility High epistemological beliefs Final grade B

2 months in NZ June intake (reduced workload and higher motivation/ work ethic; shorter breaks).
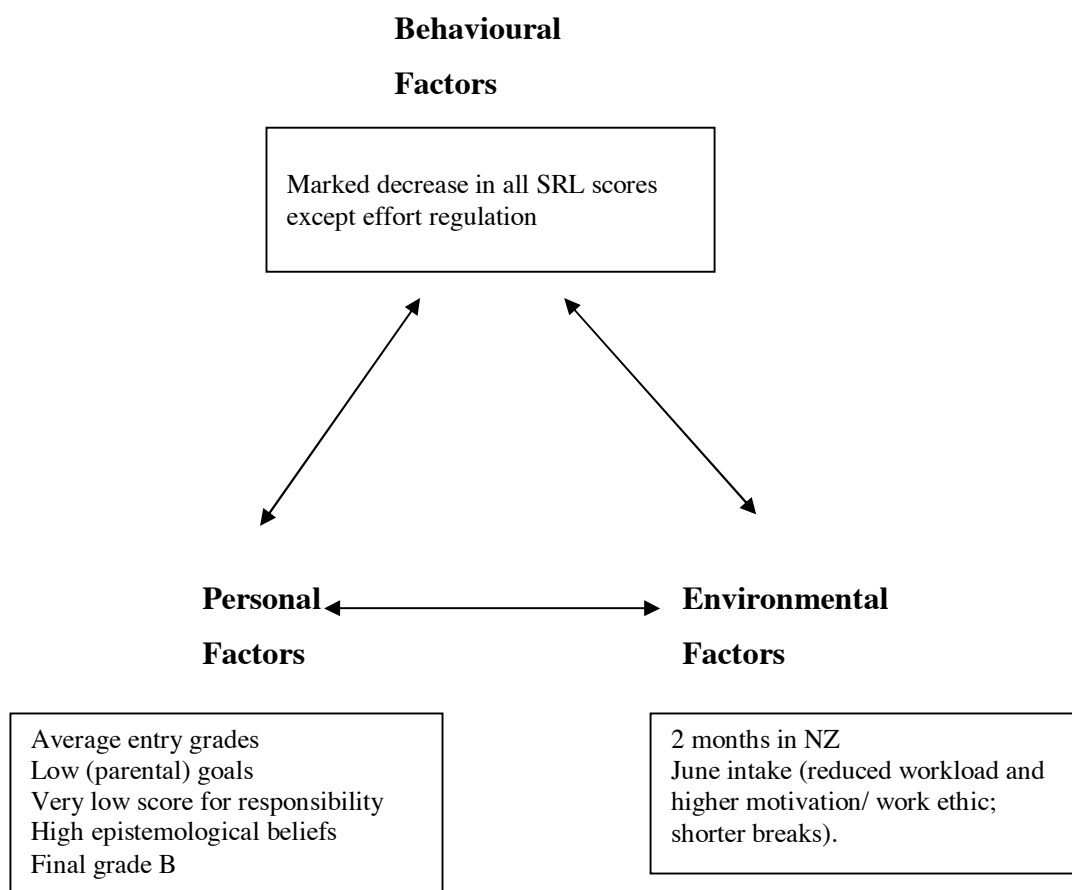
Figure 4.5 – Reciprocal Causation diagram for Huaqing.

Jing

I am excited if I do something very hard … [I] can learn the knowledge deeper.

Personal Factors

Chinese Family and Educational Environment

A female, aged nineteen, Jing had spent her last six years living at a school for higher academic achievers and had enjoyed her high school study and being with her classmates. She thought her parents were too busy with their jobs to worry too much about her. On completion of high school she had been accepted at the university where her mother taught, but having no desire to study there, she made the decision to study overseas. In making the decision to come to New Zealand she was influenced by a teacher at her school, a New Zealander, who was also a friend of her family, as well as advice from her parents and friends about her studies. She seemed to have had previous Western educational influence, in the form of foreign teachers for English at her school and also a mixed group of student nationalities in her high school.

She described learning in China as 'crowded' and providing shallow learning over a wide topic area with the teacher providing much knowledge and many definitions to learn, yet, 'we don't have really enough time to apply it, I mean practice it with some questions or connect it to the daily life' (First interview).

Entry grades

Jing entered the Foundation Studies course with almost all As for her final Chinese high school grades and an IELTS average score of 6 with 6.5 for listening.

Personality

For the CPAI-2 Dependability factor, she scored high on the traits of family orientation, optimism and responsibility (Figure A.16, page 281).

Epistemological Beliefs

Her first MER results appeared to show that her knowledge beliefs were independent to contextual and she commented that 'sometimes I don't think true or false is really important, but I think I must have my own opinion' and that she would need to be persuaded by an expert before she would change her opinion if they disagreed. Her second results showed contextual results for beliefs about knowledge (Figure A.17, page 282).

Environmental Factors

Social and Educational Environment

At the time of her first questionnaires, Jing was living in a student hostel in the city and doing her own washing and cleaning, but as she hated cooking would often eat out. She had been in New Zealand for 180 days and had spent time at English Language classes prior to entering the February intake to study commerce. Jing's perceptions of the Foundation Studies course were that study was easier here with fewer classes and homework, thus more leisure time and more time for practice in class.

In contrast to Chinese study, in New Zealand in her first interview she perceived learning in class as being practice and application to real life which meant 'we can learn the knowledge deeper'. She thought more practice in class, for instance, 'like Accounting, we always practice a lot during class,' meant she didn't have to study so hard before exams. She also appreciated being able to ask the teacher for help in class. Jing thought she learnt by 'understand concept and don't do lots of work … do one or two questions to practice and you make sure understand it …'. She also said she enjoyed her social life and going out with friends but when asked said that 'if I think it will influence the study a lot, I will not go'.

Behaviour - Self-regulated Learning

Jing's first MSLQ mean score was 5.02, increasing to 5.43 with her second MSLQ (Figure A.18, page 283). Marked increases were in the areas of effort regulation, organisation, and metacognitive self-regulation.

Self-efficacy

She reported an increase in her self-efficacy beliefs. She enjoyed a challenge and said 'I am excited if I do something very hard like solving a question, a very hard question. Maybe I will do it for half a day, but after finish it, I will feel very, very happy' (First interview).

Effort Regulation

When it came to studying when something was boring, she commented in her first interview, 'I force myself to do it, but maybe I'll not do it as good as the subjects I like … I think at least I can pass' and in her second interview, 'If I have to pass I think I can pass', although 'If I think it is useless I will pass but I will not do well … if it is useful I think I have wanted to do it better'. She explained in the same interview how she had crammed over two whole nights before the New Zealand Studies exam in order to get a final A- grade, whereas previously she had not done much work for that subject.

Study Strategies

In her first interview Jing talked about reading, taking notes and summarising key ideas in order to prepare for an exam, and mentioned checking the textbook to help with understanding ideas.

Help Seeking and Peer Learning

She stated in her second interview that 'if I don't understand something I always ask the teachers', but that as for asking her friends ' I think if most times I don't understand something, my friends [don't]'. Nevertheless, she enjoyed the competition of her peers and 'if lots of my friends choose the subjects, I will choose … because I think we have more competition … also if there is more people I know, I can do better'. It seemed that being with her friends motivated her and 'if just myself, I don't know who I need to, I can compare with'.

Future Goals

Jing's goals for that year were to get the 'whole A' grade and the following year to study commerce, majoring in international trade (First interview). In the future she might study for a Masters degree in another country for challenge and variety, before going back to China. She would also like to find a challenging job either here or overseas or help someone set up a business.

She was a high achieving student who commented that 'some courses are easy and some are a bit hard to get a high score … English' (Second interview). She then said that for English '… personally I think C is enough. I'm happy with that, but if I can get a higher mark I would like to do that'. However, she was still certain of academic success in the overall course in this second interview.

Final Grades

Jing's final average grade was B plus (71.2 per cent), thus a slight decrease on her entry grades. She attained an A plus for Accounting and her other grades were in the B range.

Summary of factors affecting Jing's outcome

For Jing, the environmental factor of entering in the February intake which had a heavier workload and appeared to be less motivated may have had an effect on her studies. It is also possible that, although she seemed a high academic achiever with high goals, the effect of six months of more relaxed study at English language classes in New Zealand may have reduced her achievement motivation. This can perhaps be seen in the fact that while she maintained high goals for other subjects she reduced her goal for English. Despite this she had a high family orientation, high optimism and responsibility, all three of which may have helped her to work hard when needed. She was enjoying the opportunity to learn more deeply here and this may explain her increased effort regulation, self-efficacy, task value and intrinsic motivation. Furthermore, grades may not have seemed as important when she was enjoying her learning and high epistemological beliefs may have meant she saw it was possible to learn in different ways. Despite the possible disadvantages of the intake, Jing managed to pass with a slightly reduced grade from her entry grade which may have had a feedback effect on her future goals and learning strategies.

Behavioural

Factors

Increased intrinsic motivation – enjoy learning
Increased effort regulation, self-efficacy and task value

Personal

Factors

Environmental

Factors

High entry grades
High goals for all but English
High family orientation
High optimism and responsibility
High epistemological beliefs
Slightly reduced final grade B+

6 months in NZ
February intake (higher workload and lower motivation/ work ethic; longer breaks)

Figure 4.6– Reciprocal Causation diagram for Jing

Dayi

I don't think I'm doing enough study … I can pass it … with C.

Personal Factors

Chinese Educational Environment

Dayi, aged eighteen, said he had made his own decisions about study in China and in New Zealand. He 'didn't like it' [study] in China as 'it was too hard … so hard to get in … good university' (First interview), so he chose to study overseas in New Zealand since his uncle, a businessman who owned a company in New Zealand, had told him about this country.

Entry grades

Dayi entered the Foundation Studies course with an English Language Level three B grade and almost all As in his Chinese high school results.

Personality

He appeared to be a very quiet, possibly shy young man, who said very little when spoken to. His scores for the CPAI-2 included very low responsibility, practical mindedness and optimism, low meticulousness, very high emotionality and extremely high inferiority for the Dependability Factor. For the undifferentiated Clinical Factors, which includes traits of anxiety and depression, he scored highest of the eleven students (Figure A.19, page 284).

Epistemological Beliefs

Dayi's epistemological beliefs commenced as absolute beliefs about knowledge. He considered that no matter what the question he would 'just ask the teacher … [I will trust] teacher'. Almost all his second MER responses were absolute beliefs as well (Figure A.20, page 285).

Environmental Factors

Family and Educational Environment

After twelve years of schooling, and prior to entering the June intake of the Foundation Studies course to study science, Dayi had spent 210 days in New Zealand studying in English Language classes. In New Zealand he was living in a home-stay situation with a 'very kind' home-stay mother and was not expected to help around the house and thus had a lot of time for study. Nevertheless, he admitted in his second interview that this was not happening and he was enjoying playing [computer] games. He confessed that 'I don't think I'm doing enough study' yet still thought 'I can pass it … with C'.

Behaviour - Self-regulated Learning

He experienced a sharp decline in his overall MSLQ mean which dropped from 5.41 to 4.44. This decrease was in all areas of self-regulated behaviour and the largest drops were in extrinsic goal orientation, time management and study environment, effort regulation, organisation and rehearsal (Figure A.21, page 286).

Self-efficacy

Dayi's self-efficacy decreased only slightly from 5.25 to 5.12. He thought initially that the course would be easy and said he felt confident about his studies; 'I will average, but if I can get a good grade the better', but then discovered it was more difficult than he had anticipated.

Effort Regulation

He had not enjoyed his study in China, and said, 'To be honest I enjoy stay with my classmates, rather than study' and that the study was 'hard and boring'. Nevertheless, in his second interview he still thought that he was able to make himself work when a subject was boring 'as well as in China' and that in New Zealand he was enjoying his study more. He

commented in his first interview that when he had a subject which he found very boring or not enjoyable he would make himself 'do as much as possible … do as much as I can' but he felt he did not really succeed by doing this. In subjects such as those he felt that he would 'just pass' the subject.

Study Environment

By his second interview he had learned to use the library for studying as it was a 'very good place to study, quiet, there are books; I can find what I need for the study'.

Future Goals

Despite not enjoying his study in China, he would 'like to go back to China' and so his studies in New Zealand were important to him since 'if I am going to find a job … must have a degree' (First interview). He also agreed that it helped to have a degree from a foreign country. Even in his first interview Dayi said he was aiming more for average grades although he would be happy with higher ones. He was studying Physics because he needed it for his university studies, although he had found it difficult at high school and he thought he could probably get a C grade for it by his second interview. English he considered easy and he expected a B grade. Overall he was finding the Foundation Studies course more enjoyable than his studies in China and considered statistics, which he had not studied before, to be interesting and new for him. His goal for the following year was to study Computer Science at university and he expected to be 'busy' and 'interesting' then and need to 'study harder'. Finally, after completing his degree he planned to '[find a job] to get some experience' and 'working here for a couple of years for money', then 'go back to China' (Second interview).

Final Grades

Dayi successfully completed the course attaining an overall average grade of B minus (63 per cent) with a Preparatory Maths grade of A minus, a Physics grade of D and a B minus English grade (62 per cent).

Summary of factors affecting Dayi's outcome

Entering in the June intake with its smaller workload, fewer breaks and seemingly better motivation may have been an advantage for eighteen year old Dayi, despite having spent seven months prior to that learning English in New Zealand, a factor which may have reduced his achievement motivation. For instance, although his past grades seemed to indicate high ability, he commented on not enjoying study and finding it hard, and his goal for the course was to get an average mark. In addition he appeared to have no clear future goals and his personality scores were very low for optimism, practical mindedness, and responsibility, low for meticulousness very high for emotionality, and extremely high for inferiority. He also had the highest score of the eleven students for Clinical factors in the CPAI-2. All of these factors

would seem to be detrimental to his academic progress and combined with absolute epistemological beliefs may have been the reason for a decrease in all of his MSLQ scores since this may have meant he was unable to organise his behaviour. Moreover, he mentioned in interviews that he was unsuccessful at making himself study (a reflection on his declining effort regulation). Personal factors for Dayi seemed to have negated the positive effects of the June intake at least partially and prevented his behaviour adapting to the new environment, thus resulting in a sharp drop in his final academic grade from that which he entered with.

Behavioural

Factors

> Marked decline in all SRL scores
> Unable to make self study – decrease
> in effort regulation

Personal   **Environmental**

Factors   **Factors**

> High entry grades
> Low short term goals
> Very low optimism, emotionality,
> responsibility, practical mindedness and
> low meticulousness
> Extremely high for inferiority
> Highest clinical factors of all 11 students
> Absolute epistemological beliefs
> Final grade B-

> 7 months in NZ
> June intake (reduced workload,
> higher motivation/ work ethic;
> shorter breaks).

Figure 4.7– Reciprocal Causation diagram for Dayi

Yi Jie

I'm the person that don't like the things another person push on to me … so if you force me to do something, I won't do that …

Personal Factors

Chinese Family and Educational Environment

Yi Jie, a more mature 23 year old student, also made his own decision to study abroad. He had spent between eleven and twelve years at school and his parents would have preferred him to continue to study after high school. However, as he was tired of study and described students as working 'like machines', he had chosen to work for more than three years introducing customers to a stock broking service in China before deciding that he wanted and needed to do further study to improve his future career prospects. As he said, 'I strongly were aware I need … the university and, you know, to study to get a lot of knowledge, then I can get a good job' (First interview). He discussed this with his parents, but made the decision himself, for as he commented 'I always do somethings by myself' (First interview). His parents and his uncle had given him money to supplement what he had saved to come here. He mentioned in the same interview that previously his parents had been embarrassed that he was not studying when friends' and colleagues' children were. However, now their children were graduates who were struggling to find jobs, while 'all of my family members are happy because they think I'm studying abroad … and I receive a better education than … their colleagues' children'.

Previously, while working in another city in China he had flatted with his girlfriend; and although coming to New Zealand had meant leaving his girlfriend behind, he thought she approved of him improving his skills but was missing him.

Entry grades

Yi Jie achieved an English language Level three B grade and a mixture of A, B and C grades from his high school before entering the Foundation Studies course.

Personality

His CPAI-2 scores (Figure A.22, page 287) were very low on inferiority and very high on internal locus of control and meticulousness for the Dependability factor. He commented in his interviews that 'I'm the person that don't like the things another person push onto me. I don't like that, so if you force me to do something, I won't do that, and I'm not going to do that' (Second interview).

Epistemological Beliefs

In his first MER questionnaire Yi Jie expressed independent beliefs about knowledge, however in the second MER it seemed his beliefs had changed so that he also appeared to hold absolute beliefs about knowledge. This may be because at the time of answering the second MER he was thinking quite seriously about the approaching exams (Figure A.23, page 288).

Environmental Factors

Family and Educational Environment

Prior to commencing the course in the June intake Yi Jie had spent approximately eight months in New Zealand improving his English language skills and living in a home-stay. He then moved to the Ilam Flats (university accommodation which was organised as a flatting situation) and, at the end of the Foundation Studies year, acquired a job as a Resident Assistant at the Ilam Flats, which gave him more spacious, free accommodation and a small income.

Yi Jie mentioned in his second interview that he was still not finding his study here enjoyable, as it was not what he wished to study and 'because I don't have any college experience, so I have to study in Foundation … but I cannot enjoy it'. He also commented that he felt out of place as the other students had just completed high school and talked about computer games, and such like, all the time, while he had a different view on life from having worked before. Nevertheless, he did find classes more relaxed and not as difficult as in China and he preferred that.

Behaviour - Self-regulated Learning

Yi Jie had a minor decrease in his overall mean MSLQ score from 5.23 to 5.12 over the course of the year, with increases in both forms of motivation, and effort regulation (Figure A.24, page 289). One sub-score which decreased markedly was his critical thinking score as he entered a new environment.

Self-efficacy

His self-efficacy score remained consistently high at 6.9. In his first interview he commented 'I will be successful', then that he was 'very confident to myself' and reiterated 'I have to'.

Effort Regulation

Yi Jie said he was concentrating on putting in the effort now to succeed at his studies and seemed willing to get up and study in the middle of the night if necessary in order to succeed.

Study Strategies

He also said he wasn't interested in learning any new skills to help his learning as 'I know what kind of person to myself. I know my characters, so I just follow my feelings from my ideas' (First interview). However, in his second interview he talked about summarising ideas from the textbook and trying to use the main points to solve problems and link them together. He tried to 'combine the information in class with my own experience. I may find some specific things happen in my own life, and I try to use my experience to understand the things I learn in the classroom'. This is something he had not done in China as he was younger then. He thought that learning meant that he needed to 'reconsider' things that had happened in the past in the light of his new learning and this helped him become mature. He also thought school knowledge had to be used in daily life and then a person would be more successful.

Future Goals

Yi Jie chose to study Arts papers which have a higher English demand from interest, and admitted in his second interview that he saw the Foundation Studies course as a means to an end; a ticket to university. 'I just want to get the Certificate. … This is my purpose in coming here'. When asked if he was happy to start studying again, he said, 'Yesss, kind of, but I have to … if I want a good job and spend the rest of my life that I like, the ideal lifestyle. That means I have to go back to university,' (First interview). He had a strong desire to succeed as an older student, in order to prove to his family that he was successful, especially due to their financial assistance. He also reiterated that his studies were very important to him as 'I have no other choice. I can't go back to China without successful. … very, very important. It might decide the rest of my life,' (Second interview). Success for him meant a 'good position in society, a high salary … excellent wife, good family… but the social position is the most important part for me'. His hope was that university study would be more interesting as he would then be choosing subjects he was interested in.

According to his second interview, his plan for the following year was to study Political Science at the university, although as he said 'this subject is hard to find a job in New Zealand or other some Western countries, but I don't care now …' He also mentioned that 'definitely I won't find a job which is related to politics in China'. Nevertheless, his uncle was in the United Nations and he hoped to get a job there as well.

Final Grades

His final overall grade for the course was a C+ (58%), with most of his individual grades being low Bs and Cs.

Summary of factors affecting Yi Jie's outcome

Another June student, Yi Jie's personal factors may have been both a help and hindrance to his academic success. Having been studying English language in New Zealand for 8 months, and working for three years previously, any achievement motivation from his Chinese schooling may have dissipated. In contrast, he was an older student who knew he needed to study for himself and his family. While working in China he had had independent living experience in another city, and came with high future goals (which may have been slightly unrealistic). In addition, he had very high scores for internal locus of control and meticulousness (he knew what he wanted and was perhaps a bit stubborn) yet despite this and high epistemological beliefs he seemed unwilling to change his ways of study; perhaps due to the stress of studying again in a new environment. Thus, in spite of a high overall score for the MSLQ which included increases in both intrinsic and extrinsic goal orientations, effort regulation, and a very high self-efficacy score, his critical thinking score decreased markedly and his rehearsal score was the only learning strategy to increase which may have made learning difficult. However, later in the course he did comment on starting to make links with prior knowledge. His final score was a low pass, which may have affected his beliefs about himself and his future outcomes.

Behavioural

Factors

High initial SRL scores – increased
intrinsic and extrinsic motivations,
effort regulation and self-efficacy
Increased rehearsal strategies
(unwilling to change ways of
learning)

Personal   **Environmental**

Factors   **Factors**

23 years old
Average entry grades
High, possibly unrealistic, future goals.
Previous independent living and working
Very high internal locus of control and
meticulousness
High epistemological beliefs
Final grade C+ pass

8 months in NZ
June intake (reduced workload and
higher motivation/ work ethic;
shorter breaks).

Figure 4.8 – Reciprocal Causation diagram for Yi Jie

Fei

*I want to study, the idea is from my own … opinion, so I think I should study and should be
work hard. … I don't want after the study, I disappointed about something and also my
parents disappoint.*

Personal Factors

Chinese Family and Educational Environment

Unlike all the other students except Hui Xin, Fei, a 22 year old, had a younger brother and

sister. She said that her father had suggested to her that she study what she enjoyed and she

had then made her own decisions. In contrast to Yi Jie, instead of complaining about Chinese

teaching, Fei said she had adjusted to Chinese teaching and enjoyed school in China; you just

had to follow the teacher's ideas. She had completed twelve years schooling in China and had lived in student accommodation there.

Entry grades
Fei achieved a mixture of A, B and C grades in her final high school certificate and entered the course with an IELTS average score of 5.5 with a 5 for listening and reading.

Personality
For the CPAI-2, she scored low on optimism and high on most other traits for the Dependability Factor (see Figure A.25, page 290).

Epistemological Beliefs
Fei's epistemological beliefs all rated as absolute for her first MER questionnaire (Figure A.2, page 291), while in her second MER her beliefs about knowledge seem to be moving from absolute to transitional (as she commented that nothing is absolute).

Environmental Factors

Social and Educational Environment
After arriving in New Zealand, Fei had then spent three months in New Zealand improving her English prior to beginning the Foundation Studies course in the February intake to study commerce. She was living in a home-stay which she enjoyed throughout the year. There, she was not required to help with housework nor cooking, so had plenty of time for study and travel.

Fei also thought that study in New Zealand was easier than in China; she liked the teaching styles here where more relevant knowledge was provided. She also found that more help was available in classes and the teaching style was slower so that you could understand ideas in class and thus had less work to do at home. Here her own desire was to learn in English and to open her eyes to new ways of teaching. Fei thought that while students followed the teachers' ideas in China, in New Zealand 'most of the ideas come from students' (she was participating in a group work assessment at the time) and that the teacher 'give us some ideas what we should do, how we to solve some problems' (Second interview).

Behaviour - Self-regulated Learning
Fei had one of the highest overall means for her MSLQ among the eleven students and showed only minor reductions in individual scores over the course of the year, except peer learning and test anxiety which decreased more markedly (Figure A.27, page 292).

Self-efficacy

She experienced an increase in her self-efficacy beliefs, yet, despite her high self-efficacy score and the fact that it increased, at the time of her first interview several months later, Fei commented, 'I'm not so confident at the moment. I just a bit worried about Foundation Studies if I can succeed or not. But I think all thing need I to just work hard and I suppose I can succeed'. Success for her meant 'good grades' and later finding a job in New Zealand. In her second interview she commented that 'when the first term finished, it wasn't really hard for us. … after the first term I relaxed some more'. Although she also said her second term grades were not as good as the first term grades, she was 'not so worried about the results. I think at least I can pass the Foundation Studies … I should be [able to pass]'. She was enjoying her commerce studies and she also said 'I think I will enjoy Foundation Studies'.

Effort Regulation

In her first interview she had commented that when a subject was difficult or boring '… I have never think about that I will give it up … maybe I will listen to some music or something change my … environment … relax … and then back to study … will work better'. She said she may have had the problem of not wanting to study but she had never thought of giving up on something she was studying or not being able to solve it. By her second interview she was still able 'to do what I find boring'.

Motivation

In Fei's first interview she seemed to be expressing quite clear intrinsic and extrinsic motivation:

> I want to study, the idea is from my own, from my opinion, so I think I should study and should be work hard. I have already come to New Zealand from China, so I think I don't want after the study, I disappointed about something and also my parents disappoint' (11.4.06).

Study Strategies and Time Management

Despite increases in her time management scores, Fei commented in her second interview, that when working on her researched essay, 'this time works but not so well', partly because it demanded more skill and 'we have to use all the knowledge we have learnt' which was a 'small challenge' which she didn't mind. She considered a little bit of worry was acceptable for this assignment but not too much. She also mentioned memorising information but said 'when I speak out my brain can think about that … I can understand the meaning of the sentence'.

Goal Orientation

Although she arrived in New Zealand with an acceptable IELTS English Language level for the programme, Fei chose to spend several months improving her English by studying Level Three English in the English Language section of Bridging Programmes. This may have been because in her first interview she said that at first she was worried about the course but then found it was not really hard and was enjoying it. In the second interview, despite her comment (see Environment) that she had come here to learn in English, she said that 'actually I don't like to learn more about English … that's the main problem … I think [English is] a little bit difficult'. Thus, she appeared to be reducing her goal for English, and perhaps becoming more extrinsically motivated.

Future Goals

Fei's goal for the next year was to study commerce at university, in order to 'do something to help China with develop trade business' (First interview). As well as her study plans she said 'Actually I don't want to just study every day. I also need to learn something out of the university. … I also want to get out and have a job' (Second interview).

Final Grades

She passed the course with an overall C grade (51 per cent) with D for two English rich subjects (NZ Studies and Economics) and C/C+ grades for other subjects.

Summary of factors affecting Fei's outcome

Although she had only spent 3 months in New Zealand prior to the course starting, the less motivated February intake with its heavier workload may have had an effect on Fei, an average student and slightly older at age twenty-two than the others. Despite a high family orientation, siblings, and a high overall MSLQ score which remained more or less the same, she obviously struggled to maintain effort regulation behaviours. Her intrinsic motivation also decreased as she decided improving her English was too hard; apart from that goal she had fairly average goals with no other clear short term aims to motivate her. Her absolute epistemological beliefs did begin to change as the course progressed but whether this affected her learning strategies is uncertain. Her MSLQ scores of self-efficacy, time management and task value did increase; nevertheless, inability to increase her effort may have contributed to her final low grade which was a bare pass, despite high self-efficacy.

Behavioural

Factors

High initial SRL scores
Increases in self-efficacy, time
management and task value
Decrease in effort regulation.
Intrinsic motivation to improve English
ability declined during course.

Personal

Factors

22 years old
Average entry grades
No other clear short term goals
High family orientation
Siblings
Absolute epistemological beliefs

Environmental

Factors

3 months in NZ
February intake (high workload and
low motivation/ work ethic; longer
breaks)

Figure 4.9 – Reciprocal Causation diagram for Fei

Zhaopei

I think probably the challenge is not I face it. I want to find some challenge, not the challenge come to me.

Personal factors

Chinese Family and Educational Environment

As a child, Zhaopei's grandmother had cared for him during the day as his mother worked in Beijing and only came home for holidays, although his father was at home each evening. According to him, when it came to making decisions about his future education his parents gave him advice and he made the final decision about what he would do. After completing twelve years schooling in China, and aged 18, he initially applied to a Singapore university and, although he passed the English requirement and the interview, his grades were not adequate, so his parents finally decided on New Zealand for his overseas studies.

During his schooling in China he had experienced boarding at school for his high school years and had enjoyed being with his friends but not the study. At high school he said they worked from 6.30 am to 10.30 pm:

> Just like the machine …all the Chinese students just no sounds in class but the teacher's sounds and no communication and just do some work. After teacher teaching we just do some work and after doing some work we just listen to teacher (First interview, 28.4.06).

In his opinion, learning in China was not a challenge but just hard. Zhaopei stated that he wanted to choose his own challenges rather than have them forced on him.

Entry grades
Zhaopei's final high school grades were mostly B level grades.

English Level
He had entered the course with a C+ grade from the English Language course and commented during the Foundation Studies course that he was struggling with the vocabulary of his subjects (mostly science subjects) and thought that his classmates who had been here longer had an advantage on him in English as they spoke better than he did. He thought 'physics is very, very easy subject' and 'maths is very easy but the academic vocabulary is very hard'.

Personality
Zhaopei had very low CPAI-2 scores for family orientation, meticulousness, practical mindedness, responsibility and optimism and a very high score for face for the Dependability factor (Figure A.28, page 293). He also had a high score for the undifferentiated Clinical Factor which included traits such as anxiety and depression.

Epistemological Beliefs
The results of Zhaopei's first and second MER questionnaire seemed to show that his beliefs about knowledge were both absolute and independent (see Figure A.29, page 294).

Environmental Factors

Social and Educational Environment
When he commenced the February intake of the Foundation Studies programme to study science, he had been in New Zealand for four months and was living in a home-stay. He later moved to a flat with a mixture of nationalities, which he said made his life 'a little bit busier'

but gave him more freedom and choice. Living in his flat, he was closer to university, but he was required to cook and clean before he began his study in the evenings.

In his first interview, Zhaopei said he expected to get high marks in the course, although he said that English was difficult but really important. However, he still thought it was easier to study in New Zealand as there was less pressure on him. He was also impressed that in New Zealand you could disagree with the teachers and lower grades were acceptable as passing grades. In this second interview his expectations of high grades had dropped to expect a B, but he commented that he would still be happy with a C grade since a C was a pass.

> In China we need 60 per cent to pass … but if you've got a 60 per cent it's impossible to go to the university. You must go to more than 80, 90 per cent. … If you fail any subjects, of course it is impossible to [go to university] whereas here you fail [one] subjects it is okay [but it's not good] … but C I can accept now … of course [parents] hope I got a high A, yeah (4.9.06).

Behaviour - Self-regulated Learning

Zhaopei began the course with a below average mean for the MSLQ and over the year all of his MSLQ scores declined, except for organisation and test anxiety which increased considerably ('the test makes marks and marks means your future' – Second interview), and extrinsic goal orientation which increased slightly. His overall MSLQ mean declined from 4.70 to 4.11 during the year (see Figure A.30, page 295).

Self-efficacy

His self-efficacy also decreased markedly; and task value decreased dramatically. By his second interview he commented that he was not sure if he would get all his study done as 'it's more difficult than at first', and English was 'always difficult'.

Critical Thinking

Zhaopei's comment in his first interview was that when the teacher says something 'I always think different', but admitted he did not try to find out answers for himself as there usually was not enough time. He mentioned later that here he had time to find out for himself, but had not done this yet as 'I just follow English …we must follow the teacher because teacher English … and I'm Chinese'.

Motivation

He was bored with some subjects while others 'just like Physics and Chemistry, I've got a little bit interest in them' and he thought English was interesting. He was enjoying the

practical learning in New Zealand and commented that enjoyment depended on the subject one was studying.

Effort Regulation
Zhaopei further explained about learning that:

> We know we have no choice to give up and if we feel boring and we must learn it, if we give up this subject, we fail this subject, we have no university, you know, so at the end our future is dark. I think all Chinese students understand this point … and I can tell you probably ninety, more than ninety percent Chinese students feel their study is boring (First interview, 28.4.06).

However it is unlikely that he was able to make himself learn as his effort regulation score dropped markedly and he also commented in his second interview that for New Zealand Studies classes which were not popular, 'my classmates don't want to do that class … so I just follow them … but sometimes its just my own choice'.

Study Strategies
He considered that he learnt and remembered information by just reading and re-reading it. In his second interview he admitted that he was 'less organised' than previously and thought that it was because 'I just lessen the pressure and I loosen marks to pass. For the homework we just finish and probably when I just finish the course, all the homework I can pass the course', yet he still thought that he was working harder for those things that counted towards the final marks. As the year progressed he was also finding the course less interesting. He mentioned that he was studying 'just similar' in New Zealand to what he had done in China, just reading books and reviewing for a test, except that in China everything was provided by the teacher. Despite enjoying having his friends in school with him, he said that here in New Zealand he mostly studied on his own and in China 'always, always study all by yourself' (Second interview).

Future Goals
Zhaopei's long term idea of success was that he would be different to others and 'one day people will say "[Zhaopei] is a special person. He do some special things and these things we cannot do". … In China most things are the same way' (Second interview). He mentioned in his first interview that he was also interested in challenges because 'I think there's no chance in China to do something by challenge. We just follow the normal way… probably in New Zealand, I find the sky is cleaner; we have the chance to do some challenges'. Yet he would prefer he chose his own challenges, 'not the challenge come to me'.

Possibly as a result of 'not much pressure from my parents' and 'because in here C, you can pass', by the second interview his goal for the year was to 'just go to university'. His long term goals were to pursue an engineering degree at university and then do a Masters in Business; an MBA. After this he planned to return to China since he considered there were more chances there as it was still a developing country. He thought he would enjoy the engineering degree and it would 'develop my mind and maybe my brain faster …' but seemed to think studying the business degree would be boring, but useful as he thought he would enjoy his business in the long term and would be making money from it.

Final Grades

Finally, despite having acceptable grades for entry to the Foundation Studies Programme, Zhaopei only passed Physics and Chemistry, and failed the course in four subjects, including English, with a D (44%) average grade. He was given permission to repeat a shortened version of the course, and graduated in June of the following year with a pass of 61 percent in English which raised his overall average to a C grade.

Summary of factors affecting Zhaopei's outcome

Another February student, Zhaopei was an eighteen year old average student who had spent four months in New Zealand learning English, but still entered the Foundation Studies course with a low C+ English score. He espoused high goals for his subjects (except English, where he reduced his goal to 'just pass') and high long term goals which may have been unclear and unrealistic. His inadequate English meant he struggled throughout the course as his marked decrease in MSLQ scores, including self-efficacy and effort regulation, demonstrate; however, his organisational score did improve. He scored very low for optimism, practical mindedness, responsibility, meticulousness and also for family orientation; in contrast, he scored very high on face and high for Clinical factors. Despite high epistemological beliefs he seemed to see no need to change his learning strategies of rehearsal. While June students may have motivated each other, it is possible that the opposite happened for the February students, as Zhaopei commented that if others didn't go to a class he would not either. Zhaopei's final grade of a D indicated he had not worked hard enough.

Behavioural

Factors

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Most SRL scores decreased,
including effort regulation and self-
efficacy, but organisation increased
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Personal ← → **Environmental**

Factors   **Factors**

```
Low English level (C+)
Average entry grades
High short term goals but English
goal to 'just pass'
High but unclear long term goals
Very low optimism, responsibility,
practical mindedness,
meticulousness and family
orientation
Very high on face and clinical
factors
High epistemological beliefs
Fail course with D grade
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4 months in NZ
Science student
February intake (high workload and
low motivation/ work ethic; longer
breaks)
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Figure 4.10 – Reciprocal Causation diagram for Zhaopei

Min Min

I think some subjects I don't like, I still should study … but actually I didn't.

Personal factors

Chinese Family and Educational Environment
Min Min had lived at home with her parents while in China. When asked about the

importance of her studies in her first interview, she explained how her parents told her how

useful education was for her: a good time of her life and preparation for the future whether it

was a job or marriage, but although she said 'I agree with what they say', it is unclear how strongly she agreed. As far as decisions about study at school and overseas, she considered that her parents had very little input and that she told them what she wanted.

Min Min's final year of Chinese high school was her second year and thus she had only completed ten years of schooling. At high school she had studied science subjects in deference to her parents and because, although she really liked Art, it is very difficult to gain a good job with a Fine Arts degree in China. However, after her second year of high school, she knew science was not her forté. Therefore, she sat the IELTS exam without telling her parents and then presented them with a 'fait accompli' and the request to go to New Zealand to study. At her Chinese school, she had become friends with two English language teachers, one a New Zealander and one American and this had improved her English skills. Her New Zealand teacher friend had told her about New Zealand and she thought that the teaching style and smaller classes here would help her to learn. She said teachers in New Zealand were more fun, and liked the fact that you could disagree and exchange ideas with your teacher and classmates, unlike classes in China.

Entry grades

Min Min achieved a mixture of both A and B grades in her tenth year of high school which was her final year. She had an IELTS average score of 5.5 with a 5 for writing and a 6 for speaking; as well as an English Language Level three score of B+.

Personality

For the Dependability factor of the CPAI-2, Min Min scored very low on optimism, practical mindedness, meticulousness and responsibility and very high on inferiority. She also had one of the three highest scores for the undifferentiated Clinical factors which include anxiety and depression as traits (see Figure A.31, page 296).

She commented in her second interview that her parents had told her she was 'really a friendly person, but … not an easy-going person' and added that she agreed with them. She also said that in China the amount of questions she wanted to ask her teacher or other students would make it look like she was really stupid, so she was afraid to ask and then she just gave up. Encouragement from her English language teachers in China, who took an interest in her and her painting, is what enabled her to improve her English when they got her to write daily e-mails in answer to questions they set her. 'I think that's the only case that I didn't give up and the things I don't like first then become my favourite afterwards. I think the teacher really help me a lot'. She also admitted that:

I think I was quite naughty when I was in China… all that my parents want me to do … I followed them … I say 'okay, okay'. I never say 'no' to them, but actually under, I was contact the foreign teacher … (First interview, 10.5.06).

Epistemological Beliefs

Min Min's beliefs about knowledge seemed to be transitional in both MER questionnaires (see Figure A.32, page 297).

Environmental Factors

Educational Environment

Min Min commenced the Foundation Studies course in the February intake, when she was aged eighteen. She chose to study Arts papers, as the closest to her main interest of Fine Arts which was not offered. Because of this choice (as Arts subjects require good English skills) she perceived the course to be difficult and judged that her other non-Chinese classmates had much better English skills than her. Thus, she was struggling and said, 'I sometimes feel isolated' (First interview).

Independent Living

Before beginning the Foundation Studies Course she had spent time improving her English in English language classes and, while studying, lived first in a home-stay and then in several flats where she was either alone or very autonomous, shopping, cooking and cleaning for herself. She found it quite tiring and time consuming managing life as well as study. Thus, at the time of her second interview, she was planning on moving back to a home-stay. 'When I was in the flat I thought there was too many people, I want to be myself and then when I was really myself, I want some company'.

Behaviour - Self-regulated Learning

For the MSLQ she reported the lowest scores of all the eleven students in her overall mean, as well as in many individual areas. However, her organisation and time management scores increased strongly and test anxiety showed a similar decrease. Her first mean was 4.20 and her second declined slightly to 4.12, thus showing little change (Figure A.33, page 298).

Self-efficacy

Min Min's self-efficacy declined quite markedly as the course progressed. She expressed uncertainty about her success in the course and in the second interview she commented that the outcome was still unknown and she had perhaps a 65 per cent chance of passing the course or would 'just pass'.

Study Strategies

In interview one she mentioned that her main way of studying was just revising and memorising. She also said that in China she often remembered what she heard in class due to the constant verbal repetition of Chinese teaching, but as New Zealand teachers didn't give as many examples in class as Chinese teachers, she did not remember very well using this method here and this was causing problems. Although in China the teachers planned everything for the students, in New Zealand she was learning to plan as the teachers just gave reminders. She said. 'At first it was hard. At first I tend to do things at the last minute, but now its better. Now I will do them little by little from the beginning, and start thinking about that' (Second interview). Her plans for success in Foundation Studies were to attend classes, hand in homework and try her best in exams, but she also commented that the free time between classes in the middle of the day made it difficult to be a diligent student and attend the afternoon classes.

Effort Regulation

In her initial interview, Min Min commented that in China she didn't enjoy her learning, and found that 'some subject I like, that is I like to spend more time on that and some subject like Chemistry I look at, read the book for three minutes then I want to sleep'. However, she was also finding the Foundation Studies course difficult and not interesting, as it was not Fine Arts, and so seemed irrelevant to her. During interviews she made it clear that she could not make herself study something she was not interested in and would have to be forced to study it. In addition, when learning was difficult 'I think I just give up sometimes' (First interview). She commented in her second interview that she wasn't happy with herself because 'I think some subjects I don't like, I still should study … But actually I didn't'. She justified that by affirming that Foundation Studies subjects were not subjects she was interested in.

Future Goals

Her goal for university study was to gain entry to the Fine Arts course and complete her degree there; however it was quite uncertain whether she would achieve this due to the very small and selective intake in Fine Arts, as well as comments she reported from a Fine Arts lecturer that 'your painting maybe sells quite well at Arts Centre, but it is not a Fine Arts College'. Also:

> They offer suggestions; they say my style is like commercial paintings and Polytech would be better for me and my parents want me to, I also don't want to go so far. You can't have anything [without] the university degree anymore (Second interview, 13.9.06).

She needed a degree from a university (as this is what is recognised in China), so was unwilling to consider a graphic design course at a Polytechnic. 'I couldn't go to polytech … because [I] am the only child so I have to go back to China to find work unfortunately, so I need a university degree, is very important in China' (Second interview). Because of this she was considering what other courses she might be able to study and enjoy at university, in order to gain her university degree.

Long-term success for her was to do the things she liked and have freedom to work as much or as little as she liked, to have people like her and her paintings, 'I hope I be like a person everyone likes … all people can get on well with me. I have a lot of friends' and be 'well off'.

Final Grades

Min Min failed the course initially with a final average grade of 42.1% (D). She had passed English, Statistics and Writing and Culture with C grades and obtained E grades for other subjects. After failing the course, she was permitted to repeat a shortened version of the course and having decided to do so, passed the 'Pacific Peoples' paper six months later with a C+ grade. This final paper enabled her to pass the course and proceed on to undergraduate university study in the second semester of the following year.

Summary of factors affecting Min Min's outcome

Eighteen year old Min Min had only completed 10 years of schooling in China and two and a half months of English study in New Zealand and came to the Foundation Studies course with fairly average grades. Although her English level was higher, she chose to study Arts subjects (which demanded higher English skills to succeed) and seemed to struggle throughout the course. Her short term goals were unclear as were her long term goals. In addition she had Dependability scores of very low optimism, practical mindedness, responsibility, meticulousness and internal locus of control, as well as a very high score for inferiority; and very low initial MSLQ scores. This may have meant that, despite espousing high epistemological beliefs, she was unable to change her learning strategies and so was struggling to learn effectively. Despite increases in her organisation and rehearsal scores, her self-efficacy decreased. In addition, her initially low effort regulation score did not increase; which is supported by her admission that she could not make herself study. The low work ethic and heavy workload of the February intake would not have helped her improve these skills either. Furthermore, she was also struggling with independent living arrangements while flatting, and moved several times during the course. None of these factors which almost all appeared to be disadvantageous to successful study would have made it easy for her to study and improve her skills. She failed the course with a D grade.

Behavioural

Factors

Very low and unchanging SRL scores

Personal ⟷ **Environmental**

Factors **Factors**

10 years schooling/ incomplete
Average entry grades/ higher
English
Unclear short and long term goals
Very low optimism, responsibility,
practical mindedness,
meticulousness, and internal locus
of control
Very high inferiority
High epistemological beliefs
Fail course with D grade

2.5 months in NZ
Arts student
February intake (higher workload,
lower motivation/ work ethic; and
longer breaks).
Unsettled and sometimes
independent living arrangements

Figure 4.11 – Reciprocal Causation diagram for Min Min

Comparing the eleven students

Examining all the factors affecting students, it seems that Min Min, Zhaopei & Dayi all reported very low Dependability scores for optimism, responsibility, and practical mindedness, and very low or low scores for meticulousness, as well as scoring the three highest scores for the undifferentiated Clinical factors; and all three also experienced a marked decrease in their grades. All three were only 18 years old and had either unclear or low short term goals for the course. All had 2.5 months or more in New Zealand prior to beginning the course and all reported very low or markedly decreased MSLQ scores including effort regulation. It is possible that Dayi's higher initial grades which may have reflected higher ability as well as being in the June intake compared to the other two students who were in the February intake and with average grades (and incomplete schooling for Min Min) may have made the difference between his pass and their failing grades. All their others factors were similar and might be considered to be risk factors.

Both Fei and Yi Jie entered as older students (aged 22 and 23 respectively), had average entry grades and reported high MSLQ scores. Both had also lived in New Zealand for 3 months or more prior to beginning the course. Both maintained their high MSLQ scores, with an increase in self-efficacy for Fei and maintenance of very high self-efficacy for Yi Jie. In contrast, Fei's effort regulation decreased and she just passed, while Yi Jie's effort regulation score increased and he passed with slightly more than a borderline pass. Other differences were that Yi Jie, in the June intake, had a high performance goal, although it may have been unrealistic, and Fei, in the February intake, began with the intrinsic goal orientation of improving her English skills, but relinquished that goal part way through the course. Both students passed the course with fairly average grades.

Yi Sen, Yang, Lisheng, and Hui Xin were all June intake students, who entered the course with high or, in the case of Hui Xin who aimed for a scholarship, very high goals for the course. All of them appeared to be high achieving students from their entry grades, except perhaps Hui Xin, and they all maintained their final grade, except Hui Xin who improved on her entry grade. All experienced decreases in their MSLQ scores, yet a marked increase in their effort regulation scores, except Yi Sen, who, although he entered with one of the lowest overall scores for the MSLQ, then reported an increase in every area of the MSLQ except for effort regulation. Lisheng had spent 3 months in New Zealand studying English and the other three had just arrived in the last week or two before the course began. In contrast to Yi Sen and Yang, Lisheng and Hui Xin reported some experience of previous independent learning during their schooling in China. It may be that very high goals and previous independent

learning experience were both useful in ameliorating the effects of MSLQ score declines and thus maintaining or improving Lisheng and Hui Xin's grades.

Jing and Huaqing both completed the course with B grades (Jing's a B+ and Huaqing's a B). However for Jing, this appeared to be a slight reduction from her high entry grade and for Huaqing this was maintenance of her average entry grade. Jing, from the February intake had been in New Zealand for six months, while Huaqing was in the June intake and had only been in New Zealand for 2 months. Jing entered with high goals for her studies but appeared to relax and enjoy her study; while Huaqing entered with low goals which she had accepted from her parents and had to force herself to study. Both reported increases in their effort regulation and intrinsic motivation, yet overall Jing's MSLQ scores increased and Huaqing's decreased.

Thus, it would seem that initial reported MSLQ scores appeared not to be as important as what changes occurred to these scores during the course of the eleven students' study (especially in the area of declines in effort regulation). Some form of overall increase in MSLQ scores or just an increase in students' effort regulation score appeared to enable some form of academic success. However, it also seems clear that other personal and environmental factors have an effect on student academic success to some degree. For example, in general, students in the June intake were more academically successful than those in the February intake, possibly as a result of the effect of differences in workload, breaks from classes and group attitudes to the course.

Failing Student Summary

Students who failed, or whose grades decreased quite considerably, possessed a number of similarities in their behaviour and thinking throughout the course. In their CPAI-2 responses all scored very low on traits of responsibility, practical mindedness, and optimism and low to very low for meticulousness in the Dependability Scale. All had high scores for the Clinical scale of the CPAI-2 which may include anxiety and depression. All also experienced either a sharp drop in reported self-regulated learning scores or, had low initial scores which did not increase (especially effort regulation). None of them seemed to have high specific short term goals. All were younger and had no experience of previous independent living or learning, although two of them experienced independent living during the course. This combination of factors seemed to be relevant to the academic struggles these students experienced in the Foundation Studies course. In addition, the two who failed were both in the February intake and all three had spent a reasonable length of time studying in New Zealand in English language classes prior to entering the Foundation Studies course. Even higher English

language scores, as in the case of Min Min, were of minimal help to students if other factors such as self-regulated learning strategies and optimism were low and they had not completed their schooling in China. It also appears that those with English language scores were less effective in maintaining their English level over the course, compared with those who entered with IELTS. (Possible reasons for this will be discussed in the next chapter).

Successful Student Summary

Successful students were more likely to be those students who had higher ability as demonstrated by grades, had lived in New Zealand for a shorter length of time (three months or less), had higher scores for most Dependability traits and had initially high self-regulated learning scores or experienced an increase in their scores, especially in the area of self-efficacy and/or effort regulation. These students were also more likely to have high specific short term goals, to have experienced previous independent living or learning, be older and to have increases in help seeking and/or peer learning scores. While very high optimism may have been a factor in one student's ability to increase her grade, lower scores for optimism did not seem to have the same effect.

Summary of Findings

Thus, these eleven students brought with them their similar experiences of upbringing and education in a Mainland Chinese context with its associated culture and beliefs, yet their unique personality and family background and diverse experiences in their home country and in New Zealand all appear to have contributed to their academic outcomes in the Foundation Studies course. While Yi Sen was quite successful and increased his self-regulated learning scores, Min Min, Zhaopei and Dayi were unsuccessful and had low self-regulated learning scores. Others, between these two academic extremes, struggled to self-regulate and mostly appeared to succeed by using effort regulation to persevere in the face of difficulties. For none of the eleven did it appear to be an easy year, as it would seem that all had skills and behaviours to learn and unlearn; yet the majority of them succeeded. Table 4.2 on the following page endeavours to provide a pictorial view of personal, behavioural and environmental factors which may have been most important in these students' academic success or failure. In this Table a + or – symbol indicates whether these factors appear to have had a positive or negative effect on their outcome and shading is used to enable the reader to easily view the factor (or combination of factors) which appear to have been most influential in these outcomes. (More detailed summaries of student personal, environmental and behavioural factors can be found in Tables A.35 and A.36 in Appendix A, pages 299-300).

Student	Personal										Behavioural		Environmental	
	CHC culture	Entry grades	Goals	English level	Time in NZ	Length of schooling and age	Previous independent learning	Person-ality - optimism	Person-ality – other Depend-ability factors	Person-ality – Clinical Factors	SRL-Self-efficacy	SRL – Effort regulat-ion	Intake	Type of teaching or teacher
Yi Sen	(+)	(+)	(+)		(+)	(+)					(+)		(+)	
Yang	(+)	(+)	(+)		(+)							(+)	(+)	(+)
Lisheng	(+)	(+)	(+)				(+)					(+)	(+)	
Hui Xin	(+)		(+)		(+)		(+)	(+)				(+)	(+)	
Huaqing	(+)	(+)	(+)		(-)							(+)	(+)	
Jing	(+)	(+)	(-)		(-)						(+)	(+)	(-)	
Dayi	(+)	(+)	(-)	(+)	(-)	(-)		(-)	(-)	(-)		(-)	(+)	
Yi Jie	(+)		(-)		(-)	(+)					(+)	(+)	(+)	
Fei	(+)		(-)		(-)	(+)					(+)	(-)	(-)	
Zhaopei	(+)		(-)	(-)	(-)	(-)		(-)	(-)	(-)	(-)	(-)	(-)	
Min Min	(+)		(-)			(-)		(-)	(-)	(-)	(-)	(-)	(-)	

Table 4.2: Personal, behavioural and environmental factors which appear to affect each students' academic success

Note: (+) means a positive effect and (-) means a negative effect on academic success

Chapter Five – Discussion

What may have caused these outcomes?

The four research questions which this research aims to address are repeated here in order to use the Findings from Chapter Four to explore the self-regulated learning of Mainland Chinese students in a New Zealand university Foundation Studies programme.

>   1. *How is the ability to self-regulate learning related to the academic outcomes of Mainland Chinese students in a Foundation Studies programme?*

>   2. *Which factors appear to help or hinder the development of self-regulated learning in these students, and in what ways?*

>   3. *Is the North American theory of SRL applicable to the learning for students from Mainland Chinese culture, and if so, which factors within SRL theory are more important to their academic outcomes?*

>   4. *In what ways can the University of Canterbury (a Western university) work to influence and improve the self-regulated learning behaviours of these students?*

The first three research questions will be examined in this chapter and the fourth one will be examined in Chapter Six.

As the Findings show, different factors appear to have been at work in each of these students to influence their outcomes. The examination of these research questions will commence with an overview of the findings applicable to the question and then examine how these findings relate to the existing literature and seek to determine what is happening. Research Question One examines the effect of the ability to act in a self-regulated manner in one's learning.

Research Question One

1. How is the ability to self-regulate learning related to the academic outcomes of Mainland Chinese students in a Foundation Studies programme?

Overview of SRL Findings

For one student, his initial below average MSLQ score was not maintained and instead all scores, except effort regulation, increased more strongly than all ten other students. A majority of the other students reported decreases in a number of, or all of, their SRL sub-scores, except effort regulation. However, the three students whose grades reduced significantly, all had sharp reductions in most SRL sub-scores, including effort regulation. Furthermore, while increased effort regulation did not appear to be the only factor affecting students' (such as Yang, Lisheng, Hui Xin, Huaqing, Jing, and Yi Jie) academic outcomes, it did appear to be a major factor for most of these students. Examining their self-reported changes in MSLQ sub-scores over the course of the year seemed to indicate that students did struggle to maintain SRL behaviours during the year. It also appeared that those with specific high short term goals were able to use these goals to help maintain learning strategies (including help-seeking and peer learning) and effort regulation, while those with unclear or unstated short term goals or only long term goals to sustain them were more likely to have achieved reduced final grades. Also, those who reported an increase in their help-seeking behaviours appeared in general to have more successful outcomes.

In the following pages, the overall concept of SRL and then the individual areas of self-regulated learning (behaviour) and beliefs (personal) measured by this research will be examined to see how they affect the academic success of Mainland Chinese students in a Foundation Studies programme.

Self-regulated Learning

According to Bandura's social cognitive theory, the ability to self-regulate one's learning is a key factor in academic success (Boekaerts, 1999; Pintrich, 2003 cited in Schunk, 2005; Zimmerman & Risemberg, 1997). However, while the students in this study endeavoured to regulate their own learning, they did so with varying levels of success. Almost all of those who were most successful reported higher initial MSLQ scores and some of these scores increased (especially in the areas of self-efficacy or effort regulation). However, for several of these students who were most successful, their self-efficacy sub-score experienced a small or large decline. It should be noted that some of the more successful students already possessed quite high scores for individual areas of self-regulated learning, so that despite the fact that

their scores decreased they may still have maintained above average scores in these individual areas.

Nevertheless, the most successful student's self-efficacy, which was initially average (as were other areas of his self-regulation), increased; thus, although his effort regulation decreased markedly, this does not seem to have affected his ability to succeed, perhaps because, as Bandura (1982) cited in Harackiewicz, Sansone, & Manderlink (1985) suggests, increases from an initial average or low self-efficacy may be most useful to the individual.

However, in contrast to this student, even other very successful students did not experience this overall increase in self-regulated learning, since most of their self-regulated learning means decreased. Therefore, while the overall concept of self-regulated learning seems to have been important in the success of one student; for others who succeeded, certain sub-areas of self-regulated learning appeared to be more important than others.

For example, two other students who maintained their grades (Yang and Lisheng) both experienced an increase in effort regulation and also metacognitive control of learning beliefs (beliefs the task will have a positive outcome). Both also had high initial self-efficacy. These factors may have had an effect on their ability to adapt and succeed in a new learning situation as metacognitive thinking and belief in one's ability to succeed are vital for successful learning (Bandura, 1997; Resnick, cited in Somuncuoglu & Yildirim, 1999; Zimmerman, 1989).

Decreased Self-regulation

However, research has shown (Zimmerman & Schunk, 1989, cited in Zimmerman M., 2003) that 'many students fail to self-monitor their learning progress accurately and tend to overestimate their level of success. This leads to misplaced optimism, substantial understudying, and ultimately, low test scores' (p. 8-9). This appeared to happen to some of these students. Therefore, since these students may have judged themselves to be behaving in a more self-regulated manner than they actually were if they were inexperienced in this area, their reported self-regulated learning scores may then have decreased during the year as a result of the following factors: firstly, as the course advanced they began to realise what was required of them in order to be successful and what they were not doing and, secondly, they began to deal with the effects of a more independent learning situation and the pressure it may have put on unproven or inadequately self-regulated skills (Kurtz & Weinert cited in Boekaerts, 1999; Lan, 2005; McInerney, 2008). These factors could eventually have resulted in more honest reports of self-regulation, due to an increase in self-knowledge and/or

perceptions by the student that they were not doing so well in those areas as they had previously.

In addition, for some students (especially Zhaopei) a marked decrease in mean MSLQ and areas of self-regulated learning, especially help seeking and peer learning which are seen by researchers as key ways that successful students may help themselves (Newman, 2008) may indicate that they came to doubt their abilities to succeed, as well as leaving them with few external resources to enable them to succeed (and underdeveloped internal resources).

Thus, it would seem that initial reported MSLQ scores appeared not to be as important for a student's academic achievement as what changes occurred to these scores during the course of each of the eleven students' study (especially in the area of effort regulation). If a student's self-reported self-regulatory skills remain the same this may negatively affect their learning, unless these skills are already at quite high levels (however, this might also be a sign of lack of self-awareness of the need to change their learning strategies for some students). Furthermore, if students experience a marked self-reported drop in self-regulatory ability this may put them at risk of failure; while an increase may aid success. If reported self-regulatory skills are low and remain low this may make it difficult for a student to pass; if they have average self-regulated learning skills and these decline strongly they may fail; yet if they have low self-regulated learning skills and these skills increase strongly this may aid success when combined with other factors.

Self-efficacy

One area of SRL which may have affected students' academic outcomes is self-efficacy. According to Bandura (1997), self-efficacy, the belief in your ability to be successful in a specific task, is a key factor in academic success. Six students experienced an increase in self-efficacy or maintained high self-efficacy and succeeded in the course to varying degrees. Thus, for a number of students high self-efficacy may have aided academic success.

However, high self-efficacy, while commonly believed to be advantageous for academic success, may not always be beneficial. The reason for this may be that self-efficacy beliefs are closely linked to academic achievement, especially if the beliefs are close to the student's actual ability, according to Silverman & Casazza (2000); however, if these self-efficacy beliefs are too high, then this may have a negative effect on student performance (Bandura, 1986, cited in Silverman et al., 2000). Bandura comments that, 'gross miscalculation of one's efficacy can get one into trouble' (1997, p. 71); therefore, if students (such as Fei and Yi Jie) believed they could achieve high grades, perhaps since learning seemed easier here, when

these grades were actually unachievable, they may not have exerted enough effort. Furthermore, Zimmerman & Paulsen (1995) suggest that problems with self-monitoring may mean the student does not study because they monitor their ability and knowledge for the task inaccurately and believe they know more than they actually do (for example, Jing, Yi Jie and Fei). Yet Bandura (1997, p. 72) also points out that:

> … when people err in their self-appraisals, they generally overestimate their capabilities … An optimistic belief in one's efficacy is thus a necessity, not a character flaw. Optimistic self-appraisals of capability raise aspirations and sustain motivation in ways that enable people to get the most out of their talents.

Low levels of specific self-efficacy beliefs are also seen to be disadvantageous to academic success. Decreases in final grades may occur when, even though they value a task and the rewards it may bring them, students view themselves as unable, due to low self-efficacy, to achieve their goal and decide therefore not to attempt or expend effort on the task, but instead accept lower achievement and performance (Bandura, 1986; Bandura, 1991a, cited in Zimmerman, 1995); as may have been the case with Dayi, Zhaopei and Min Min.

While some students reported high self-efficacy (Fei, Yi Jie, and Jing), as mentioned earlier, the MSLQ self-efficacy mean for all eleven Mainland Chinese students was lower than the North American mean (the only MSLQ mean score that appeared to be lower). Triandis, cited in Volet (2001), has suggested that people from collectivist cultures may have more negative self-concepts than those from individualistic cultures; Salili, Chiu, & Lai (2001) have postulatd that Chinese 'modesty' emphasizes not looking better than others; and Triandis, 1972, cited in Yamaguchi et al., (1995, p. 665) suggested that Chinese people are very cautious about 'making extreme responses' to questionnaires (thus causing students to report their self-efficacy lower than is actually the case). Also, Oettingen & Zosuls (2006) summarised their review of the literature by concluding that Western adolescents tend to have higher self-efficacy than those from Asian cultures, due, they suggested, to the cultural values of collectivism, high power distance and strong uncertainty avoidance which teach Asian students to obey authority and norms. These norms affect the information an individual uses to assess their self-efficacy. If this assessment indicates that parents and teachers are dissatisfied with their work, and that insufficient effort is being exerted, they may consider themselves self-inefficacious, whereas this perception may be partly due to higher expectations, behaviours and norms for that culture. As a result a highly able student may feel inefficacious with regards to some academic tasks, which in fact they may be fully able to achieve.

In addition, different results (grades) when students have the same ability level may be due to different levels of perceived self-efficacy to manage the task, as self-regulatory strategies are required to manage motivational and affective states such as anxiety. If self-efficacy is low, then affective states of stress or despondency may not be managed effectively making it difficult to access and use one's knowledge and skills (Bandura, 1993, cited in Zimmerman, 1995). This may have been one of the factors affecting Dayi's reduction in grade and something Huaqing may have struggled with. Furthermore, as Bandura (1997) stated:

> Efficacy beliefs play an influential mediational role in academic attainment. The extent to which such factors as level of cognitive ability, prior educational preparation and attainment, gender and attitudes towards academic activities influence academic performance is partly dependent on how much they affect efficacy beliefs. The more they alter efficacy beliefs, the greater the impact they have on academic attainments (p. 216).

Bandura (1986, 1997) also said that self-efficacy reports are most predictive of future action when the time between the self-efficacy report and the action is very close in time. Thus, in the interim between students' questionnaire responses of self-efficacy and their future need of it, powerful positive or negative experiences may have altered their efficacy beliefs to some degree (Bandura, 1986, 1997).

In addition, as Western education may seem to be a different system, once immersed in it, students may need to reassess their self-efficacy for learning in this new culture. Bandura (1986, p. 398) commented that individuals need to know that skills for effective learning in one culture may be less effective or actually be detrimental to learning in another culture and that 'significant changes in task demands or circumstances' or 'new undertakings', as well as lack of clear goals, may result in inaccurate perceptions of self-efficacy.

Also, if a task is unclear or the requirements for a learning exercise are incompletely understood, the student may over or underestimate the task demands (for example, this may have been the case for Jing, Fei, and possibly Zhaopei). According to Salomon (1984), cited in Bandura, (1997), incorrectly low perceptions of task difficulty and high self-efficacy beliefs for learning may result in less effort being employed in the task resulting in inadequate learning (possibly Fei); however, correct perceptions of difficulty and high self-efficacy may result in an increase in cognitive effort and high quality learning. Therefore, says Salomon, to succeed, high self-efficacy and some uncertainty about task requirements or skills are

necessary. Faulty self-knowledge may occur where, although the student is experiencing a new area of study in which they have limited knowledge, the tasks and procedures still seem familiar. Because of these familiarity cues the students may act as they have done in the past, although previous ways of responding may now be less effective (Bandura, 1997). This lack of knowledge may affect student judgements of how much effort should be expended on their studies, for how long it should continue and when adjustments to their strategies should be made (Bandura, 1986). Furthermore, if a task comprises some new skills for which the student is less skilled and less efficacious combined with previously established skills in which the student is more efficacious, it may depend on which part of the task is being focused on as to how self-efficacy is judged in this instance. As a result, when Chinese students come from a different educational system with different demands and different tasks, if task demands are not fully realised, then students' self-efficacy beliefs will be higher than their performance (Bandura, 1997).

Weak self-efficacy beliefs may easily be changed whereas strong beliefs are not changed easily, therefore, a student with lower self-efficacy beliefs is more likely to reassess beliefs at a lower level than would a student with higher beliefs when encountering the same difficulties here (Bandura 1997; Zimmerman, 1995). For example, for this research most of those with self-efficacy beliefs below the Chinese mean (Min Min, Zhaopei, Dayi, Huaqing and Hui Xin) experienced a decline in their score over the year and appeared to struggle.

Despite these issues, most of the students had recently succeeded in university entrance exams and so had experienced academic success, except Min Min, who did not complete school and Yi Jie who had been working for several years. This factor would suggest that they should have entered the course with high self-efficacy from this success. Thus, clearly there are other factors involved in these results.

Effort Regulation
While Western research suggests self-efficacy is a key factor in academic success and self-regulation, other researchers (McInerney, 2008; Oettingen & Zosuls, 2006; Pintrich, 2000b) have queried whether, in other cultures, different factors such as effort control or regulation may play a greater role. For this research, it would seem that reported self-efficacy for learning was not necessarily the key factor which enabled these Mainland Chinese students to be successful; instead marked increases in effort regulation (persistence or volition control; Corno, 1986; Rheinberg, Vollmeyer, & Rollett, 2000) seemed to be the factor which differentiated them from those who were less successful. Effort regulation indicates the students' commitment to their goals and makes adaptive use of learning strategies (Pintrich et

al., 1991), and, while in some instances effort regulation may not improve learning or guarantee effective use of learning strategies, it does, according to Wolters (2003), ensure task completion.

Bandura (1997, p. 39), writing from a Western viewpoint, said that when a student doubts their abilities, there is a decline in their self-regulated learning beliefs and strategies, including effort regulation, and the student may give up easily. However, the majority of these Chinese students said they were able to continue with a task even if it is boring, and this was probably due to increased effort regulation which prevented them giving up. Thus this cultural emphasis on effort to improve ability and success may have beneficial effects for these students.

Furthermore, even if students have very high self-efficacy and ability if they can not organise their time to complete assignments and study for tests by the due date, they put themselves at risk of academic failure. This may have happened to a number of the students whose final grades were lower than expected and it may be that for these students it was their effort regulation and persistence in studying which enabled them to avoid failure. Increased effort regulation is important as it may help students maintain their grades especially if they have low self-efficacy or weaker self-regulated learning skills and are more likely to give up, despite the Chinese 'I must pass' belief, since this cultural 'belief' does not appear to be strong enough without some self-efficacy and self-regulated learning motivational strategies to support it.

To help create increased pressure on themselves to persist Norem and Cantor (1986) cited in Pintrich and Garcia (1994) proposed that students may use their anxiety over unrealistic expectations of low grades to motivate themselves to greater effort and success. They call this behaviour 'defensive pessimism' or 'anticipatory pessimism' (Bandura, 1997). Several students whose reported score for test anxiety increased (Huaqing, Lisheng and Yi Jie) may have used this strategy to increase their persistence.

Help seeking/Peer Learning
Reported levels of help seeking and/or peer learning, which have been shown to be aids to academic success when used appropriately (Newman, 2008; Pintrich et al, 1991), also increased in some of those students who were more successful academically.

Tanaka, Murakami, Okuno, & Yamauchi (2002) cite Newman (1990) who reported that if students avoid help seeking when needed, this may negatively affect their academic

performance. Newman (2008) points out that 'adaptive help seeking', or asking for help when you realise learning can not progress until advice or hints from a more knowledgeable person are obtained, is part of self-regulated learning and 'mediates the relationship between academic difficulty and successful task completion (Newman, 1994)' (p. 316). Students who learn to ask for help when they really need it facilitate their further learning, while those who avoid asking for help may forestall their learning and create future difficulties.

Despite this, Newman (2008) comments that in real classroom situations most students are unlikely to ask for help unless the classroom climate is very encouraging of help seeking and mastery oriented. Those students with mastery goals are often not worried about how they look so are willing to seek help, whereas those with performance goals may not wish to look incompetent (especially performance avoidance males such as Zhaopei).

However, Tanaka et al. (2002) also commented that if an individual has a strong mastery goal they may also avoid help seeking as they see it as a threat to their autonomy (this may have been the case with Hui Xin; Deci & Ryan cited in Tanaka et al., 2002), while those espousing a performance approach orientation use help seeking because it may enhance their achievement and they have no worries about autonomy. These students view help seeking as a useful behaviour to reduce academic problems and teach them skills for future self-help. Four of the six most academically successful students in this study reported a clear increase in their help-seeking behaviour (Yi Sen, Yang, Jing and Lisheng).

However, while Chinese students have known how and when to ask for help in their own culture, they may not necessarily know how to do this in another culture. This might be because, firstly, a considerable amount of simple language issues, educational culture and learning processes may be misunderstood and as a result students may perceive themselves to be lacking in knowledge and yet be unwilling to look stupid. This may have had an effect on Huaqing at least.

Furthermore, the Foundation Studies course requires that students do not to work together and help each other (peer learning) with graded assessments due to the risk of plagiarism and copying; yet, in China, large amounts of daily homework, which are not marked, may result in students collaborating over school work and peer learning may have been common. However, in New Zealand where assignments worth grades are reasonably common this collaboration is not so acceptable. Loosing this ability to gain help from peers may have had an effect on Fei and other students who, if they did not know how to ask for help from the teacher, were then left without any help but their own. If they were also inexperienced at

independent learning, that may have left them isolated in their learning and made successful learning and development of more firmly grounded SRL skills more difficult.

Task Value and Study Strategies

Another area of SRL which may have affected students' ability to be academically successful is that of the study strategies they employed in their learning and how important learning the task was to them. Pintrich (1999) said that task value is positively linked to the use of study strategies such as rehearsal, elaboration and organisation, and to metacognitive monitoring; furthermore that self-efficacy beliefs have strong positive links to self-regulated learning and strategy use.

As a means of increasing task value, Locke and Latham (1990) reported that 'Goal setting has a positive effect on interest (or as a reliever of boredom) because goal setting provides the individual with a sense of purpose on the task' (p. 239) and requires them to pay attention. Lisheng and Hui Xin reported using more complex learning strategies such as elaboration, making connections and logical relationships between ideas, and Hui Xin, despite finding that classes were often a repeat of lessons learnt in China, reported using repeat lessons as revision; all of which strategies or short term goals may work to increase task value.

Nevertheless, some students may continue to use the same study strategies they used in China, since 'If', as Hofer, Yu and Pintrich (1998) comment, 'students are overly confident about their abilities to learn, … they may assume that their current learning strategies and study habits are fine and do not need improvement' (p. 70-71). For example, rehearsal is seem as a less effective strategy especially when students' learning becomes more complex, therefore this may have created problems for students such as Yi Jie, whose rehearsal strategies increased as he tried to study. Furthermore, making the change from this continuation of general strategy use to the development of more sophisticated strategies may have been precluded by the stress of coping with the difficulties of the course as, according to Winne (1995a), these higher level strategies utilise a large amount of processing capacity in their development.

For other students (such as Yang who reported no changes in his study behaviour of memorisation), it is possible that, coming directly from China and the intensive learning situation there with acceptance of study as a norm and possibly encountering very helpful teachers here (perhaps more as teachers in China are portrayed), as well as studying subjects such as commerce (which a number of students said required memorisation), they perceived they were encountering the same sort of learning here as in China. Thus, if no dissonance and

little cultural difference in their learning occurred to make life stressful, they would show similar learning behaviour in different situations, as Mischel, cited in Boekaerts (1996b), suggested will happen if students' perceptions of the consequences of their behaviour in each situation are similar.

Despite this, it should be noted that inability to make changes in study strategies does not appear to have seriously affected student learning and success at this time (although it may have made it more difficult and tiring). This may be perhaps due to students relearning information from high school and thus not being greatly challenged to change their learning strategies (Lindner, Harris & Gordon, 1996). However this may not continue to be an effective form of studying over a longer period of time.

Critical Thinking and Previous Knowledge

As a sign that students from Mainland China may struggle to understand how their previous learning connects to what, and how, they are learning in New Zealand, it should be noted that all eleven students experienced some decline in their critical thinking scores during the course. Presuming that use of previous knowledge as measured by the critical thinking score of the MSLQ (Pintrich et al., 1991; See Appendix B) applies to use of knowledge in a new learning situation and culture, then, while it appears that Chinese students express high critical thinking scores on entry to the course, they may do less critical thinking during this year due to their uncertainty (and lack of metacognitive knowledge) of how to use their previous knowledge or how it is applicable to this new learning situation. This inability to make accurate connections between previous knowledge and present knowledge might have an effect on students' critical thinking scores, since Pintrich, Marx and Boyle (1993) point out that while prior knowledge is often seen to be advantageous to learning, this may not be the case if the student has prior knowledge which is inappropriate to a new learning context and/or they are unwilling to reassess those beliefs. These students from Mainland China may need to acquire new and appropriate metacognitive knowledge effective for New Zealand tertiary learning with its different expectations.

In spite of this, Chinese self-reported means for critical thinking were considerably higher than North American means and remained higher, despite slight decreases for most students. (Nevertheless, although Zhaopei had one of the highest critical thinking scores of the eleven, this did not help him to pass the course; however, this might be due to a number of other factors affecting his study). Therefore, while this reduction in critical thinking ability does not appear to detrimentally affect student learning to a great degree in their Foundation Studies year, again this may not be the case when they encounter their first year courses.

Intrinsic and Extrinsic Motivation

Student motivations, both intrinsic and extrinsic as measured by the students' self-reported scores on the MSLQ, fluctuated and changed during the course. Intrinsic motivation may be beneficial to learning but not necessarily beneficial to grades (Fryer and Elliot, 2008; Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997); for example, Jing and Fei both mentioned that they were enjoying learning, both seemed to express intrinsic motivation and mastery goals for their learning and both achieved lower marks than could be expected. Okun, Fairholme, Karoly, Ruehlman, and Newton (2006) have proposed that if learners do not experience concern about a subject due to enjoyment of it, they then receive no negative self-feedback to motivate themselves to work harder. As a result, these students may do worse in tests than if they have a performance orientation, as possibly occurred for Jing.

In contrast, a mixed motivation for learning may be beneficial, as according to Hagen and Weinstein (1995), a combination of high mastery and performance goals can be particularly advantageous to successful learning. This combined intrinsic and extrinsic motivation is the most common motivation for Chinese students (called an achievement or strategic motivation) and appears to be that which some of the more successful students (Lisheng, Hui Xin) brought with them from China. This form of motivation appears to enable them to be extremely directed in their learning and very successful academically and usually includes mastery and/or performance goals depending on which are seen as most advantageous to success in learning (Biggs cited in Zhang & Watkins, 2001).

Goals

Student goals may also have had an effect on their academic success. Goal theory research stipulates that proximal, specific, challenging, achievable mastery or performance approach goals are the most effective for academic success (Pintrich, 2000; Schunk, 1995). For those seeking high grades it seems that a performance goal orientation will suffice, whereas those with a mastery goal orientation may increase their enjoyment, self-regulation and depth of learning yet not attain equally high grades (Harackiewicz, Barron, Tauer, & Elliot, 2002; Pintrich, 1999). Again, this is a Western theory; therefore one cannot assume it applies to students from another culture and this needs to be taken into consideration. In general, for this research those students who had a clear achievement motivation and goals to succeed academically which had not been sullied and depleted by exposure to more relaxed New Zealand learning styles appeared to achieve better academic grades (Yang, Yi Sen, Hui Xin), whereas those (for example, Jing), who had clear mastery goals, may have experienced greater enjoyment of their studies and remembered their learning for longer, yet not have achieved such high grades. According to a number of researchers cited in Montalvo & Torres'

(2004, p. 12) self-regulated learning review, this achievement performance orientation, with its high goals, has been shown to be a strong indicator of improved grades.

Furthermore, clear high or very high short term goals (especially intrinsic/mastery goals where grades are not so important; and performance goals resulting from an achievement motivation and desire to succeed for their family, as in the case of Hui Xin, Yang, Yi Sen, and Lisheng) appeared to enable students to maintain or increase their high grades, while low, unclear or reduced short term goals tended to lead to reduced grades to some degree (Dayi, Zhaopei, Min Min, Fei and Jing).

In addition, according to Dembo & Eaton (1997; Wolters, 2003) learners (such as Lisheng) may use the strategy of goal oriented self-talk as an aid to maintain motivation when learning is difficult or boring and this strategy, which involves reminding themselves of their goals and why they are important, may perhaps be considered to be a component of effort regulation.

Finally, while, 'Goals', according to Bandura (1997, p. 218), 'are unlikely to have much effect if there is little personal commitment to them', and may be less motivating if they are not self-chosen, in a Chinese cultural context with the importance of education for their future and filial piety, this lack of choice may have less effect on student results, especially as it is part of a child's upbringing to learn to defer to adults for advice and obey authority. If students have only a weak commitment to a goal due to lack of value they are more likely to reject the goal than attempt to attain it; although filial piety may work to counteract this, as in Huaqing's case, where her academic goals were chosen by her parents. In spite of Bandura's comment, she still managed to maintain her grade.

Low or Reduced Proximal Goals

Although, according to the research (Hagen & Weinstein, 1995), mastery goals are very advantageous to successful learning, and Harackiewicz, Barron, Tauer, and Elliot (2002) have suggested that a joint mastery and performance approach is perhaps even more advantageous as it combines striving for grades as well as the enjoyment and depth of learning; research by Fryer and Elliot (2008) has found that students do revise their goals over time and that mastery approach goals tended to decline while performance avoidance ones became more salient. This may have been the case with Fei, who initially held a mastery goal to improve her English, yet as the course progressed, the need for avoiding failure became, in her eyes, more important than improving her learning. It is also a possibility that she had low self-knowledge of her skills and the time required for study in another language; therefore she misjudged the effort needed and then had to reduce her goals to save face.

However, despite being advantageous to learning, Fryer and Elliot (2008; Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997) also found that increased intrinsic motivation linked to mastery goals, while it does create deeper learning, is not always beneficial for grades. Students with a strong extrinsic achievement motivation are more likely to achieve high grades (Yi Sen and Yang) than those with intrinsic motivation who are usually less competitive, as in the case of Jing.

Goals of passing the Foundation Studies course successfully or with good grades and seeing the course as a means to the end of university study appeared to be achievable, yet non-specific, less challenging and proximal performance goals than those of the more successful students. Yi Jie, Fei, Zhaopei, Min Min and Dayi each expressed these goals and all, except the two lower ability students who experienced very low self-regulated learning mean scores, achieved this goal.

It may be that a number of the students, having expressed high goals of straight A grades as they may have experienced in their studies in China, then realised that their English skills were insufficient to achieve their goal (at least in the English course), and thus they reduced their effort in that area as they saw no chance of being more successful. It may also be that this behaviour is allied to learned helplessness (when a learner believes they are powerless to change their events and circumstances) a behaviour which negatively affects motivation, ability to learn and anxiety possibly resulting in depression, according to Biggs and Telfer (1987) and is a way of exonerating oneself from responsibility in one's expected failure (Middleton and Midgley, 1997).

Summary of Self-regulated Learning

Zimmerman & Risemberg (1997, p. 106-7) found that the inability to self-regulate one's learning was a major cause of academic underachievement resulting in impulsiveness; decreased academic goals as in the case of Min Min, Zhaopei, Dayi, Fei and Jing; inaccurate self-assessment possibly in the case of Fei, Yi Jie and Zhaopei; increased self criticism; decreased self-efficacy and perseverance, again in the case of Min Min, Zhaopei, and Dayi; increased worry (Dayi, Zhaopei and Huaqing); decreased self-esteem; increased 'need for approval' (possibly Min Min and Zhaopei) and being increasingly influenced 'by external factors'. It may also result in an inability to find useful help with their studies when needed (Dayi, Yi Jie, Zhaopei and Min Min).

In contrast, those whose scores increased over areas of their self-regulatory abilities (Yi Sen) or already possessed adequate self-regulatory abilities (for example, Hui Xin, Yang and Lisheng) maintained their academic achievement and mostly showed signs of adaptable study strategies, including help seeking, perseverance (effort regulation), more accurate assessments of ability and self-efficacy for specific tasks, willingness to learn independently and reduced anxiety.

Therefore, those who reported some initial SRL ability appeared more able to maintain and control their learning and achieve academic success; while those with weaker initial reported ability or a marked decline in SRL ability appeared to be less able to control their learning and as a result their academic outcomes tended to suffer.

Summary of SRL Behaviours and Beliefs which may have affected Student Outcomes
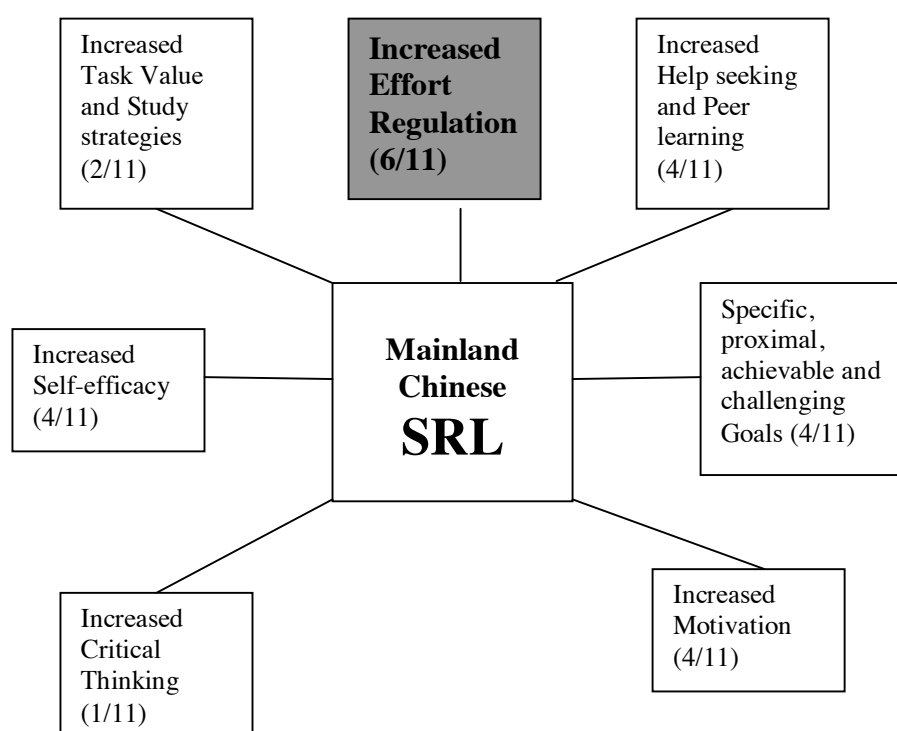
Figure 5.1: Self-regulated Learning factor increases in these eleven Mainland Chinese students

Note (-/11) signifies the number of the eleven students this factor applies to.

| Decreased Task Value and Study strategies (5/11) | Decreased Effort Regulation (4/11) | Decreased Help seeking and Peer learning (7/11) |

| Decreased Self-efficacy (4/11) | **Mainland Chinese SRL** | Decreased, low or unclear proximal Goals (7/11) |

| Decreased Critical Thinking (10/11) | | Decreased Motivation (4/11) |
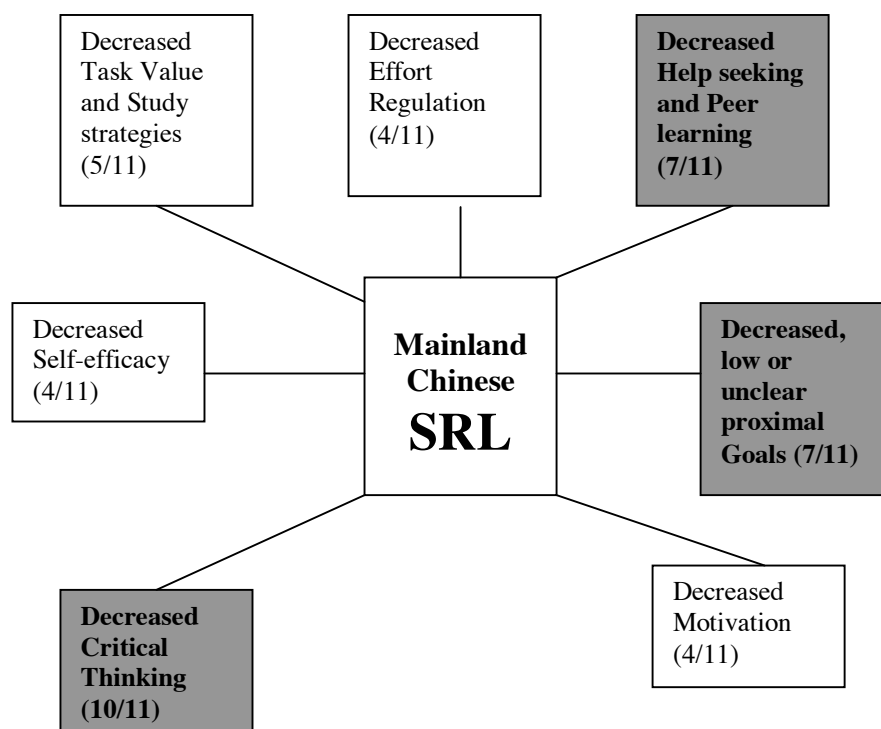
Figure 5.2: Self-regulated Learning factor decreases in these eleven Mainland Chinese students

Note (-/11) signifies the number of the eleven students this factor applies to.

Despite these self-regulatory behaviours of effort regulation, goal setting and help-seeking and self-efficacy beliefs, other factors also play a large or small part in academic achievement, as demonstrated by the cases of Hui Xin who, despite severe decreases in almost all self-regulatory scores, improved her grade, and Jing, a high ability student who experienced increases in her self-efficacy and self-regulated mean score, yet achieved a slightly lower grade than expected. These factors will now be examined as Research Question Two is explored.

<u>Research Question Two</u>

2. Which factors appear to help or hinder the development of self-regulated learning in these students, and in what ways?

<u>Overview of Findings concerning other factors</u>

A number of personal (including previous cultural background) and environmental factors appear to have had a positive or negative effect on students' self-regulated learning and thus their academic outcomes in the Foundation Studies course.

Environmental influences included whether the student commenced in the February or June intake, how long they had resided in New Zealand prior to beginning the course and the type of teaching they received. More students in the June intake attained high grades than in the February intake and two of the four students in the February intake failed the course (Zhaopei and Min Min). Also students who had just arrived in the country a short time before the course began appeared to be more academically successful than those that had been here for longer. In addition, one student (Yang) with a very helpful teacher reported that learning in New Zealand was just the same as in China, as did those who studied commerce.

Personal factors for these students included their CHC background with its emphasis on filial piety, effort and persistence and education for future development and family support, as well as whether they had siblings or not. These factors may have caused students such as Hui Xin, Fei, Huaqing, Yi Jie to maintain their effort regulation when study became difficult. Another personal factor of influence to student SRL appeared to be the personality traits within the Dependability Factor of the CPAI-2. Very low levels of optimism, practical mindedness, responsibility and low to very low meticulousness were reported by those students, Dayi, Zhaopei and Min Min, who failed or whose grades dropped markedly; these students also scored higher than the other students on the undifferentiated Clinical factors which included traits of anxiety and depression. Other personal factors were prior high school grades (in general those with higher grades were more successful in the course; for example, Yi Sen, Yang, and Lisheng), previous experience of independent learning (which may have aided Hui Xin and Lisheng to maintain or improve their grades), English level (the course was a struggle for students such as Zhaopei who had lower English levels) and age (younger students with other issues may have been at risk of failure).

The environmental factors will be investigated first and then the personal factors.

Intake (Attitude and Workload Effects)

The main environmental factor for these students, the February and June intake timetable and its workload disparities, may also have affected each of the eleven students differently. As mentioned in 'Intake Differences' at the beginning of Findings (pages 113-114) there was a difference in workload between the two intakes, with February students having a busier timetable and two more subjects but larger breaks from study and June students having less subjects but very short one week breaks.

Biggs (1999) and Ramsden (2003) both mentioned that an excessive workload may cause students to take a surface approach to their learning. A surface approach is used when the student's purpose is 'to get the task out of the way with minimum trouble, while appearing to meet requirements' (Biggs, 1999, p. 14) and using less effective learning strategies and thinking skills than are actually required for the task; for example, using memorisation when understanding and application of ideas is required. They also mentioned that a student may engage in surface learning if they only desire to pass a course rather than do well in it or if it is a course they are required to take yet which has little interest to them.

These reasons for choosing a surface approach to learning are applicable to a number of the students interviewed; similarly when workload and assessment load are heavy, students are more likely to simply complete tasks without understanding because they are required to be completed (Biggs, 1999). For students coming from Mainland China where this, according to student reports, is the norm due to the high exam emphasis, their natural reaction to a high workload in their Foundation Studies course would seem to be to simply complete tasks without great thought to reduce their workload. This is not to say that all students do this, but if the course is organised in such a way that it reinforces behaviours which may already be strongly ingrained from high school in China, it would be quite understandable if students concluded that what was expected of them was to use a surface approach to learning. This workload pressure may have had most effect on February students, who all reduced their goals.

However, it should be noted that as far as time management skills are concerned, all but one (Yi Sen) of the June students' time management and study environment scores decreased to some extent whereas of the four February students interviewed only one, Zhaopei, had a reduction in this score and the other three students' scores increased to some degree. Thus, it is possible that, despite the adverse effects of excessive workload mentioned by Biggs (1999) and Ramsden (2003), this pressure may be useful to teach or force students to manage their time more effectively, whereas a less intense workload may not have this effect.

Furthermore, a compressed and demanding workload in a new culture may cause problems with self-regulation. Schmeichel & Baumeister (2004) commented that an individual's self-regulatory resources are limited and that ego depletion (a decrease in self-efficacy) may affect their physical endurance, persistence, ego regulation, and so on. This will not happen for simple automatic tasks but for tasks that require self-regulation. As the June intake had fewer holidays (although a less pressured timetable), this may have had a deleterious effect on student egos and levels of ability to adapt and self-regulate. For example, although Hui Xin appeared to be the most successful self-regulator, sometimes she did not self-regulate, as she admitted she was too tired and among the June students only Lisheng and Yi Sen reported increases in self-efficacy.

Another intake difference factor which may need to be taken into account is the apparent attitude among the February students that the course was easy and that a C grade was all that was required in order to pass. This attitude was expressed by all of the February students, Fei, Jing, Zhaopei and Min Min, as, while they commented that the course was difficult, they also found it more relaxing than study in China. This attitude may have had the effect of causing them to reduce the amount of effort they put into their studies, perhaps until it was too late to enable them to do well.

Carver (2004), when describing his self-regulatory feedback loop, pointed out that positive feelings towards a course may cause students to 'coast' and reduce their effort towards the goal. These positive feelings make them feel that there is no problem with success, even if these feelings may derive from the fact that studying is more enjoyable and less pressured. Due to mistaking the reason for these positive feelings the students may exert insufficient effort on their studies. When the pressure from parents is gone and studies seem easy, it is quite understandable if students inexperienced in independent learning and unaware of the amount of effort actually required to be successful in a new environment fail to accurately anticipate their workload and do not study sufficiently. Boekaerts (1995a) commented that the literature seems to show that students develop beliefs about their ability in a number of areas of learning which are then used to assess ability when new and different tasks are encountered. However, it is possible that these assessments of ability may not fit the same learning domains accurately when these domains are experienced in another learning culture.

Chinese Collectivist Culture
This previous environmental factor (now considered a personal factor) influenced all eleven students yet each in different ways. Mainland Chinese students come from a Confucian

Heritage culture (CHC), and thus may be expected to have similar cultural and educational experiences. Yet each experience of the culture is an individual one mediated by socioeconomic factors such as parental income, education and involvement in learning; availability of independent learning experiences; age and maturity; personality traits, ability and self-efficacy levels; and differing skill at self-regulation. Those raised as only children in the city may have had quite different cultural teaching to those raised in the country or with other siblings. Some parents may have emphasized Confucian beliefs more than others who may have been too busy with their jobs or have taken a more Western approach to their child's upbringing. Nevertheless, for all of these students the emphasis on being a diligent student would have been reinforced since early childhood through their schooling.

CHC cultural beliefs, such as education is very important (Chan, 1996; Li, 2004; Wing On, 1996) and effort is the key to academic success (Li, 2001) may be both beneficial and detrimental to student ability to self-regulate their learning and academic outcomes in the Foundation Studies course. Firstly, a strong family orientation and filial piety linked with Chinese achievement motivation may mean students work harder, regulate their effort and persevere with learning even when it becomes boring and difficult (Salili, 1996); for example, in the cases of Hui Xin, Huaqing, Fei, Yi Sen, Jing and Yi Jie. Memorisation as a tool to aid understanding may also be beneficial; especially as students' often inadequate English levels may impede their learning (Ginsburg, 1992). However, simple rote learning (unless the task requirement is to memorise a list of vocabulary or something similar) and general study strategies of repetition and review, while they may have been appropriate for Chinese high schools, will not necessarily be effective strategies for learning in Western universities (Volet, 1999a) and may have made academic success less easy to attain for students such as Yi Jie, Zhaopei and Min Min.

Ability

The personal factor of ability or academic achievement, as measured by their high school grades, appears to have some effect on students' initial experiences and future outcomes, where it seems to be important as a background or base factor. Zimmerman and Risemberg (1997) commented that SRL is separate from intelligence, although other research (Zimmerman & Martinez-Pons, 1990, p. 57) found that SRL strategies linked to behavioural (creating and implementing personal rewards and consequences for effective and ineffective strategies and behaviours), personal (organizing and transforming knowledge) and environmental (adaptive help seeking and reviewing information) areas were more often used by gifted students. Furthermore, gifted students, according to Braden (1995, p. 627),

> … perform complex learning tasks much more efficiently and fluently than their average peers … require less time to achieve mastery … spontaneously generalize and transfer learning to new tasks and settings … are faster … and therefore more efficient in making simple meaningful discriminations.

Those who began the course with A grades from high school (Yi Sen, Yang, Lisheng, Jing and Dayi) may be supposed to be 'gifted students' and therefore may exhibit these traits influencing their ability to continue to learn successfully as they tend to use learning strategies to control themselves and their environment more than other students (Zimmerman & Martinez-Pons, 1990). Nevertheless, there is also the possibility that these students may be so efficient at using effort to succeed academically that they continue through the course (which for some was mostly repetition) without needing high ability. There is also the possibility for some that the high grades they attained in high school were largely attained through effort and memorisation rather than ability and may not be repeated.

In contrast, it would seem that if a student enters with average to low ability this may make it difficult for them to succeed but not impossible. Students such as Min Min and Zhaopei, who entered with more average grades, appeared to be more at risk of failure than those who entered with higher grades and were less able to make use of effective SRL strategies; however this was probably not the only factor involved.

Also, it appears that, as about half the students did as well as or better than expected from previous grades, there may be one or a number of factors within their background and experiences during the year in the Foundation Studies course which had an effect on why they have been more successful and others have been less successful, despite what appeared to be initial equal ability. It must be remembered that initial ability was measured by past exam scores for this research and this grade may be the highest a student is able to achieve after strenuous study; while the stress of a new culture and a new style of learning may cause grades to decline, at least until the student becomes used to the new way of learning and adjusts and develops their study strategies to be more successful. This might explain some of the discrepancy between initial and final grades.

Previous Independent Learning
Independent, self-regulated learning may develop more in some students in China than others, since SRL develops with time and practice (Silverman & Casazza, 2000). According to the students' comments in their interviews, the majority of their schools in China provided teacher controlled repetitive learning rather than independent learning opportunities and

practice, whereas New Zealand universities require students to regulate their own learning. Previous exposure to independent learning may have positively affected students' academic success in the Foundation Studies course by providing them with some expectation of how to continue learning independently, especially when other factors were having a negative effect. Some schools (Lisheng's and Hui Xin's) required or expected more independent learning. In addition, the students' experiences of previous teaching styles may also have influenced how much self-regulated learning experience they had when they arrived in New Zealand.

For the above two students, reported exposure to and experience of previous independent learning was a factor which appeared to differentiate them and their academic success from others who were less successful. A length of time studying English of more than 2.5 months which appeared detrimental to other students' achievement motivation (see following page for a fuller explanation) seemed not to affect Lisheng's academic success, and previous independent learning experience appeared to be one of the areas that differentiated him from other June students, such as Dayi and Yi Jie. The other student, Hui Xin, seemed to have marked decreases in most of her self-reported MSLQ sub-scores, yet her effort regulation increased and she commented on preferring to be an independent learner. Given that her final grade increased despite these marked decreases would suggest that another factor (previous independent learning experience) may have been the factor which made the difference.

Previous independent learning experience may also enable students to be more accurate in their self-assessments; a part of SRL (Boekaerts, 1995b; 1999; Silverman & Casazza, 2000; Zimmerman & Martinez Pons, 1990). For Hui Xin, this previous independent learning experience (and her perfectionist tendencies) may also have meant she may have considered that her SRL skills had declined in a more teacher-led environment than she was used to and thus have scored herself lower for self-regulatory strategies than the others and had more honest and accurate perceptions of her ability at self-regulation. What is more, after studying in a rural school for the final part of her secondary study, she may have discovered that she had some gaps in her knowledge leading her to doubt her ability to succeed, at least to the high level that she may have set herself.

While independent learning may further develop as students experience English language learning in a Western context prior to the Foundation Studies course, it is possible that previous experience of independent learning in China may to some degree have buffered and supported Lisheng and Hui Xin during their Foundation Studies course and enabled them to achieve better academic outcomes than some others who were lacking that experience. Of

other students who lacked previous independent learning experience, only Yang's and Yi Sen's grades seemed to be unaffected by this new requirement.

Length of Time in NZ and Chinese Achievement Motivation
It is also possible that length of time in New Zealand before starting the course, combined with the experience of more relaxed New Zealand language classes (as compared to the continual pressure students mentioned in the years preparing for their university entrance exam), may have had some influence on student ability to self-regulate and their outcomes. It is likely that those who had recently arrived in New Zealand (Yi Sen, Yang, Hui Xin and Huaqing) still maintained the strong achievement motivation and ethic of effortful study they were imbued with in China and that this had an appreciable effect on their grades in the course.

Other students, who have studied for several months at English Language, a less pressured course, with perhaps, as Skyrme (2007) suggested, teachers who are much more accessible and empathetic than university lecturers, appear to have become more relaxed in their study habits. This can be seen by the fact that, of those who managed to improve or maintain their high grade, only Lisheng had been in the country for more than two months (and for him previous experience of independent learning may have mediated a factor which for other students seemed to produce more negative outcomes), and several who began with high grades but had been here six months or more passed the course with a decreased grade.

While this is only presumption, it is possible that the pressure of the Chinese education system is actually advantageous (at least to begin with) for those students attempting to study in our foreign culture. Once the effect wears off, as Volet and Renshaw (1996) have suggested it might, it would be interesting to see whether later learning is disadvantaged or whether the pressure of university study maintains the higher grades and effort since it has been suggested that long term, forcing oneself to maintain a extrinsic motivation to study may be deleterious to an individual's psychological health (Elliot & Moller, & Midgley et al., both cited in Fryer & Elliot, 2008; Sansone & Smith, 2000). However, whether this is also valid for students from a collectivist culture remains to be explored, as extrinsic motivation from parents and society is supposedly culturally acceptable to these students.

Filial Piety and Family Orientation
Filial piety and a family orientation are advantageous to learning and are part of the teaching of a Confucian Heritage culture (Ho, 1996; Salili, 1995). Hui Xin, with three siblings, maintained a very high family orientation and expressed filial piety and a desire to work hard to succeed and make her family happy. Filial piety may at least partly have explained her

strong increase in effort regulation when all other self-regulated learning strategies declined as she has a responsibility to her family to succeed. In Hui Xin's case this seems to have been effective.

Although other students scored high for filial piety, family orientation or both (as in the case of Fei) this does not appear to have had any significant effect on their grades. It may mean, however, that students such as Fei and Hui Xin (with siblings) and Yi Sen, Yi Jie, Huaqing and Min Min (most of whom are older students) may have at least attempted to work harder in order to succeed for their family's sake, and ability or other factors may have been the determiner as to whether that extra effort was effective or not.

Face

A number of students (including Min Min, Zhaopei, Yi Sen) scored highly for the Face trait of the CPAI-2, which seems to demonstrate a desire to avoid exhibiting any lack of ability to peers and teachers (Cheung, Leung et al., 1996). The first two students tended to use a performance avoid orientation, avoiding seeking help in class in order to hide their lack of ability (a behaviour somewhat detrimental to academic achievement).

However, Yi Sen, the most academically successful student, also scored very high on face for the CPAI-2 and experienced reasonably high test anxiety. In his case this may have meant that he wished to avoid appearing unsuccessful to others and thus worked harder to avoid that. Thus a high score for the face trait may not be detrimental to successful learning when it is combined with factors such as higher academic achievement and improving self-regulation; yet may prevent appropriate help seeking and learning for those who are less academically able and self-regulated.

Personality Traits: Dependability Scores – Optimism

Student scores on certain traits of the Dependability Factor (one scale of the CPAI-2 which includes optimism) appeared to have some connection with academic outcomes. The one trait which seemed to be most closely linked to academic struggle and failure was a 'very low' score for optimism (Min Min, Zhaopei and Dayi). While other students scored high or low on optimism, these intermediate scores did not appear to have any clear effect on their grades. Chemers, Hu & Garcia (2001) proposed that academic self-efficacy has a marked effect on a student's view of how they would cope with academic stresses and requirements in their first year at university and that 'optimism' has a weaker, but definite effect. Bandura (1997) mentioned that high optimism (Hui Xin) and high self-efficacy seem to be highly motivating and this 'contributes to psychological well-being as well as performance accomplishments' (p. 74) while low optimism and high self-efficacy are not so effective (Fei and Huaqing). Also,

low optimism may affect sustained efficacy (Huaqing). In this situation, Bandura suggested that some students may use 'anticipatory pessimism' (p. 76) as a motivator, because some self-doubt is beneficial when new skills are being learnt. However, when students are using previously learnt skills it is better to have high self-efficacy. Finally, he commented that 'In the long run, optimists fare better in psychological well-being and academic accomplishments' (1997, p. 77).

While self-efficacy is domain specific (Bandura, 1986) optimism appears to be a general trait which may affect what an individual expects to happen to them. Braden (1995) further suggested that optimistic or pessimistic attributional beliefs will have an effect on the way students approach and engage in learning. Those who have optimistic attributional beliefs are more likely to feel they are in control of outcomes (internal locus of control) and that they may be successful, whereas those who hold pessimistic attributional beliefs are likely to feel that outcomes are outside their control (external locus of control) and expect that they will not succeed. If optimism and pessimism as personality traits are connected to these differing types of attributional beliefs, then it is possible that students with pessimistic attributional beliefs are very cautious about what they undertake as they tend to expect failure and students with optimistic attributional beliefs may be much more willing to undertake challenging academic tasks as they fully expect to succeed in them. Both Jing and Hui Xin had very high optimism, yet one's grade increased and the others' declined slightly. The difference between these two students may have been the difference in intake and length of time spent studying in New Zealand and its effect on motivation. This trait of optimism appeared to be quite useful to help achieve successful learning.

What is more, very high optimism may ameliorate a decrease in self-regulated learning or in self-efficacy as appeared to occur with Hui Xin, while in contrast, very low optimism (or very high pessimism) appears to have the effect of making it difficult for students to believe they can persevere and succeed when their studies become difficult.

Other Dependability Traits
Other Dependability traits on the CPAI-2 seem to correspond to Conscientiousness traits on the NEO Big Five personality measure; traits which De Raad & Schouwenburg (1996) have named 'the main psychological resource in learning and education'. Zhang (2004) cited Costa and McCrae (1992) who linked high scores on the Conscientiousness Factor of the Big Five (similar to the CPAI-2 Dependability factor) to being trustworthy, responsible, setting goals and seeking achievement and thus using an achieving motivation. Two students who failed their course, Min Min and Zhaopei; and Dayi, whose final grade dropped markedly, reported

very low scores for a number of Dependability traits such as meticulousness, practical mindedness and responsibility. It is possible that some of these traits, meticulousness and practical mindedness, link to the area of self-regulatory learning; for instance, the meticulousness trait in the CPAI-2 may be linked to the planning, organisation and time management skills of the MSLQ. Also, high scores on these traits may be necessary for effective development and use of some self-regulatory strategies such as organisation and metacognition. None of these three students appear to score highly on this factor.

Mood

Affective factors may also have an effect on ability to self-regulate and student success in study. Low mood or depression may lower efficacy beliefs and this in turn will have a negative effect on motivation, study and achievement performance. All of this may result in a further lowering of mood (Bandura, 1997). This may have affected Dayi, whose optimism was very low and whose self-efficacy beliefs decreased dramatically over the course of the year (Bandura, 1997). Furthermore, De Raad and Schouwenberg (1996) found that high scores on the Neuroticism Factor of the Big Five (which may equate to the Clinical Factors of the CPAI-2, measuring traits including anxiety and depression) might have a negative effect on student grades at university. While the Clinical factor of the CPAI-2 was not differentiated, Dayi, Zhaopei and Min Min had the three highest scores for this factor.

Length of Schooling and Age of Students

The number of years of schooling a student has completed and whether they have completed their high school years is a minor factor which may have had an influence on the academic experiences and subsequent success of a number of students. It could be expected that older students might be more mature in their thinking and more able to cope with cultural changes and the need to self-regulate their learning. Pressley (1995) comments that self-regulated learning skills take time to develop and therefore those who have lived and studied for longer may have developed stronger and more efficient study and time management strategies to aid their learning. Nevertheless, although two older students (Yi Jie and Fei) both reported above average scores for self-regulated learning; their final grades were possibly lower than expected. This may be explained either due to lower ability in Fei's case, and the disadvantage of being out of the habit of study, for Yi Jie, which could have affected his final grades.

Those students with less or incomplete schooling are likely to be less academically prepared for university study, and perhaps also less able or persistent if they have left school because of difficulties there. Yi Sen, who was the most successful student, said he had had thirteen years of schooling in China, while Min Min, with only had ten complete years of schooling, had left

after or during her second year of high school to come to New Zealand. Compared to those students who had studied for the more normal eleven or twelve years of schooling and completed their university entrance exam she would have been less academically prepared. Nevertheless, for a more academically able student, this may not be such an issue, as indicated by Yang, who said he had only completed eleven years of schooling and came here at the age of seventeen. Yang started with excellent grades and managed to maintain them, whereas Min Min commented that she had not done well in her science course at high school and her grades were lower.

There therefore seems to be no clear evidence that age plays an obvious role in academic success or failure; however it may be possible that, for students with lower initial grades such as Min Min and Zhaopei, youth and possible accompanying immaturity do have a mediating effect on their success or failure and had they been a few years older they may have been more successful. From this small sample of students it would seem that high ability might be necessary for success when younger students enter the Foundation Studies course. Nevertheless, there is no proof that age in itself is the cause of their failure but perhaps the experiences which come with age may produce a difference in outcome (Alexander et al., 1989; Archer et al., 1999; Biggs & Telfer, 1987).

English Level

While adequate English skills in all areas (reading, writing, listening and speaking) are essential for successful study in a New Zealand university (Beasley, 1990; Wells cited in Kirby, Woodhouse & Ma, 1996), international students may not perceive the relevance of English to their future studies or their inadequate English ability; therefore language improvement is often not one of their goals. It would seem that students' language level on entry to the Foundation Studies course was no clear indicator of ability to succeed in their studies or of what their final English grade would be; nevertheless, low English scores, especially in the area of writing and reading, would appear to have adverse effects on academic success in a course which concentrates on reading and writing skills, perhaps preventing students from using more complex and effective study strategies and as Kirby et al. (1996) suggest, encouraging them to maintain previous memorisation strategies to cope with the processing of academic information with inadequate English.

Inadequate English for their chosen course of study appeared to produce stress for some students, preventing them from accessing some of the background knowledge needed to adequately self-regulate their learning in a new culture. Zhaopei, who entered with the lowest English score of C+, and Yi Jie and Min Min, who were studying Arts which demanded a

higher English level, perceived the course as difficult and thought that the other students knew more than them, especially in English. Furthermore, Chinese students often found English harder than students of other nationalities, perhaps due to the grammar and textbook based English learning that is the norm in China ('Education Reform', 2002), and Zhaopei, a science student, found dealing with the scientific vocabulary and other language demands of the course a struggle for him, as he commented in one of his interviews.

Despite these difficulties with English which were mentioned by all eleven students, most of them managed to pass their English paper although these grades were almost always lower than for other subjects they had studied.

Also, in general, those whose scores in English decreased were mostly students who had spent between 90 and 240 days in the country before commencing the course, while those who had spent less time in the country appeared more skilled at maintaining their grades. Again, this could be due to the latter students still maintaining a Chinese achievement motivation, rather than having adapted to New Zealand study habits (students adapt rapidly, according to Volet and Renshaw, 1995; 1996) or the possibility that a Level Three English language pass is insufficient to deal adequately with English requirements of the English and Study Skills course. Does this indicate that English in Foundation Studies is too difficult compared with English Language classes; that students do not see its relevance and thus do not work hard at it; or that some other factor is at work?

Epistemological Beliefs

It has been proposed that a student's level of epistemological beliefs has an effect on a student's degree of self-regulated learning as only those who view learning and knowledge as more than the acquisition of immutable facts are likely to see the relevance of the more sophisticated types of study strategies and if they do not, are likely to maintain a regime of rote learning to acquire more knowledge (Hofer & Pintrich, 1997). For these students those who reported more advanced beliefs were more likely to report utilising more complex learning strategies, while those with absolute beliefs were more likely to use memorisation strategies; however this was not always the case.

Therefore, epistemological beliefs, researched using the MER questionnaire and interview questions, seem to have little obvious effect on students' self-regulated learning. It has been noted previously that Qian & Pan (2002) found that Chinese students' learning success and change in epistemological beliefs appeared to be quite separate and this research does appear to show that the epistemological beliefs of Mainland Chinese students do not follow the

stages of belief prescribed by Baxter Magolda, King and Kitchener and others. It would seem that Mainland Chinese students initially may have beliefs about knowledge which are quite advanced and at the same time have another set of culturally bound educational beliefs where the teacher has responsibility to provide knowledge and ensure it is learnt, the student's role is to be diligent and pay attention in class and a peer's role is negligible in learning. This seemed to be the case for students such as Yi Jie, Huaqing, Zhaopei and Jing. The two knowledge beliefs (cultural and personal) appear to go hand in hand and responses often seem to depend on what the student is thinking or is being asked about at the time. If students are thinking about exams and academic success then they will espouse cultural absolute viewpoints on learning and knowledge. However, especially at the beginning of the course, before they experienced the pressure of the course they often expressed quite high epistemological beliefs about these areas in the independent to contextual range (Baxter Magolda, 1992).

Other students, such as Yi Sen, Yang and Dayi, who were all high ability students as measured by high school leaving grade and successful academically, only expressed absolute beliefs which Western theory proposes to be less developed beliefs about knowledge which are linked to surface learning (Hofer & Pintrich, 1997). Nevertheless, it is possible that this was due to being interviewed by a teacher in an educational setting where they perceived that cultural beliefs about learning should be expressed and perhaps also because of a clear achievement motivation for the more successful two.

Length of time studying in English Language classes and the experience of different teaching styles does not appear to have any effect on students' epistemological beliefs; however exam pressure may have an effect. Some students appeared to begin by expressing transitional or independent beliefs about knowledge, but then would say that for exams they would believe whatever the teacher told them. These beliefs sometimes remained the same in the second questionnaire and sometimes increased. One student (Yi Jie's) beliefs appeared to regress as if learning had become too difficult and this was one way of reducing the dissonance and difficulty by reverting to a less demanding belief about knowledge in order to effectively pass the course (Perry, Jr., 1999). However, it may simply be that students in the second questionnaire and interview were more focused on exams and thus did not mention their other non-culturally tied beliefs about knowledge. (This issue is developed more fully in Appendix C).

Zhang (2004) also found that those Mainland Chinese students who saw themselves as more creative, such as Min Min, were less absolute in their thinking. Students who rated their creative abilities highly tended to have higher cognitive/epistemological development

(independent or contextual) and were less likely to utilize a surface approach to learning and more likely to use a deep approach (Schutz, Pintrich, & Young, cited in Pintrich & Garcia, 1994). Zhang also suggested that if students had lower self-efficacy then they would feel safer with right and wrong answers and reliance on the teacher; this may have a strong effect on student epistemological belief responses as a number experienced a decline in self-efficacy to quite low levels as the course progressed; for example, Dayi, Zhaopei, and Fei.

Modelling, according to social cognitive theory, aids growth of learning (Bandura, 1986). Lisheng appeared to have higher beliefs about knowledge compared with other areas of beliefs. This may have been partly due to his philosophy teacher father modelling more abstract thinking when discussing philosophy with him (especially since Lisheng mentioned in his first interview that he would not always agree with his father at these times). These higher beliefs could also help explain his desire to do independent research and study, since Hofer and Pintrich (1997) suggest that those with higher epistemological beliefs can see that learning is more than the acquisition of knowledge which is always indisputable and therefore desire to discover and make their own decisions about what they believe. Those with absolute epistemological beliefs such as Yang, in contrast, can see no reason to discover knowledge for themselves, if the facts are known, are provided by the teacher or voice of authority, and are indisputable.

Furthermore, if Chinese students are brought up to believe ability is changeable and that lifelong learning, moral improvement, and so on, are desirable (Li, 2001) then perhaps these cultural beliefs actually encourage beliefs in knowledge being relative to the context (especially in those with higher academic ability who are thus presumably less concerned about following the teacher). At the same time, for less able students and/or those with weaker English seeking to succeed academically, those with a strong achievement motivation and family orientation, following the teachers' notes and ideas diligently (which appears to be an absolute epistemological belief) may be the only way they feel they can succeed.

Summary of Factors helping or hindering Self-regulated Learning
None of the above factors would appear to aid or hinder self-regulated learning independently; however, a combination of several of them working reciprocally within each student may have affected their ability to self-regulate their learning either positively or negatively.

The personal factor of a Confucian Heritage cultural background with its emphasis on diligence and effort in learning due to the importance of education may have affected these

students' behaviours and beliefs such that when learning in a new culture became difficult they employed their effort regulation behaviours and persisted with learning despite their difficulties. Furthermore, filial piety beliefs from within this culture and a high family orientation in their CPAI-2 measures may have encouraged this behaviour of persistence and determination to succeed for their family's sake. This may also be the case for those who scored high on Face for the CPAI-2 as desiring to avoid appearing less skilful to family and those around them may have resulted in an additional requirement for persistence (or the avoidance of challenge). These students may not always have utilised effective learning strategies yet were determined to succeed.

However, despite this persistence, for some students lack of personal appropriate background knowledge for learning in a New Zealand educational environment may have meant they were unable to make appropriate changes to their learning behaviours.

In addition, those students with higher academic achievement as measured by grades were more likely to maintain these grades and, as suggested in the research (Braden, 1995; Zimmerman & Martinez-Pons, 1990), as more able students may have been more able to make use of effective self-regulatory learning strategies and adapt to them more rapidly than less able students.

Along with ability, students' age and length of schooling in China (personal factors) may have had some impact on their self-regulatory behaviours, since older students who had completed high school would be likely to be more mature, more able self-regulators (SRL is developmental; Pressley, 1995) and academically prepared for their future studies than those who were younger and may not have successfully completed high school studies. This completion of high school might be seen as a step on the way to dealing with the transition to new learning.

Personal English level might also have an effect on the ability to self-regulate learning as those with low English levels may need to spend longer understanding their studies, causing them to struggle with the new educational environment, to perceive their workload to be heavier, to have difficulty organising and managing their time; and therefore all of this may have affected their behaviours, resulting in them maintaining strategies learnt in China and perhaps their possibly lower self-efficacy beliefs as well.

Furthermore, students who had experienced some previous independent learning may in the process have gained some (large or small) skill and practice in the behaviours of managing

their time without parental and teacher supervision and of organising themselves and deciding how to initiate learning. As a result this personal experience may have brought them closer to the independent learning abilities of New Zealand students as they enter university and may have positively affected their behaviour in the Foundation Studies course, despite the fact that, like New Zealand students, they were encountering the transition to a more independent learning environment where even New Zealand students struggle to begin with.

Difference in intake with its accompanying differences in student attitude, workload and breaks from study is an environmental factor which meant that some February students relaxed their diligent CHC learning behaviours and saw no need to change their learning strategies since learning seemed easier and less pressured. For the June intake, in contrast, it would seem that the pressure due to shorter breaks may have meant they were too busy to change or adopt new learning strategies, yet the higher academic motivation of this intake may have helped them succeed.

Furthermore, the students' length of time in New Zealand prior to starting the course (a personal factor for each student) may have affected students' beliefs about learning in New Zealand for those who studied initially in English Language classes as mentioned above and in the process they appear to have adapted to a more relaxed New Zealand classroom style. This seems to have reduced their strong achievement motivation behaviour compared with those students who had just arrived in the country and affected their ability to readapt to the effort and perseverance needed in the Foundation Studies course (another learning transition for them and another need for them to readjust their beliefs about learning). In contrast, those who had just arrived would presumably have retained their achievement motivation and had only the transition to a New Zealand tertiary educational culture to adapt to; a less demanding change than for those who had been here longer.

It seems reasonably clear that for three students very low optimism (and possibly mood) may have made it difficult for these students to contemplate the possibility of academic success in the new environment; instead they may have been unable to believe they had the ability to change and therefore have been unwilling or unable to persevere or to adapt their learning strategies; and continued to struggle with their studies. Other personality areas of very low practical mindedness, and responsibility, combined with low to very low meticulousness may have affected their ability to self-regulate their learning and meant that they were unable to improve organisational and time management behaviours and beliefs that they could be responsible learners.

Finally, it is unclear whether epistemological beliefs had any effect on their ability to self-regulate their learning; however, it is possible for a few students that as they saw the need to change in their new learning environment more advanced beliefs may have helped to facilitate this change in learning strategies.

Behavioural

Factors

Research Question One
SRL
*Increased** SRL scores
*Decreased** SRL scores + **increased effort regulation**
*Marked decrease** in SRL scores – no increase in effort regulation
*High short term goals** and **achievement motivation**

Personal

Factors

Environmental

Factors

Research Question Two
*High **self-efficacy**
*Personality** – very low Dependability factors of optimism, responsibility, meticulousness and practical mindedness
*Age**
*Affect** (low mood or high CPAI-2 Clinical factors score)
*Higher previous academic achievement** (ability)
*Confucian Heritage cultural background** – filial piety/family orientation/siblings/face
*Mainland Chinese educational system – **effort and persistence**
*Length of time in NZ** prior to starting the course
*Experience of **Previous independent learning**

Research Question Two
*Intake** (February or June) – attitude and workload pressures
*Type of teaching or **Helpful teacher**

Figure 5.3: Key Behavioural (SRL), Environmental and Personal factors affecting Mainland Chinese students' academic outcomes in the Foundation Studies Programme.

Figure 5.3 above summarises the environmental, behavioural and personal factors of Bandura's reciprocal causation diagram which have been examined by Research Questions One and Two and highlights the possible answers to these questions.

With those Findings as answers to Research Questions One and Two, it is now timely to consider Research Question Three.

Research Question Three

3. Is the North American theory of SRL applicable to learning for students from Mainland Chinese culture, and if so, which factors within the theory are more important to their academic outcomes?

It would appear that the theory of self-regulated learning is applicable to Mainland Chinese students beginning their learning in a New Zealand university since, in general, those who reported higher or increased self-regulatory behaviours and beliefs were more successful in the course. However, examining these eleven students' experiences it would seem that the learning and behavioural beliefs of a Confucian Heritage culture may have an effect on the way this self-regulation is expressed and which factors within the concept of self-regulation play key roles in academic success for these students. While Western (North American) SRL theory says that self-efficacy is a key factor in academic success (Boekaerts, 1999; cited in Schunk, 2005; Zimmerman & Risemberg, 1997), for Mainland Chinese students it would appear that their cultural behaviour of filial piety (honouring one's parents and those in authority; Salili, 1995), belief in the high importance of education for future prosperity (Li, 2004), that effort can improve ability (Hau & Salili cited in Salili, 1996) and thus students must persist with learning (effort regulation; Li, 2002) may possibly have a greater role in these students' academic success that self-efficacy.

Self-efficacy may still be important but given the experiences of these students in a foreign culture where learning is also foreign, the basic CHC beliefs about learning and education appear to have become most salient and affected their outcomes, despite marked drops in self-efficacy for a number of them. As a result, self-efficacy appears to be less important in these particular students' academic success and this may be at least partly due to the belief that it is inappropriate to demonstrate pride in your abilities to those in your in-group (Arnett, 2001), unlike in North America where it is acceptable to be proud of your achievements (Arnett, 2001).

Figures 5.4 and 5.5 illustrate this possible difference in importance of SRL factors among different cultures.
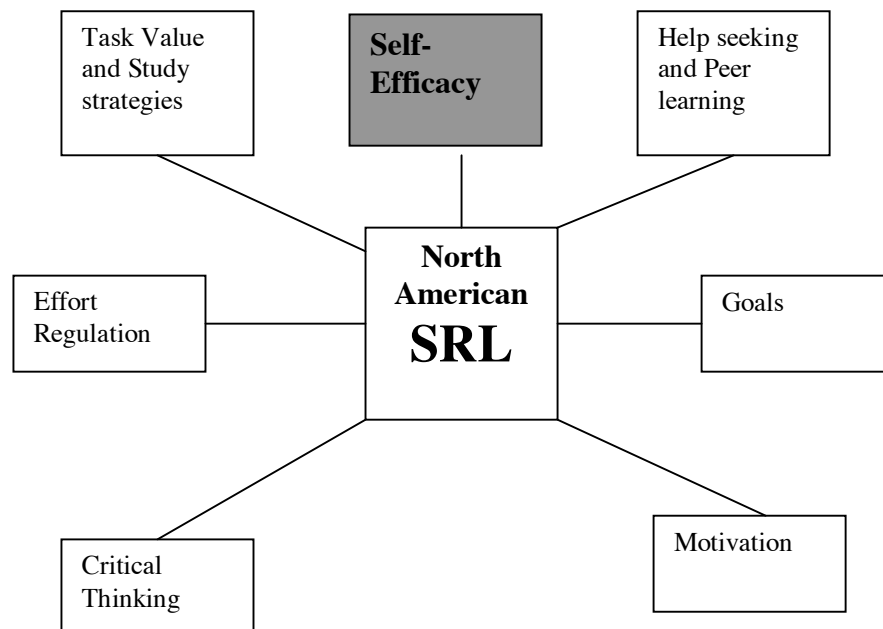
Figure 5.4: Self-regulated Learning in a North American culture (bold font and shading demonstrates a key factor: Bandura, 1997)
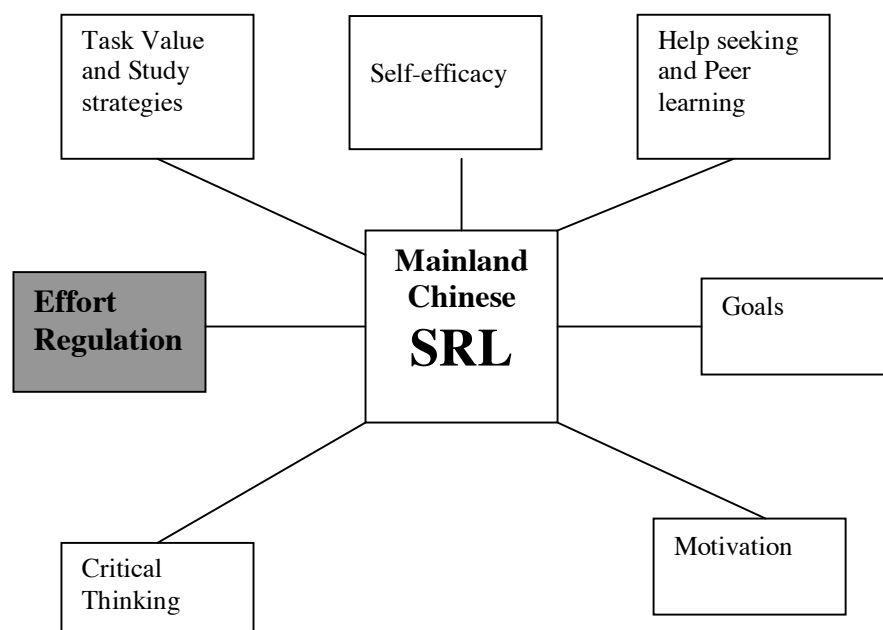
Figure 5.5: Self-regulated Learning in Mainland Chinese culture (bold font and shading demonstrates a possible key factor)

Therefore, effort regulation (with its associated persistence when study is difficult or boring) seems to be the key factor in academic success for the majority of these particular eleven students from Mainland China. Whether this will change as they continue through their undergraduate studies is unclear. It is possible that this use of effort regulation is more salient during this first year of study as students discover what is required of them and will decrease as they become more acculturated to Western university ways of learning. At that time, perhaps the adaptation that Volet (1999a; 1999b) mentioned may mean that self-efficacy becomes more prominent in their success over time in a Western educational system, however, it is also possible than the beliefs and behaviours they were raised with will remain as key factors in their academic success. Given that some students are more individualistic than others, the effect may be different for each student. In this area future research would be valuable to explore the changes in these students' self-regulated learning behaviours over the longer term.

Furthermore, while SRL theory suggests that study is more successful if study strategies are adapted to the learning requirements (Pressley, 1994; Zimmerman, 1986), unchanging study strategies appeared to have little effect on student achievement at the Foundation Studies level for the more able students, especially for those who were able to view learning as a repeat of, or similar to, learning in China. This may have meant they experienced no dissonance and thus saw no need to change and therefore memorisation of information was still effective, especially if they had low English skills. Further research will be required to explore whether this will remain the same at undergraduate level.

Also, the most effective form of motivation for learning for these students may be different to the intrinsic motivation said to be best for effective learning (Vansteenkiste et al., cited in Zimmerman & Schunk, 2008), since those students with an achievement motivation (possibly performance or mixed goals) appear to have been most successful. However, the theory that mastery goals develop enjoyment and deeper learning yet probably lower grades seems to be applicable (Fryer & Elliot, 2008; Zimmerman & Schunk, 2008), as does the theory of performance goals producing higher grades (Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002).

Despite these differences, within this research certain factors appear to have the same effects that the North American theory of SRL suggests. For example, goal setting still seems to be an important factor as demonstrated by the fact that those with clear, specific, short term, achievable but challenging goals (Schunk, 1994) were most academically successful, while

those with no goals, unclear short term goals, reduced goals, or only long term goals were less successful. Another factor which seems to have a similar effect is help-seeking since those students who made use of this had higher grades (Newman, 2008; Pintrich et al., 1991) than those whose help-seeking behaviours decreased. Nevertheless, peer learning may have been less effective as the rules of non-collaboration with assessed work in the course may have made this difficult.

All of these students struggled to some extent, however it seemed that older and more able students struggled less while younger less able students struggled more, perhaps because the concept that self-regulated learning is developmental (Pressley, 1995; Watkins, 1996; Zimmerman & Martinez Pons, 1990) is also valid within a Confucian Heritage culture. In addition, this would appear to support the idea that students with some experience of previous independent learning would to some degree or other be more prepared for future self-regulated learning.

Therefore, as a general theory of learning, SRL is applicable to these students from Mainland China since higher reported SRL skill levels appear to aid their academic achievement, while lower levels appear to make success more difficult. However, for these particular students the key behaviour of self-efficacy seems to be less important to this success than effort regulation which is a behaviour more consistent with their cultural beliefs about learning. Thus while high self-efficacy may be applicable to a North American culture (see Figure 5.4 on page 201) with its emphasis on individuality and high self-esteem (Arnett, 2001), the different cultural background of Mainland Chinese students does appear to elicit different behaviours from within SRL to achieve academic success (see Figure 5.5 on page 201). Further research with larger numbers of students would be necessary to strengthen this supposition, and in the future it may be necessary to develop an 'emic' questionnaire for SRL in these Confucian Heritage cultures.

In addition, future research is required to investigate whether this theory is also applicable for students within Mainland China itself. This may depend on how learning is experienced at university level in China; whether it is teacher led or independent.

Finally, the question still remains as to whether the behaviours these students report are self-regulated or externally regulated learning behaviours? It is suggested that for those with large decreases in their MSLQ score the initial behaviour is probably external regulation which students need to internalise to continue to be academically successful. Further research would also be useful in this area.

It must be repeated at this point that while the answers to these three research questions appear to be valid and strong within the data collected from these particular eleven students, they cannot be seen as representative of the larger group of Mainland Chinese students studying in New Zealand or elsewhere. For this reason, further research with a larger group of Mainland Chinese students using these findings would be invaluable.

Chapter Six

Conclusions

Confucius (551-479-B.C.) said, 'If you give a man a fish, you feed him for a day

If you teach a man to fish, you feed him for a lifetime' (quoted in Zimmerman, Bonner and Kovachs (1996) preface to their book entitled 'Developing self-regulated learners; Beyond achievement to self-efficacy'; p. vii). Thus, CHC beliefs appear to encapsulate and encourage independent, self-regulated learning; however, for present day students from Mainland China with their intensive and competitive examination system, this belief may be ignored from necessity and the pressure of their educational system.

<u>Overview of research to this point</u>

From this research, it would seem that while there are no clear and easy answers as to what makes a student from Mainland China academically successful when he or she comes to study in a Western university, the ability to self-regulate their learning appeared to have an important role in their academic success or failure. Thus the North American theory of SRL seems to be applicable to these students, although for the great majority of these eleven students researched an increase or decrease in effort regulation appeared to play a greater role in this success or failure than self-efficacy as has been postulated by this North American theory.

In addition, in the first six months to one year in their new culture these students encounter many transitions, changes, challenges and requirements to adapt. As laid out in social cognitive theory, factors from a students' environment (past and present), from personal areas of their life and their behavioural responses to each of these appear to work reciprocally to influence each student's experience. The interaction of these personal and environmental factors, such as previous academic achievement, personality factors in the areas of optimism and dependability, their age, length of time in New Zealand, previous independent learning experience, and the culture and workload of the particular intake in which they entered the course, may have aided or hindered these students' ability to self-regulate their learning.

Furthermore, as each student has quite varied and different environmental, personal and behavioural experiences (despite belonging to a collectivist, Confucian Heritage culture) their responses and outcomes are often quite dissimilar. Because of these dissimilarities, it is

important to consider implications for student learning in the areas of classroom teaching, programme organisation and planning at university level and above.

In his article 'Overview of social cognitive theory and self-efficacy' Pajares (2002a) expands Bandura's (1986, 1989, 1999) concept of reciprocal causation to include not only intra-individual reciprocity, but also inter-individual reciprocity. As Pajares (2002a) explains:

'Using social cognitive theory as a framework, teachers can work to improve their students' emotional states and to correct their faulty self-beliefs and habits of thinking (personal factors), improve their academic skills and self-regulatory practices (behaviour), and alter the school and classroom structures that may work to undermine student success (environmental factors).'

This final chapter will endeavour to use this framework to suggest potential answers for the fourth question posed by this research. Figure 6.1 on the following page is a representation of this reciprocity at both the intra- and inter-individual levels for these eleven students.

Behavioural

Factors

Research Question One and Three
***Increased** SRL scores
***Decreased** SRL scores + **increased effort regulation**
***Marked decrease** in SRL scores – no increase in effort regulation
***High short term goals** and **achievement motivation**

Personal

Factors

Environmental

Factors

Research Question Two
*High **self-efficacy**
***Personality** – very low Dependability factors of optimism, responsibility, meticulousness and practical mindedness
***Age**
***Affect** (low mood or high CPAI-2 Clinical factors score)
***Higher previous academic achievement** (ability)
***Confucian Heritage cultural background** – filial piety/family orientation/siblings/face
*Mainland Chinese educational system – **effort and persistence**
***Length of time in NZ** prior to starting the course
*Experience of **Previous independent learning**

Research Question Two
***Intake** (February or June) – attitude and workload pressures
*Type of teaching or **Helpful teacher**

Research Question Four
***Teacher Influence**
***Programme Influence**
***Institution Influence**

Figure 6.1: Overview of the reciprocal effects of SRL and other personal and environmental factors affecting Mainland Chinese students' outcomes (including inter-individual reciprocity from the university to the student).

Research Question Four

4. In what ways can the University of Canterbury (a Western university) work to influence and improve the self-regulated learning behaviours of these students?

In order to facilitate this task of examining the inter-individual reciprocity proposed by Pajares (where individuals and organisations external to the student, such as the teacher, may have an effect on their personal, behavioural and environmental factors), Table 6.1 on the following page is provided to clarify which of the intra-individual environmental, personal and behavioural factors identified by research questions one and two may be affected or improved by different levels within the university: the teacher, the programme and/or the tertiary institution and which cannot be controlled by these three levels. Note that within this table (P) designates a personal factor; (B) designates a behavioural factor and (E) designates an environmental factor.

It should be pointed out that the teacher is probably the one most influential to produce change in a student in any of these three areas (personal, behavioural and environmental), as the one with the most personal time and interaction with the student, and that while the programme and the institution may also be able to make influential changes these appear to be fewer and more difficult to implement. Therefore it is important that the programme and the institution enable the teacher to acquire skills in the areas of academic study skills and self-regulated learning in order to be more effective in helping these students succeed at their studies.

Area	Student Factors able to be influenced	Factors unable to be influenced
Teacher	Face (P) Mood/ optimism (P) Epistemological Beliefs (P) English Level (P) Self-efficacy (P) Intrinsic and Extrinsic Motivation (P) SRL/ Decreased SRL (B) Effort Regulation (B) Goal setting (B) Help seeking/ peer learning (B) Task Value and Study Strategies (B) Time Management (B) Critical Thinking and Previous knowledge (B)	CHC (E/P) Intake (E) Workload (E) Previous Independent Learning (P) Ability (P) Length of time in NZ and Chinese achievement motivation (P) Filial Piety and Family Orientation (P) Dependability Scores (P) Length of schooling and age of students (P)
Programme	Intake (E) Workload (E) Length of schooling and age of students (P) English Level (P) Self-efficacy (P) Intrinsic and Extrinsic Motivation (P) SRL/ Decreased SRL (B) Help seeking/ peer learning (B) Effort Regulation (B) Time Management (B) Task Value and Study Strategies (B)	CHC (E/P) Previous Independent Learning (P) Ability (P) Length of time in NZ and Chinese achievement motivation (P) Filial Piety (P) Face (P) Dependability Scores (P) Mood (P) Epistemological Beliefs (P) Goals (B)
Tertiary Institution	Ability (P) Length of schooling and age of students (P) English Level (P) Motivation (P) SRL (B) Task Value and Study Strategies (B) Goals (B)	CHC (E/P) Previous Independent Learning (P) Length of time in NZ and Chinese achievement motivation (P) Filial Piety and Family Orientation (P) Face (P) Dependability Scores (P) Mood (P) Epistemological Beliefs (P) Intrinsic and Extrinsic Motivation(P) SRL and Decreased SRL (B) Help seeking/ peer learning (B) Time Management (B)

Table 6:1 – Student and course factors identified by this research which may and may not be able to be influenced by the teacher, the programme and the tertiary institution (P = Personal; B = Behavioural; E = Environmental).

Recommendations and Implications

The three areas of influence detailed in Table 6.1 will now be individually developed more fully, recommendations made and their implications for the student, teacher, programme and institution explained.

Behavioural

Factors

SRL/decreased SRL; effort
regulation; goal setting; help-
seeking/peer learning; task value and
study strategies; time management;
critical thinking and previous
knowledge

Personal   **Environmental**

Factors   **Factors**

Face; mood/optimism;
epistemological beliefs; English
level; self-efficacy; intrinsic and
extrinsic motivation

Teacher: Classroom climate;
teaching style.

Figure 6.2 – Inter-individual Reciprocal Causation – **Teacher influence** - adapted from Bandura
(1989, 1999); Pajares, F. (2002a).

Teacher Influence

While the teacher is unable to influence or control the previous educational and cultural background and experiences that students bring with them in a course, there are yet a number of factors examined by this research which may to some degree be influenced by the teacher in the classroom.

Personal Factors

Personality

Within a student's personality a number of factors may possibly be ameliorated by the teacher. For example, 'face', or the student's need to look good before others, may make them adverse to experimentation and trying new things. Thus, the teacher's role may be to encourage students to be willing to experiment with new strategies and styles of learning. In addition, the teacher can encourage students to view failure as a stepping stone to greater learning and to perceive success as more than achieving high goals. The types of tasks the teacher provides and the type of feedback given will affect these perceptions. Feedback that is graded with little explanation of how to improve skills and understanding may maintain fear of failure, whereas positive and developmental feedback with expectations of correction and improvement may decrease students' fear and enable risk taking and deeper learning.

Furthermore, while it is possible to teach optimism, according to Seligman (1992), there is probably not time within the course for this; however, the teacher may help to alleviate low mood due to stress and culture shock and instil feelings of self-efficacy or optimism by cultivating a welcoming and accepting classroom climate and a graduated learning process which allows the students to develop knowledge and skills step by step. Nevertheless, this classroom environment should not become so relaxing that students relax their achievement motivation and work is not achieved. The teacher also has a role here in referring students who they fear are struggling with stress, culture shock or low mood to the student advisor or counsellor for more help and support.

Epistemological Beliefs

This research appeared to confirm that conducted by Zhang and Hood (1998) and Zhang and Watkins (2001) which demonstrated that the epistemological beliefs of Mainland Chinese students appear to be the reverse of those of North American students. If these beliefs actually are more 'mature' than those of North American students, then by providing experiences and learning which maintain rather than change these beliefs in a 'downward' direction, teachers may be able to play a role in protecting these beliefs. (Further research is clearly needed in this area to ascertain whether these belief levels are in fact correct; whether the MER as an etic questionnaire from another culture is accurately measuring the knowledge beliefs of Mainland Chinese students and whether in their learning culture these beliefs have the same validity or mean something quite different. Furthermore, does this difference between cultures call into question the validity of this measure for North American students?) Whilst a great deal about Chinese students' epistemological beliefs is unknown, it may be that the beliefs of Western learning or the stresses of a new culture may cause some students to develop more 'absolute' beliefs about knowledge. If

this is the case and this change is disadvantageous to their future learning, then teachers may be able to provide support for students' initial beliefs and social and empathetic support in the classroom in order to reduce the effects of the new culture and stress which may play a role in initiating these 'downward' or 'regressive' changes.

English Level

Teachers may also encourage continual development of students' English skills. This is most beneficial if it is carried out by instructors in all subjects, so that students may see that vocabulary and strategies are relevant to all areas of study. This might be done by providing chances for feedback on language issues both written and spoken, and by facilitating interaction with New Zealand students where possible.

Behavioural Factors

Self-regulated Learning

To gain knowledge of students at risk, it may be necessary for teachers to examine student profiles (their length of schooling, age, ability, English level and other easily accessible information about each individual). Then, if most or a large number of factors are the opposite of optimum (as demonstrated by this research) then these students should be considered to be high risk and safeguards, such as teaching them time management, goal setting, building their self-efficacy for learning, and so on, should be implemented rigorously. However, in order to prevent these students feeling singled out and inadequate, these skills should be closely integrated into all subjects and classes and provided to all students equally.

Instructors are in a valuable position to teach and encourage students to develop SRL skills by appropriate classroom tasks and homework expectations. Explaining the self-regulatory cycle to students and teaching them the necessary skills may enable them to feel they have more personal control of their learning and should increase their motivation to continue learning in a self-regulated manner (Zimmerman, Bonner, & Kovachs, 1996). These authors also advocate teaching self-monitoring of skills and behaviour as well as improving self-efficacy beliefs. If teachers are able to recognise those whose SRL scores are at risk of decrease, they may be able to provide additional support in the form of encouragement and scaffolding to enable students to maintain their SRL processes despite their struggles.

Sub-areas of SRL which appear to be important in the academic outcomes of these students can also be encouraged and developed by specific strategies. Firstly, while Chinese students are very effective at regulating their effort in the face of stress and difficulties, this does appear to deplete

their energies, thus encouragement from the instructor that what they are doing has strong possibilities of success may enable them to continue to demonstrate perseverance.

Furthermore, self-efficacy, although it appears to be of lesser importance for these students, is still valuable and may be enhanced by providing step by step classroom tasks and skills in order that students realise they can succeed, and thus build efficacy (Zimmerman et al., 1996). To facilitate this, set tasks should not be too difficult, yet should retain an element of challenge. Also, teaching students improvement strategies and monitoring these improvements should improve their self-efficacy. For example, teachers and peers may model skills and then provide scaffolding or support to the learners as they practice these new ways of learning. Checklists and charts may be used to facilitate student monitoring of their developing skills, self-efficacy and results (Zimmerman et al., 1996). Also, if students feel self-efficacy for an activity and enjoy it, this should lead to interest in the activity.

To help create interest, students should be encouraged to set themselves personal standards of mastery with proximal sub-goals. Goal setting of specific short term goals which were mildly challenging seemed to have the greatest effect for students in this research, thus teachers should teach and encourage these goal setting skills. This could be done by modelling proximal goal setting and attempting to enable and encourage students to develop mastery goals in learning, which, according to Bandura (1997, p. 219), can create intrinsic interest and enjoyment in a task. Furthermore, self-efficacy is built first by achieving proximal goals leading to challenges in new mastery experiences, finally resulting in satisfaction and increased interest. A certain level of self-efficacy (medium to high) may be necessary before interest can begin to develop (Bandura and Schunk, 1981, cited in Bandura, 1997). This self-efficacy will also help students to persist when study becomes difficult.

Helpseeking and peer learning, which have been demonstrated to be useful SRL skills, are two other areas which may aid student persistence. Therefore, to facilitate their use in an appropriate manner, the instructor may begin by explaining their usefulness and how to make use of them in a Western setting without cheating on assessments. The instructor should also be available to provide advice to students in the following ways: by discussing issues or progress during interviews timetabled in to a student's week (where the instructor or the student can call a meeting); by having clear office hours; ensuring students have their e-mail address; and answering any reasonable queries promptly. Providing opportunities for peer work and collaboration in class will also enable students with little outside assistance to benefit from this help and where there are

higher ability students within a class, lower ability students may benefit from their peer modelling (Zimmerman et al., 1996).

Bandura (1997) has suggested that rewards may provide a challenge resulting in increased efficacy, interest and possibly deep learning. Therefore, while there is some dispute about whether rewards are effective, offering rewards for improvement in a skill or task may lead to increased self-efficacy and intrinsic interest. Also, it may be advantageous for teachers to encourage interest development by providing choice in what a student learns where possible, opportunities to learn independently and other motivational forms of teaching bearing in mind that the Western theory of motivation may not be valid for those from a different culture.

Nevertheless, as it seems from this research that extrinsic achievement motivation is highly beneficial to aid successful grades when students are struggling, it would appear advantageous if teachers aid students to maintain some extrinsic motivation, while at the same time encouraging enjoyment of tasks and learning. As an example, since most students viewed English as difficult and unconnected with what they were interested in, it may be invaluable to merge English instruction and study skills with these other more interesting subjects to provide the relevance and interest to motivate their acquisition of the more robust English skills needed for university work. They are more likely to value those skills if their acquisition facilitates deeper learning in their subject areas of interest.

In addition, another common refrain was the boredom science students expressed at the fact they were repeating a lot of work that they had probably just spent three years learning thoroughly. Consequently, they may have held little value for their tasks. While some admitted that they realised they needed the English, few found their classroom lessons interesting, yet most agreed that laboratory work, of which they had previously not had much experience, was very enjoyable. Perhaps incorporating more laboratory work or new or extension information (for those who understand the basics fully) into the curriculum would provide greater intrinsic interest for those students who find the work repetitive and thus lose interest in all but the practical work. This might be advantageous to learning and increase task value. Other possibilities are perhaps to reduce the theoretical requirements of the course and to provide more laboratory work and experiments ensuring that all necessary language skills are covered in laboratory reports if possible. Whether this is actually possible must be a subject for discipline teachers to discuss as they alone know what needs to be covered and understood. It also needs to be pointed out that this area of the University of Canterbury Foundation Studies course has changed since this research

was carried out and more research needs to be carried out to discover whether the changes have in any way addressed these issues.

The teacher is invaluable as a model of and instructor in important study strategies. Time management can be taught and required throughout the course by expecting students to plan their assessment timetables; regularly checking student actual time management practices and capability; aiding them to see how they waste valuable time; encouraging them to commence their work earlier and provide self-rewards for effective planning and time management. As a number of students, especially some of the weaker ones, appeared to use only memorisation as a learning strategy and often without the expectation of understanding, it may be useful for instructors to teach and model new study strategies, such as elaboration and provide tasks that utilise and require these strategies. Furthermore, feedback on students' use of these strategies which enables them to see the benefits of using them may encourage their continued use and provide the students with a greater range of strategies as they advance through their university studies (Zimmerman et al., 1996). Effective strategies for learning should be taught within those areas students value and they should be shown how to transfer them to other areas as well.

As an aid to reducing reliance on memorisation and encouraging the use and learning of higher level study strategies, subject tasks should be considered carefully in order to avoid tasks requiring too much memorisation (except initially) and to utilise learning tasks that require connecting and development of ideas and critical thinking. While memorisation is still necessary for vocabulary learning, vocabulary should then be used in reading to reinforce that learning. Over the length of the course, learning should be altered so that it gradually requires more critical thinking and provides tasks that require higher order study strategies. In addition, it would be advantageous to teach self-regulated learning strategies in the context of lessons and then repeat them in several different contexts to aid transfer.

If a teacher has some knowledge of teaching in China and attempts to establish connections for students initially by explaining differences and misconceptions as they arise and then later encourages them to make their own connections, students' critical thinking skills and ability to use previous knowledge may not decline. While this might not have an immediate effect and at risk students might remain at risk, it may yet facilitate understanding of our Western university system for other more able students during the course of the programme and thus prepare, and enable them to adapt successfully to first year university studies.

Table 6.2 below provides a summary of strategies the teacher may use to influence and improve students' self-regulated learning ability.

Area	Able to Influence	Strategies to Influence SRL
Teacher	Face	*Teacher support and feedback; encourage a positive view of failure
	Mood/ optimism	*Provide a welcoming classroom climate
	Epistemological Beliefs	*Support for and maintenance of initial beliefs
	English Level	*Encourage English development by feedback, integration and interaction with native speakers
	SRL/ Decreased SRL	*Encourage and teach skills with scaffolding
	Effort Regulation	* Provide encouragement
	Self-efficacy	*Provide challenging tasks leading to success
	Goal setting	*Teach and model specific proximal mastery goals
	Rewards	*Encourage students to reward self for improvement etc.
	Intrinsic and Extrinsic Motivation	*Provide learning choice and independence, also maintain extrinsic motivation (initially)
	Help seeking/ peer learning	*Explain usefulness and provide opportunities to obtain assistance
	Task Value, Study Strategies and Time Management	*Link English skills to tasks they value; provide new learning opportunities; model and teach new strategies; structure subject tasks to require development of new learning strategies
	Critical Thinking and Previous knowledge	*Enable understanding of links with student prior knowledge and when it is inappropriate

Table 6.2: Summary of strategies by which the teacher may influence student SRL factors.

Nevertheless, although the teacher must play a key role in facilitating student adaptation and development of SRL skills, there are some factors over which the teacher has little or no control or influence, which at programme or course level may be influenced by policies and decisions. While some of these areas may be the teachers' responsibility none of them will be implemented or effective unless adequate time is provided within the course structure to enable teaching of SRL skills. This may entail a reduction in assessments which often take up a great deal of teacher and student time and energy. It is important that a decision be made as to whether a course is in place

to facilitate student adaptation to new learning environments and deeper learning or whether it is in place simply as an entry criterion to tertiary study. The decision should reflect the future structure of the course, the amount of assessment and its type, whether formative or summative.

Behavioural

Factors

> SRL/decreased SRL; help seeking/peer learning; effort regulation; time management; task value and study strategies

Personal ← → **Environmental**

Factors **Factors**

> Length of schooling and age of students; English level, self-efficacy; intrinsic and extrinsic motivations

> **Programme:** Intake; workload; entry qualifications.
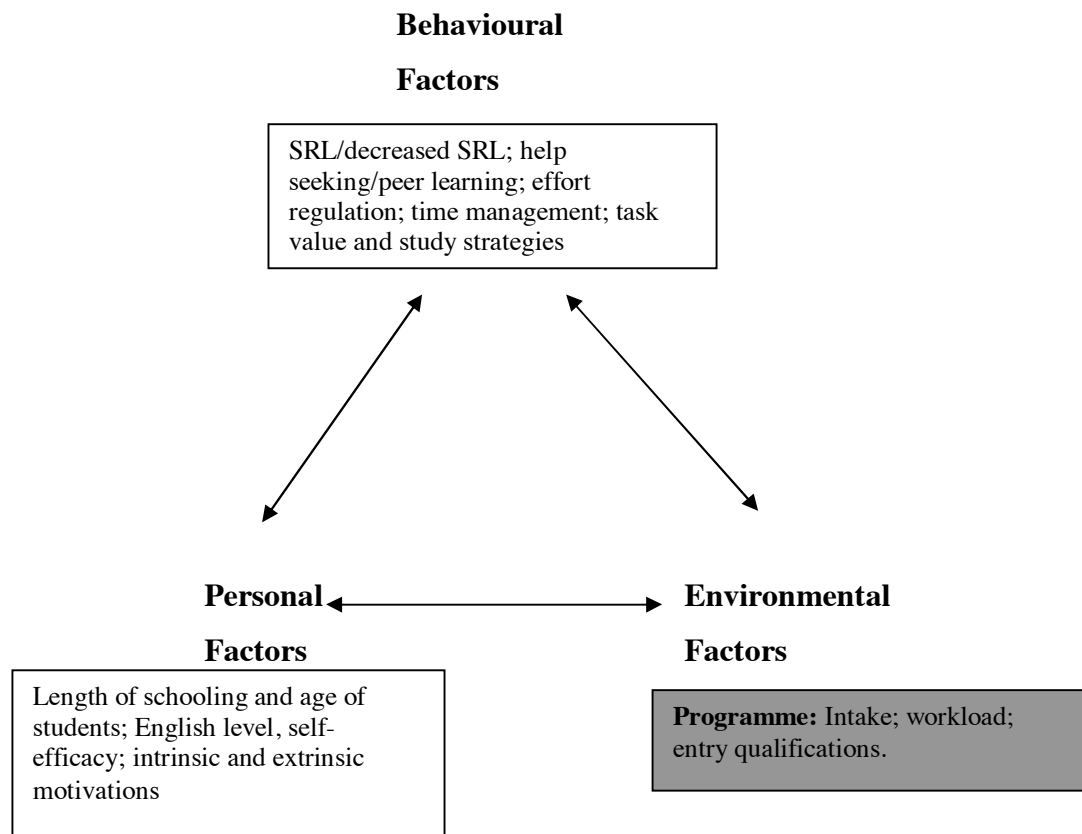
Figure 6.3 – Inter-individual Reciprocal Causation – **Programme level** - adapted from Bandura (1989, 1999); Pajares, F. (2002a).

Programme or Course Level Organisation and Planning

Environment

At the programme or course level planners need to attempt to provide equal weighting of study breaks, expectations and assessments for all intakes. In addition, an equal workload would ensure that no particular group of students was disadvantaged by excessive work. However, it should be noted that this variation in workload issue may have been an anomaly in the year of this research as there have been subsequent course changes.

In addition, course workload should be reduced to enable depth of learning and understanding rather than producing an intensity of work which encourages surface learning or learning to complete tasks as done in China.

Personal
The course guidelines should also set the number of years of schooling a student should have had and their age on entry and adhere more strictly to these guidelines. This would ensure that students are enrolled not only due to their financial ability to pay fees, but also, and most importantly, due to adequate background education and qualifications. Unfortunately, this may not be feasible due to institutional restrictions and demands.

In the same way, courses should set strict English entry levels and enforce them stringently. One of the students' common refrains in interviews was the difficulty of English. While it did not seem to be a key factor in most students' academic success or failure, yet struggles in this area did appear to reduce most students' goals and expectations. Although a few seemed to consider their English levels were adequate and thus English classes were irrelevant, most simply said the amount of vocabulary was difficult and that that was the only subject with which they were struggling. Even if teachers consider that the English entry level is too low, an increase may not be possible as students will tend to gravitate to courses at other institutions with lower entry requirements if they have a choice. Nevertheless, strict adherence to the lower boundaries of the English entry requirement, which would require weak students to gain greater English skills before entry, may result in less stress and more academic success for these students in the long term.

There have been complaints about the difficulty of the English course in the past, yet given that these students are about to embark on at least three years of tertiary study in the English language, there should be no thought given to 'dumbing down' the English course and more thought given to how it could become more integrated into all of the subjects they study, not just as vocabulary to be learnt but as part of a holistic learning of English within each academic discipline. This would aid in providing relevance as students are usually more motivated to study those subjects they enjoy and wish to continue with at undergraduate level; therefore, instead of being forced to learn English as a separate subject, this could be incorporated into every facet of their learning as it will be once they become undergraduates.

Also, as English appears to be so difficult for these Chinese students, building their skills and knowledge by step by step development to enable them to have a firm foundation in the

background knowledge and skills to function appropriately and skilfully in the English language is important. This could be facilitated at course level by firstly, providing explanations of learning in an English environment and explaining that learning at university level is to do with understanding, using and linking ideas rather than just knowledge accumulation. This could begin in students' Orientation time for the course and at this time ex-Foundation Studies students from second or third year at university could also be recruited to explain the relevance of what they are learning (especially English) and how difficult it can be at Year two and above if English levels and study strategies do not improve. While this may already be done in Orientation time to some extent, it could be developed and perhaps repeated in small groups later in the year when students may have a clearer idea of reality and better English skills to understand what is being said. Another way of improving these skills might be by programming international students with domestic students where this is feasible, and in mixed classes both groups may benefit. Also for those subjects where mixed classes may not be optimal, the student advisor may need to organise social events with both domestic and international students. For this to be effective the student advisor may need help with their pastoral and counselling responsibilities or a specific 'events co-ordinator' may need to be appointed.

In addition, at the course level it is important to link preparatory courses to future courses they value at university and then to link their English improvement and study strategies to what they value. As well as future links, links should be created to previous learning to facilitate students' ability to make use of all the learning knowledge they have available to continue the process. While the differences in Western teaching and learning may be taught in orientation time, they must be reinforced and reiterated throughout the course as some students will be so jetlagged, disorientated, lacking in English listening skills or disbelieving that they will not understand the explanations the first time. Due to this dearth of English listening skills more than one form of information delivery is needed and perhaps discussion in groups of what the information means may also aid and establish understanding.

This linking of Foundation Studies skills and learning to future tertiary learning and expectations could be greatly aided by close alignment of expectations, learning practices and assessment forms between the two levels of further education. This would enable students to complete the double transition of culture and learning change at one time without requiring them to make another transition at the completion of their Foundation Studies course. One university within New Zealand where this has been implemented for domestic students is the University of Auckland, where students study 'Preparation' subjects within university academic departments

with staff who work in those departments. This effectively integrates them more rapidly into the culture and expectations of university life. Whether this can be implemented as effectively for non-domestic students is uncertain, however the University of Auckland does provide ESOL assistance for those domestic students with English as a second language. Further information of this course may be found on the University of Auckland website www.auckland.ac.nz/pathways

Behaviour

During course design and development SRL skills and requirements should be written into the basic structure of each course and their importance validated by including students' planning and structuring work into assessment requirements and grades. In order for this to be effective, teachers must have high expectations of quality and refrain from allocating marks unless quality and growth of skills are demonstrated. To facilitate the learning of these SRL skills, it may be advantageous to grade students developmentally for some assessments at least, utilising formative assessment and feedback rather than summative assessments.

Furthermore, as it seemed that almost all students experienced a decrease in their SRL and self-efficacy, courses should plan pastoral and teacher support for students (in the form of an adequate amount of pastoral supervision by student advisor(s) for the number of students and time built into teachers' timetables for one on one time with students where needed). Planners should also be aware that students will experience more than just culture shock on entering the course and the country. The abovementioned support strategies should encourage help seeking and peer learning so that students have clearly allocated times and places where it is acceptable to go for different types of help.

Strong effort regulation skills and self-efficacy beliefs need to be nurtured in students. In order to do this, course workload and timetabling should be set at a level that allows teachers to demand, and students to be able to implement, independent learning outside of class once it has been taught. Success at small tasks should increase self-efficacy for larger tasks and prompt teacher feedback and support should be available for those who struggle initially. A heavy workload makes it more likely that weak students will experience self-efficacy declines rather than increases and this is not advantageous to their learning. In the same way, effort regulation may be encouraged by providing counselling to students where required and advising parents of student progress regularly in order to maintain student motivation and perseverance.

Motivation, one of the keys to SRL, according to Zimmerman and Schunk (2008), can also be stimulated by course planning which incorporate tasks and courses which students desire in their

curriculum. Nevertheless, this may not work for all students and a course will be unable to diversify if extra courses are not economically viable. Furthermore, while a relaxed, affective environment is beneficial, it seems from this research that it may have had adverse effects on student motivation if they experience it for an extended length of time. Thus, it may be necessary to change the structure of English Language classes whether by creating a different style of course and teaching for those students whose goal is a preparatory course and tertiary study as opposed to those who only desire to improve their English skills. However, a drawback of this is that not all students will be certain initially what their long term plans are.

It would seem that course timetables should be busy enough to teach students they must organise their time to complete assignments even when they occur simultaneously (as happens at university) but not so busy that students are unable to adapt and thus fail or give up. Yet, if there is no time pressure they may not learn time management. It would be beneficial for the future to assess what level of timetable pressure is too much for students and what level enables students to develop better time management skills. It should be noted that these abilities may also be affected by students' initial level of SRL or ability to SRL. Intense time pressure and a low English level may also result in reduced goals. Levels of time pressure for developing time management skills may also differ by nationality depending on the type of pressure a student had commonly experienced in their own country.

Types of grading (formative versus summative) also send messages about what type of learning institutions and courses value and these messages may affect the learning strategies students use and the types of outcomes they achieve. While parents may desire high grades for their offspring, and university scholarships and higher learning itself reward high grades with further chances, teaching for lifelong learning should create desire for, and reward understanding and value of, learning for its own sake rather than just for a grade. While the ideology of an institution is set in one direction it is very difficult to make changes which require a completely different way of thinking about and valuing learning.

It may also be appropriate for programme administrators to maintain close contact with these students' parents or caregivers to inform them of their child's progress in order that the added motivation of filial piety and parental pressure may continue to operate. While this may seem to preclude independent learning, it is still a control that students are used to having in place in their lives and which, in the main, appears to continue to be relevant to their learning given that filial piety appears to have made a difference to their academic success for some students.

Another area which can only effectively be improved at the programme level is the provision of adequate time and professional development training for staff members in the areas of tertiary teaching and self-regulated learning as well as methods for teaching and incorporating SRL into every course. While many tertiary instructors receive some basic instruction in lecturing and teaching prior to or as they begin their teaching activities this is often minimal and is unlikely to include self-regulated learning information and instruction. However, as universities are clearly requiring the development of this skill from their students, staff members within each programme should receive clear and detailed training in this area.

Finally, it should be mentioned that it is highly likely that many of these teacher and programme changes will benefit the learning of not just Mainland Chinese students, but of other international students as well. While each culture is different and each educational system has different expectations, and it is important to remember this, the teaching and enabling of self-regulated learning skills at a point in time where students are entering adult life and encountering the expectations of a Western university which requires self-regulated learning is very valuable and necessary to equip them for their future studies and careers.

Table 6.3 below summarises the strategies and policies which the programme can use to influence and improve students' self-regulated learning ability.

Area	Able to Influence	Strategies to Influence SRL
Programme	Intake	*Equal weighting expectations and breaks
	Workload	*Equal and reduced workload to enable deeper learning
	Length of schooling and age of students	*Adhere to strict course guidelines
	English Level	*Enforce English entry level strictly; demonstrate value of and link English to future studies
	SRL/ Decreased SRL	*Design course to teach SRL within basic course/ adequate pastoral support
	Self-efficacy	*Reduce course pressure to enable successful learning
	Help seeking/ peer learning	*Provide places and opportunities to seek help
	Effort Regulation	*Counselling; parents appraised of student progress
	Intrinsic and Extrinsic Motivation	*Provide subjects students value where possible
	Time Management	*Create some time pressure and requirement to manage own time
	Task Value and Study Strategies	*Require formative grading to show the value of deep learning, not just grades

Table 6.3: Summary of strategies by which the Programme structure may influence student SRL factors

Despite this, decisions at the level of the tertiary institution may need to be made to have an influence on some factors. It is also possible that what a course or programme wishes to implement is curtailed by institutional pressures both financial and academic.

Behavioural

Factors

> SRL; task value and study strategies; goals.

Personal ← → **Environmental**

Factors   **Factors**

> Ability; length of schooling and age of students; English level; motivation.

> **Institution:** SRL and learning valued in courses; strict entry requirements
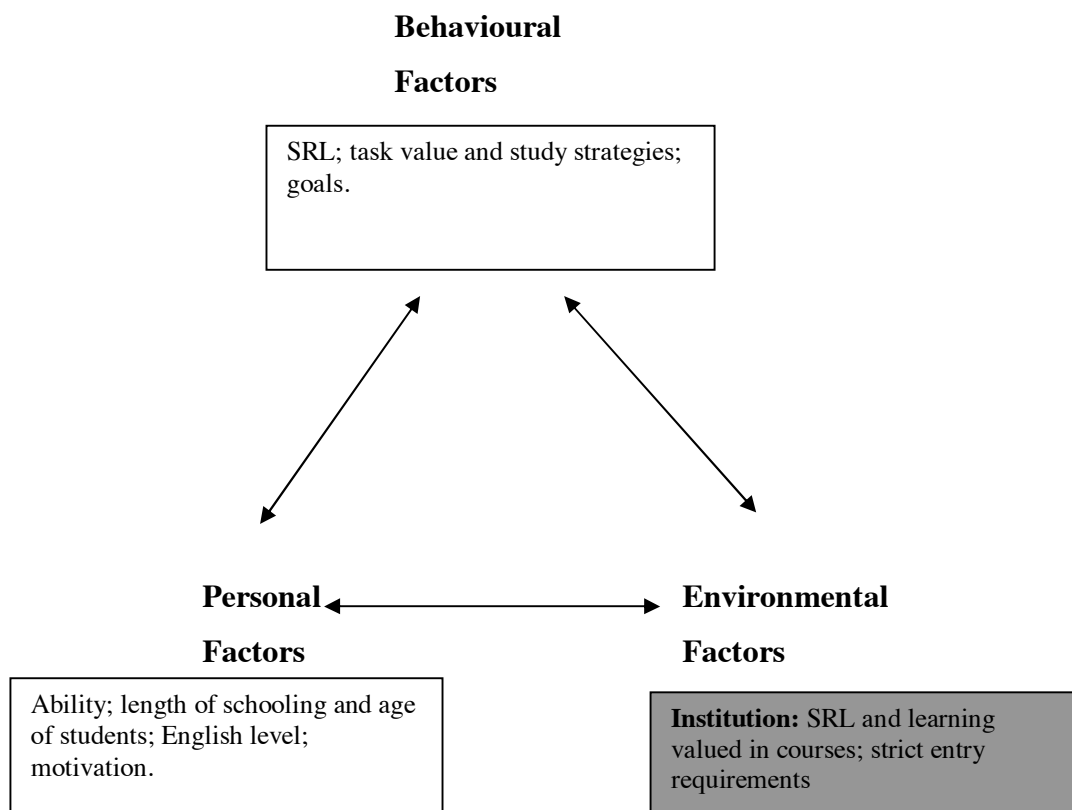
Figure 6.4 – Inter-individual Reciprocal Causation – **Institutional level** - adapted from Bandura (1989, 1999); Pajares, F. (2002a).

Institutional Level

Environment

The institutional level is important for making general decisions about student access and requirements for courses; however, at this level less can be done to effect change in the individual student. Nevertheless, institutions are able to set criteria for student entry levels, including ability and have the facilities to check carefully that lower ability students are not admitted. Although a

number of students may benefit from well forged documents, this is less likely with adequate attention and tight controls.

Personal

If institutions desire their courses to be successful learning exercises for their students and not substandard, they should encourage the course to set and maintain standards and not require them to take younger and weaker students simply for monetary reasons. Furthermore, while as mentioned earlier, it may be impossible to raise English entry levels as other countries and institutions may have set lower levels and students will thus be lost, they can ensure that these English entry levels are rigorously enforced.

Behaviour

However, although this research seems to suggest that low English had some effect on academic outcomes, students' inability to self-regulate their learning may be more important. In order to encourage development of SRL the institution can require courses to incorporate it. If policies are established that ensure that SRL skills be incorporated in first year studies and higher, this would also benefit NZ students, as well as enable University of Canterbury Charter aims of lifelong and independent learning to be achieved. In addition, Chinese students might perceive it as more relevant to their future learning if it continues to be a requirement throughout the institution rather than just an unspoken necessity. As part of this, it may be advantageous to include the explicit teaching of study skills as a compulsory part of first year courses. It may also be necessary to provide training courses for staff members who, while they may be self-regulated learners themselves, are unclear about how to effectively teach the skills and incorporate them in their courses.

As students perceive that learning rather than just grades is valued by the institution, this, and a lower workload, may encourage students to value their studies more rather than considering them merely as the means to the degree. It could be hoped that this might result in more thorough and successful learning and teach them the value of learning, as although Confucian beliefs hold lifelong learning as a key tenet; this has not been encouraged by the present Chinese educational system.

In addition, as a motivation to help students maintain their strong achievement motivation and boost it where it has wavered, the tertiary institution may offer scholarships and other high challenges to inspire students to continue to work diligently and use the most effective strategies to aid their learning.

Despite this idealism of what should happen, there are a number of issues with implementing these ideas. One is the time pressure of the courses. Are course outcomes desirous of assessment or of learning; when assessment may mean less effective learning? Chinese students understand assessment so it is provided in order to motivate them to work, yet this does not encourage learning. Is it possible to develop desire for learning again, while a course is compulsory for some and the variety of subject choice evident in university study is lacking?

Also, it must be conceded that while changes may be made willingly and thoroughly at one level, without acceptance and cooperation from other areas they may be ineffective in the long term. For example, if teacher behaviour encourages the value of understanding and yet all assessments are aimed at heavy assessment and rewards are only for high grades, then students will see the incongruity and consider that what the programme and institution (as certificate and degree granters) are saying is more important. This may negate some or all of the teachers' efforts. Effecting changes and support for these changes thus must be from all levels of the education process.

Area	Able to Influence	Strategies to Influence SRL
Institution	Ability	*Careful checking of student entry qualifications
	Length of schooling and age of students	*Maintain entry standards and avoid decisions made for financial reasons
	English Level	*Policy decisions to require high English levels throughout the institution
	SRL	*Policy decisions to incorporate SRL teaching in first year courses (and possibly above)
	Motivation	*Provision of scholarships
	Task Value, Study Strategies and Goals	*Institutional emphasis on learning, not grades

Table 6.4: Summary of strategies by which the Institution may influence student SRL factors

<u>Limitations of this study</u>

It may be that, as a specific piece of research carried out at a time when changes were about to take place in the course, these results are an anomaly and can not be repeated, yet for these students who are represented here, their environmental, personal and behavioural factors did appear to have an effect on their outcomes.

Furthermore, the use of the MSLQ as a measure of more global academic self-regulation rather than domain specific regulation may have caused some discrepancies to occur in results from this questionnaire; however it is hoped that most of these discrepancies were clarified by interview responses.

Participation in this research was voluntary which may have meant that the sample of volunteers obtained were more likely to be those students who were more dedicated and cooperative as well as possibly those more motivated and skilled at study and independent learning. Without obtaining a much larger more random sample there is no way of assessing how great an effect this might have on results, nevertheless it must be taken into account. What is more, it must be questioned whether these students were truly volunteers, given that the researcher was a teacher in the programme and these students, by their own admission, obey the teacher and are socialised to be cooperative to those in authority, to whom the researcher could be seen to belong.

Another area of possible limitation is again in the area of teacher as researcher, since it is possible that preconceptions (due to previous reading on the topics) and bias and subjectivity (due to previous teaching of students from Mainland China) may exist. This will always be an issue; however, an attempt was made by the researcher to avoid this by deciding not to interview students she was teaching, and also, it is hoped, by examining the literature carefully and not reaching rapid conclusions. Despite this, the research took place in a Western university setting, was conducted by a non-Chinese researcher and thus, can only be assessed in that light.

Furthermore, while the researcher endeavoured not to ask leading questions and instead to allow the student to guide the discussion in the semi-structured interviews, this may not always have been the case, especially when the student who was being interviewed was not very articulate or forthcoming. Also, as these were semi-structured interviews the researcher did guide the conversation when necessary in order to elucidate the information which was required and this may have inadvertently stifled some topics of conversation which may otherwise have arisen. In addition, these interviews took place during the study year for these students who mostly had quite

busy timetables and thus the researcher and the students were constantly aware of the time pressure involved and the researcher desired to avoid over-long interviews which might have caused students to become less willing to continue with the research.

In addition, as the students were drawn from two intakes of the Foundation Studies programme over the course of one year and were studying different subjects, it is possible that the effects of different teachers' teaching methods may have an impact on the way these students' learning and ability to self-regulate developed. As teachers were not surveyed or questioned as to how they taught this factor is an unknown, except in cases where students commented that they saw that they were expected to change the way they learnt or, alternatively, that teaching and learning was the same as in China.

Finally, questionnaires required students to self-report their beliefs and behaviours in a number of areas. It could be argued that a self-report is often biased or not based on factual observation. However, it is to be hoped, as mentioned earlier in the Methodology chapter, that collection of student grades and incongruencies between questionnaire and interview data may have helped to at least highlight these problems. Furthermore, as a mixed methods research approach with a dominant qualitative paradigm, investigating students' perceptions of their ability is acceptable since no expectation of generalisability to other groups is envisaged.

Further Research

As this was a small qualitative research project in an area infrequently researched, the indications for further research are numerous. Firstly, this research has only examined the experiences and outcomes of eleven students from Mainland China in-depth and thus it would be advantageous if additional studies were to be carried out with larger numbers of students and also with students from other nationalities to examine how they cope within these preparatory programmes. This needs to be researched more closely as each group has their own cultural beliefs about education and how it affects their learning behaviour, and this research can in no way be said to be transferable to other cultures. Quantitative measures may also be used more reliably with larger numbers of participants.

In addition, while this research has only sought to examine what happens to these students as they prepare for their tertiary studies in New Zealand, longitudinal research which seeks to examine their experiences in undergraduate tertiary study and how their ability to self-regulate their learning may affect their university study longitudinally would be invaluable. This researcher is

attempting to follow these students through their university studies and plans to carry out yearly semi-structured interviews and Motivated Strategies for Learning Questionnaires.

Also, as it appears that those with English language scores were less effective in maintaining their English level over the course, compared with those who entered with IELTS; it would be interesting to investigate further whether this is a real effect and if so, why it occurs.

Other questions which may need to be answered, perhaps by further research, are how to teach students a long-term view of learning and the relevance of English for their studies in a foreign language university, as despite the emphasis on lifelong learning in Chinese culture these students appear to be very focused on short term achievement goals perhaps as a result of their most recent previous Chinese educational experiences. Does English relevance have to be imposed as a requirement when students are achievement focused and young, since they often cannot see its relevance? How do teachers encourage English improvement as an intrinsic goal for students when it is their most difficult subject and they are not focused on it? How do teachers encourage deeper learning; by showing students what can be achieved by developing skills? It seems each of these strategies must occur in a very step by step, developmental fashion with regular student imposed incentives along the way. Perhaps these questions might be best addressed by Action Research projects within the classroom.

This research also attempted to use Chinese epistemological beliefs to examine the area of these students' maturity of beliefs about learning and whether this made any difference to their learning. However, using a North American theory and measure of epistemological beliefs does not seem to have been appropriate for this purpose as student beliefs did not appear to be at all synonymous with those found for North American university students (see Appendix C for more information on this). It would be useful to carry out more research in this area and also to develop an emic or culturally appropriate measure of epistemological beliefs to use for future research. Also, whether it may be simply that, Chinese educational beliefs are so strongly engrained in these students that they come to the fore even when the individual actually has quite different personal views, or whether the two beliefs are able to exist side by side instead of being quite autonomous, is uncertain and would benefit from clarification.

In addition, while North American and other Western cultures' self-regulated learning has been carefully examined and analysed, once again an emic measure of self-regulated learning which takes into account the degree of learning pressure and external regulation which is present in the

Chinese education system and, if possible, differentiates between the two, would be a useful area for future development and research. It would also be useful to discover which Western teaching strategies are most useful to help Chinese students to learn more effectively in a Western university setting.

Furthermore, as this research was an overview of student beliefs and behaviours, a closer examination of student behaviour in the classroom setting or examination of how effective teaching of study strategies is for these students would be useful. This could be implemented using Action Research projects to see how Western ideas of teaching encourage development of SRL and results may be beneficial for future research and teaching of international students.

As a programme is required that fits all to some degree, further research may also indicate commonalities across nationalities and yet demonstrate how and where students need to be taught to adapt when learning expectations are very different (as perhaps in the case of Saudi students).

<u>Final Comments</u>

From this research it would seem that for these students the ability to self-regulate their learning does have an positive effect on their academic outcomes, however, it may be that their cultural background of filial piety and belief in effort for success mean that for the majority of these students the ability to effectively regulate their effort or volition may have been more salient in their success than self-efficacy as the North American theory of SRL within social cognitive theory suggests. In addition, this ability to self-regulate was mediated for these students by personal factors such as previous academic achievement, optimism and other personality factors as well as the environmental factor of the intake they were in and their length of time in New Zealand. These interactions highlight the reciprocal nature of the personal, behavioural and environmental factors within and surrounding the individual which affect their academic outcomes.

Thus, in conclusion, while students from Mainland China appear to benefit from the high value that their culture has placed on education and that teaches them to persevere when study becomes difficult, they still struggle when entering another educational culture and these struggles are greater if they are younger, have certain personality traits or inadequate SRL skills and have not experienced this form of learning previously. Therefore, the teacher, the programme and the institution should all play a role in aiding these students to improve their self-regulated ability. Furthermore, institutions willing to benefit financially from these students need to provide adequate pastoral support, structured learning to develop SRL skills, and exhibit the willingness to

ignore the monetary benefits or consider them secondary to their obligations to provide well structured and achievable learning for the students they accept. In order to do this, they must also be willing to refuse entry to those students who do not meet the academic and language requirements of the course. This long term thinking will be advantageous to all students, may provide future positive feedback to other prospective international students, and be a more ethical response from institutions.

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Appendix A:

Personal, MSLQ and MER information for the eleven students in Chapter four

Yi Sen's Personal factors, MSLQ and MER results

Age	20
High school grades	Mostly excellent (A) in Provincial Graduation Certificate
English level	IELTS 5.5 (5 for listening and speaking, 6 for reading and writing)
Chosen course of study in FS	Science
Expectations of future grades	A+ except English (Low B)
Interim grades	A+
CPAI-2 Accommodation	Very low for veraciousness
Dependability	Very low on internal locus of control and family orientation, low on optimism and very high on face and emotionality
Interpersonal Relatedness	Low on social sensitivity and tradition and high on discipline and thrift.
Social Potency	Very low on enterprise and leadership.

Figure A.1: Personal Factors affecting Yi Sen

Area	First MER		Second MER	
	Level	**What was said**	**Level**	**What was said**
Decision		Due to extrinsic motivation (parents desire) and future benefits		
Student	Absolute	He wants to learn concepts for sound basic knowledge, but not practical	Absolute	Concepts and practical information are useful for life
Teacher	Absolute to transitional	The teacher is a friend and authority providing clear explanations to facilitate understanding of concepts	Absolute	The teacher must be interested in students and joke with them, stop them being bored and be easy going
Peers	Absolute	The teacher should talk as students may provide inaccurate information	Transitional	Communication is okay to present your own opinion
Evaluation	Absolute	Hard work and effort bring success. Students should have freedom to learn what they want	Transitional	You can succeed by hard work and effort. Theory should guide practice
Knowledge	*Absolute (interview)	Both ideas may have allure and sound good, so need to look at which one has more evidence and is more reasonable and logical. * If you don't know answer, ask the teacher. If the teacher does not know, it is 'terrible' (as he does not know what to believe) because in China you must believe teacher. He can know if one idea is more correct by using knowledge already known and choosing the idea nearest to his own 'will'.	*Absolute (interview)	He believes what agrees with his opinion. He can prove it by examples and if it hasn't been proved by examples, it is possibly because haven't found the evidence yet. * In general the teacher should know answer. If you don't agree ask another teacher or classmates (otherwise he does not know what to do). For some questions he will be happy to accept the teachers' opinion, even if it doesn't quite agree with the evidence, but he couldn't explain why he would do this.

Figure A.2: Yi Sen's First and Second MER

Self-regulatory Skill	First MSLQ	Second MSLQ
Learning strategy - Critical Thinking	5.8	5.6
Learning strategy - elaboration	3.7	5.3
Learning strategy – effort regulation	5.0	4.0
Learning strategy – help seeking	3.5	5.3
Learning strategy – organisation	4.8	5.5
Learning strategy – peer learning	3.3	5.3
Learning strategy – rehearsal	4.8	5.8
Learning strategy – self-regulation	4.3	5.0
Learning strategy – time management and study environment	3.9	4.3
Metacognitive control of learning beliefs	5.0	5.8
Extrinsic goal orientation	5.5	6.3
Intrinsic goal orientation	3.8	4.8
Self-efficacy for learning and performance	5.3	5.9
Test Anxiety	4.6	4.8
Task value	4.0	5.5
MSLQ total mean	4.5	5.2

Figure A.3: Yi Sen's MSLQ means (First and second MSLQ)

Yang's Personal, MSLQ and MER results

Age	17
High school grades	Mostly excellent grades
English level	IELTS 6 (5 for writing and 6 for listening, speaking and reading)
Chosen course of study in FS	Commerce
Expectations of future grades	All A grades
Interim grades	A/A+
CPAI-2 Accommodation	Very low for self versus social orientation and veraciousness, high on defensiveness and very high on interpersonal tolerance.
Dependability	Very low on inferiority, low on optimism and high on face, meticulousness and responsibility.
Interpersonal Relatedness	Very low on tradition and high on harmony and thrift.
Social Potency	Very high on diversity and divergent thinking.

Figure A.4: Personal Factors affecting Yang

	First MER			Second MER	
Area	**Level**	**What was said**	**Level**	**What was said**	
Decision		His parents helped him decide. The decision was due to job opportunities (external motivation)		For future employment; he weighed the pros and cons.	
Student	Transitional	He wants to understand and apply facts and will succeed by confidence and persistence	Transitional	He likes facts as it is quicker for understanding. He needs to persist. He considers himself to be adaptable.	
Teacher	Independent	The teacher and student both participate and learn. It is not passive. But the student may not have the knowledge to do this adequately.	Transitional	Any type of teaching is okay if it's not boring. You need communication in order that it is not boring.	
Peers	Transitional	Student talk helps his study and helps him accept other opinions, but students have less knowledge than the teacher, so the teacher should control the situation.	Absolute	Student talk is more interesting.	
Evaluation	Absolute to transitional	Effort needs to be in the right direction and he needs to develop more than just as a student. Grades constrain [learning] but should be used.	Absolute	Students should be judged on excellent grades.	
Knowledge	*Absolute	Everyone has their own opinion; * a student lacks enough knowledge or judgement to make absolute judgements but should research and ask others, especially the teacher is very important because they have experience and then the student can judge different viewpoints for themselves (This seems to imply knowledge is absolute if you only knew enough).	* Absolute	He will think about it himself and ask the teacher and classmates. With experience and knowledge he can know, * but if he has insufficient knowledge or experience, he cannot know (this implies answers can be known). He will make the final decision.	

Figure A.5: Yang's First and Second MER

Self-regulatory Skill	First MSLQ	Second MSLQ
Learning strategy - Critical Thinking	4.0	3.2
Learning strategy - elaboration	6.2	4.7
Learning strategy – effort regulation	5.8	6.8
Learning strategy – help seeking	5.5	6.0
Learning strategy – organisation	6.3	4.5
Learning strategy – peer learning	5.7	4.0
Learning strategy – rehearsal	6.0	5.8
Learning strategy – self-regulation	5.2	5.1
Learning strategy – time management and study environment	6.4	5.6
Metacognitive control of learning beliefs	6.3	6.5
Extrinsic goal orientation	7.0	5.5
Intrinsic goal orientation	6.5	5.8
Self-efficacy for learning and performance	6.8	6.5
Test Anxiety	2.6	2.8
Task value	7.0	6.2
MSLQ total mean	5.8	5.3

Figure A.6: Yang's MSLQ means (First and second MSLQ)

Lisheng's Personal factors, MSLQ and MER results

Age	18
High school grades	A grades
English level	Level three English B- grade
Chosen course of study in FS	Science
Expectations of future grades	A/A+ except English
Interim grades	B+
CPAI-2 Accommodation	Very low on defensiveness and very high on interpersonal relatedness and social orientation.
Dependability	Very low on face, and inferiority and high on optimism.
Interpersonal Relatedness	Very low on discipline, relationship orientation, social sensitivity and tradition.
Social Potency	Very low on extraversion and very high on logical orientation, enterprise, and divergent thinking.

Figure A.7: Personal Factors affecting Lisheng

Area	First MER		Second MER	
	Level	**What was said**	**Level**	**What was said**
Decision		The decision was made from interest (intrinsic motivation)		Interest is important
Student	Absolute to transitional	He prefers factual learning and needs to persist, work hard and be interested in learning	Transitional	He mixes theory and practice to increase understanding and interest. He must study hard.
Teacher	Absolute to transitional	The teacher should be a friend and be in control. The student learns theories and then applies them and the teacher provides interest and practical use of knowledge	Independent	The teacher provides theory and practice to improve understanding and makes a relaxed classroom.
Peers	Absolute to transitional	Student talk helps to provide a relaxed atmosphere, and reinforce understanding	Transitional to independent	Students can communicate and improve together, but the teacher is still important.
Evaluation	Absolute	Intelligence is also important. Grades and performance in class provide lots of opportunities to show knowledge.	Transitional	IQ is important and it is important to show mastery of knowledge.
Knowledge	Contextual *Absolute (interview)	For some issues there is no right and wrong, so you need to test them and come to your own conclusion. People start from different angles or viewpoints and so they get different results. He will make a decision from his own research. *In his interview he talks of looking at books to check the correctness of something.	Transitional	'Correct' is what most people think, but he will trust his own explanation worked out by research and testing. Science theory is already proved so he can't dispute it; he will give up on theory if can't understand. Arts are different; different people's opinions. Knowledge is like the sea and sky (?vast).

Figure .A.8: Lisheng's First and Second MER

Self-regulatory Skill	First MSLQ	Second MSLQ
Learning strategy - Critical Thinking	6.2	5.8
Learning strategy - elaboration	6.3	6.0
Learning strategy – effort regulation	3.5	5.5
Learning strategy – help seeking	2.5	4.8
Learning strategy – organisation	2.5	2.5
Learning strategy – peer learning	2.7	2.7
Learning strategy – rehearsal	6.3	4.8
Learning strategy – self-regulation	4.9	5.5
Learning strategy – time management and study environment	5.0	4.4
Metacognitive control of learning beliefs	6.3	6.5
Extrinsic goal orientation	4.8	3.0
Intrinsic goal orientation	6.3	6.5
Self-efficacy for learning and performance	6.6	7.0
Test Anxiety	1.6	3.4
Task value	7.0	7.0
MSLQ total mean	5.0	5.2

Figure A.9: Lisheng's MSLQ means (First and second MSLQ)

Hui Xin's Personal factors, MSLQ and MER results

Age	20
High school grades	3 B grades for Chinese, mathematics and English
English level	IELTS 6 (5.5 for listening and reading, 6 for speaking and writing)
Chosen course of study in FS	Science
Expectations of future grades	A+ except English (Low B)
Interim grades	A
CPAI-2 Accommodation	Low on defensiveness, graciousness and self versus social orientation and very high on interpersonal tolerance.
Dependability	Very low on inferiority, very high on family orientation and optimism
Interpersonal Relatedness	Low discipline, relationship orientation and tradition and high on harmony, social sensitivity and thrift.
Social Potency	Very low on aesthetics and very high on divergent thinking, diversity, extraversion and enterprise.

Figure A.10: Personal Factors affecting Hui Xin

| Area | First MER | | Second MER | |
	Level	What was said	Level	What was said
Decision	Transitional	It was practical and interested her. She sees study as mainly for interest and enjoyment. She makes her own decisions.		Due to interest and strength in subject.
Student	Transitional	She prefers facts because there are links to real life. She sees them as more practical but they may reduce her depth of understanding.	Independent	She prefers facts and concepts for interest. Students should persist with study. She likes to learn by inference, so she can make links and think critically. She does not like memorising.
Teacher	Transitional	She wants to be able to talk to the teacher. She likes teachers who teach by analogy so she can learn to reason from simple to complex and transfer knowledge.	Transitional to independent	Teachers should teach by inference.
Peers	Transitional	Student talk is relaxing and you know what others think. It may not be helpful for personal deep thinking.	Transitional to independent	She prefers student talk because it is active and encourages wider thinking; however this may be shallow and produce no clear explanations.
Evaluation	?	You need to study and live well and enjoy life. You should enjoy your study and not want good grades.	Independent	Self learning ability is important rather than hard work and effort.
Knowledge	Independent	You can not know which is correct but can analyse different viewpoints and see which is more believable. You need to see the big picture. * Things are not true or untrue; different views have different answers, so choose your own opinion. If you have to know a correct answer, research and books will help you to finally know right and wrong.	Independent	You may be able to say which is more correct by your own research and opinion. There is no real certainty as each has own bias. She will believe her own judgement despite bias from her own thinking. Interview: When there are different ideas, if you have some knowledge you can make a decision. If you do not know, then you can ask the teacher for advice.

Figure A.11: Hui Xin's First and Second MER

Self-regulatory Skill	First MSLQ	Second MSLQ
Learning strategy - Critical Thinking	6.0	5.8
Learning strategy - elaboration	5.8	5.3
Learning strategy – effort regulation	4.5	5.5
Learning strategy – help seeking	5.3	4.5
Learning strategy – organisation	6.3	5.5
Learning strategy – peer learning	5.7	3.7
Learning strategy – rehearsal	4.5	3.8
Learning strategy – self-regulation	5.3	4.3
Learning strategy – time management and study environment	5.0	4.4
Metacognitive control of learning beliefs	5.0	5.0
Extrinsic goal orientation	3.5	1.0
Intrinsic goal orientation	4.0	2.8
Self-efficacy for learning and performance	5.1	4.1
Test Anxiety	3.4	1.2
Task value	6.3	5.3
MSLQ total mean	5.1	4.2

Figure A.12: Hui Xin's MSLQ means (First and second MSLQ)

Huaqing's Personal factors, MSLQ and MER results

Age	19
High school grades	B grade in English and Chinese and C in Mathematics
English level	IELTS 5.5 (5 for writing, 5.5 for listening and 6 for reading and speaking)
Chosen course of study in FS	Commerce
Expectations of future grades	Not given
Interim grades	B+
CPAI-2 Accommodation	Very low on self versus social orientation and very high on interpersonal tolerance.
Dependability	Very low responsibility, low on optimism, and very high on emotionality.
Interpersonal Relatedness	Extremely low on tradition and high on thrift and harmony.
Social Potency	Very low on enterprise, extraversion, novelty and leadership

Figure A.13: Personal Factors affecting Huaqing

	First MER		Second MER	
Area	**Level**	**What was said**	**Level**	**What was said**
Decision		It is important to get a degree (extrinsic motivation)		She is still considering what will get her a good job. It is important to have a job to earn money.
Student	Independent	She prefers factual information because it is more relaxed, and it helps her to master knowledge and apply. She can self-study.	Independent	Practical information is better for one's future and self-motivation. It should be connected to your interest and then you can self-study.
Teacher	Transitional	She prefers a relaxed class where students can ask questions without fear and a friendly, helpful teacher	Transitional to independent	The teacher should use different methods for different students. They need to have a good classroom climate and the teacher should be available to help.
Peers	Independent	Student talk is preferable because it helps study and you can accept different opinions. It needs some teacher control.	Independent	She prefers student talk because it is relaxed, she can obtain more knowledge and increase her motivation.
Evaluation	Independent	Your effort needs to be in right direction. You need to develop social skills as well as getting a degree.	Independent	Talent is needed, plus interpersonal skills, good grades and social experience.
Knowledge	Independent *Absolute	Everyone has their own opinions, although they may lack complete knowledge so they need to research and ask others. *The teacher knows what is correct, because they know what is in the test. In NZ you should ask professionals and look in books; if they don't know then choose the one you think is right.	Independent	You should use research and others opinions, but believe your own opinion most. An opinion may be biased so you need to gather all the opinions. The question may not be really right or wrong; it depends on which side you stand. For something like science you need to decide for yourself which one is more logical.

Figure A.14: Huaqing's First and Second MER

Self-regulatory Skill	First MSLQ	Second MSLQ
Learning strategy - Critical Thinking	2.8	1.8
Learning strategy - elaboration	3.8	2.3
Learning strategy – effort regulation	4.5	5.0
Learning strategy – help seeking	6.5	6.0
Learning strategy – organisation	5.5	2.8
Learning strategy – peer learning	4.0	3.0
Learning strategy – rehearsal	6.5	3.0
Learning strategy – self-regulation	4.4	2.7
Learning strategy – time management and study environment	6.0	5.4
Metacognitive control of learning beliefs	6.5	4.5
Extrinsic goal orientation	2.5	3.8
Intrinsic goal orientation	3.8	4.3
Self-efficacy for learning and performance	5.0	4.3
Test Anxiety	4.0	5.2
Task value	5.7	5.7
MSLQ total mean	4.8	3.9

Figure A.15: Huaqing's MSLQ means (First and second MSLQ)

Jing's Personal factors, MSLQ and MER results

Age	19
High school grades	Almost all As
English level	IELTS 6 (6.5 for listening and 6 for reading, writing and speaking)
Chosen course of study in FS	Commerce
Expectations of future grades	
Interim grades	A+
CPAI-2 Accommodation	Very low on defensiveness and self-orientation.
Dependability	Very low on emotionality and inferiority, and high on family orientation, internal locus of control, optimism and responsibility.
Interpersonal Relatedness	Very low on tradition and discipline.
Social Potency	High on aesthetics, divergent thinking, diversity, extraversion and leadership.

Figure A.16: Personal Factors affecting Jing

| Area | First MER | | Second MER | |
	Level	What was said	Level	What was said
Decision		Due to Intrinsic interest. She judged herself capable of doing something (self-efficacy). Her parents and friends advised on her decision, but she made her own decision.		Due to interest and the future
Student	Transitional	Ideas and concepts are needed as a basis which, with confidence and hard work can help her to apply them to practical problems.	Transition-al	You learn knowledge (theory then link it to practice) when the teacher explains it clearly. In NZ, there is more practice; and you can connect it to real life. However, you need to understand first.
Teacher	Transition-al	The teacher should be knowledgeable, a friend, caring, fair and show confidence in the student.	Transition-al	The teacher should be encouraging, caring and motivating the student to persist.
Peer	Transition-al	She only mentions students talking with teacher which helps relaxation and understanding.	Absolute	You need to obtain (most) knowledge from teacher and peers may get in the way. There can be student talk if it is appropriate.
Evaluat-ion	?	Interest, hard work and confidence mean success. You need practical goals.	Absolute to transition-al	IQ is important and students need to show a degree of mastery and how much they have learnt and improved as well as personal development.
Know-ledge	Indepen-dent to Context-ual	There may be possibility of certainty (but maybe not for a long time) so she must make her own decision from research, others opinions and her own view. True and false not really important; her own opinion is important. Two opinions can exist at the same time; it depends on people. If it's really important to know then if teachers can persuade her she will accept their opinion, otherwise she will keep her own opinion.	Context-ual	You need to make your own decision after checking reasons and finding gaps because everything does not have correct answers. For history, it is 'just people's opinion. … You can't really say that it's absolutely true'. For science, maybe you can find the true idea but it's still hard and people may change their opinions. She sometimes thinks'[for history] sometimes I think whether it is true or false not really important … the important thing is the idea'.

Figure A.17: Jing's First and Second MER

Self-regulatory Skill	First MSLQ	Second MSLQ
Learning strategy - Critical Thinking	5.2	4.6
Learning strategy - elaboration	6.2	6.7
Learning strategy – effort regulation	5.3	6.8
Learning strategy – help seeking	4.0	4.3
Learning strategy – organisation	6.0	7.0
Learning strategy – peer learning	4.7	3.3
Learning strategy – rehearsal	5.0	4.5
Learning strategy – self-regulation	5.1	6.3
Learning strategy – time management and study environment	4.6	5.0
Metacognitive control of learning beliefs	5.5	5.5
Extrinsic goal orientation	3.8	3.8
Intrinsic goal orientation	5.8	6.5
Self-efficacy for learning and performance	6.3	7.0
Test Anxiety	1.6	1.0
Task value	5.5	6.3
MSLQ total mean	5.0	5.4

Figure A.18: Jing's MSLQ means (First and second MSLQ)

Dayi's Personal factors, MSLQ and MER results

Age	18
High school grades	Almost all As
English level	English Language Level three B grade.
Chosen course of study in FS	Science
Expectations of future grades	Not given
Interim grades	B/B+
CPAI-2 Accommodation	Very low on graciousness, interpersonal tolerance and veraciousness and extremely high on defensiveness.
Dependability	Very low on responsibility, practical mindedness and optimism, very high on emotionality and extremely high on inferiority versus self-acceptance.
Interpersonal Relatedness	Very low on social sensitivity and very high on discipline.
Social Potency	Very low on extraversion and very high on logical versus affective orientation.

Figure A.19: Personal Factors affecting Dayi

| Area | First MER | | Second MER | |
	Level	What was said	Level	What was said
Decision		Due to personal interest and family advice; and the need to find a job.		Due to interest and future employment.
Student	Transitional	Facts are easier and you need deep understanding and application to transfer knowledge.	Transitional	He likes facts because they help him to understand concepts easier; but they may not cover everything.
Teacher	Transitional	The teacher should guide and provide quick review. This is quicker for learning but provides less independent thinking.	Absolute	The teacher talks and students ask questions after class. The teacher is clearer to understand.
Peers	Absolute	The teacher should talk. Students may have incorrect information so it is easier to follow the teacher - possibly cultural.	Absolute	Students disrupt the teaching process if they talk.
Evaluation	Absolute	Effort and hard work and exams should affect assessment.	Absolute	You need hard work and effort. You should be judged by your exam results
Knowledge	*Absolute	You cannot know, but by asking others, checking books and analysing viewpoints you can believe (he usually believes the majority). * He will believe most experienced teacher or the textbook.	Absolute	One can be more correct than another. You need to check books and believe them. (Knowledge is absolute)

Figure A.20: Dayi's First and Second MER

Self-regulatory Skill	First MSLQ	Second MSLQ
Learning strategy - Critical Thinking	5.4	4.2
Learning strategy - elaboration	5.7	5.2
Learning strategy – effort regulation	6.0	4.3
Learning strategy – help seeking	5.8	4.8
Learning strategy – organisation	4.8	3.0
Learning strategy – peer learning	1.0	1.3
Learning strategy – rehearsal	6.0	4.5
Learning strategy – self-regulation	5.1	4.9
Learning strategy – time management and study environment	5.4	3.3
Metacognitive control of learning beliefs	6.8	6.0
Extrinsic goal orientation	5.8	3.5
Intrinsic goal orientation	5.0	4.0
Self-efficacy for learning and performance	5.3	5.1
Test Anxiety	5.6	5.2
Task value	6.8	5.3
MSLQ total mean	5.4	4.4

Figure A.21: Dayi's MSLQ means (First and second MSLQ)

Yi Jie's Personal factors, MSLQ and MER results

Age	23
High school grades	A, B and C grades.
English level	English Language Level three B grade (66)
Chosen course of study in FS	Arts
Expectations of future grades	Not given
Interim grades	B
CPAI-2 Accommodation	Very high on self versus social orientation.
Dependability	Very low on inferiority and very high on internal locus of control and meticulousness. Average optimism.
Interpersonal Relatedness	Very low on tradition and high on thrift versus extravagance.
Social Potency	All close to the Chinese mean.

Figure A.22: Personal factors affecting Yi Jie

| Area | First MER | | Second MER | |
	Level	What was said	Level	What was said
Decision	Transitional	He made his own decisions for the future; there was extrinsic motivation for his future job to improve his future; and intrinsic motivation for politics.		It was his own decision to study for improvement in his future career and living standards.
Student	Transitional	He likes facts and practical things. You need to use facts. You can learn by hard work and practice and must study hard.	Transitional	He does not want to study useless information – he should focus on practice. He needs to study well or fail.
Teacher	Absolute to transitional	The teacher should be encouraging, tolerant, a mentor and guide. It all depends on the teacher to guide the student in the right way.	Transitional	The teacher should be friendly and honest and help to apply theories.
Peers	Absolute	Student talk should show the teacher what they do not understand.	Absolute	The teacher should talk, because the teacher is important and peers will obstruct the teacher; students should study.
Evaluat-ion	Transitional	You need to work smartly as well as hard; use the right means to gain a diploma and you should be judged by those with practical experience. There should be more than just grades and diplomas.	Transitional	Hard work and effort; you need to apply learning and theories to daily life.
Know-ledge	Independent *Absolute	Everyone has their own opinion; you need to make your own opinion. Interview – He will compare opinions by research or asking the more experienced teacher (*he may find the truth). The final decision is his own. Everyone has their own prejudices (bias) and different amounts of experience.	Independent *Absolute	It depends how much he understands. He looks at others' knowledge and makes a decision which one is believable. *You need a correct answer for world to develop and progress. Interview: Ask others and decide from the evidence he found.

Figure A.23: Yi Jie's First and Second MER

Self-regulatory Skill	First MSLQ	Second MSLQ
Learning strategy - Critical Thinking	6.4	4.2
Learning strategy - elaboration	5.0	4.8
Learning strategy – effort regulation	6.3	6.8
Learning strategy – help seeking	6.0	4.3
Learning strategy – organisation	6.5	5.5
Learning strategy – peer learning	1.7	2.3
Learning strategy – rehearsal	4.8	6.0
Learning strategy – self-regulation	5.3	5.0
Learning strategy – time management and study environment	5.5	4.6
Metacognitive control of learning beliefs	6.3	7.0
Extrinsic goal orientation	3.8	5.5
Intrinsic goal orientation	5.0	5.5
Self-efficacy for learning and performance	6.9	6.9
Test Anxiety	2.0	3.0
Task value	5.2	4.8
MSLQ total mean	5.2	5.1

Figure A.24: Yi Jie's MSLQ means (First and second MSLQ)

Fei's Personal factors, MSLQ and MER results

Age	22
High school grades	A, B. and C grades.
English level	IELTS 5.5 (5 for listening and reading, 5 for speaking and writing)
Chosen course of study in FS	Commerce
Expectations of future grades	Not given
Interim grades	B/ C+
CPAI-2 Accommodation	Very low on self-versus social orientation and very high on interpersonal tolerance and graciousness.
Dependability	Low on optimism and high on most other traits.
Interpersonal Relatedness	Low for tradition and very high on thrift.
Social Potency	Low on leadership, enterprise and extraversion and high on aesthetics, divergent thinking and diversity.

Figure A.25: Personal Factors affecting Fei

	First MER		Second MER	
Area	Level	What was said	Level	What was said
Decision		Interest is important		It will improve her future and English chances.
Student	Absolute	She likes factual learning. If she gets help from the teacher to study and lets the teacher know where she is weak, she can manage her time and progress fast.	Absolute	Knowledge should be practical with concepts and theories to make it sound and clear; students should listen in class and review after class.
Teacher	Absolute	The teacher should be fair, friendly, in control, interesting, skilled and then students grades will improve.	Absolute	The teacher talks and gives exercises and students listen efficiently and follow the teacher.
Peers	Absolute	Students can talk to reduce boredom and help the teacher assess their progress (the teacher is still important).	Absolute	If students talk with teacher it increases interest and the teacher can make sure they understand correctly.
Evaluation	Absolute	Hard work and effort are important to see if the student can apply knowledge (this is the purpose of learning).	Absolute	Hard work and effort are important to provide better understanding and application of knowledge and evaluation should test what students have learnt.
Knowledge	*Absolute	Different people have different views of the same event, so she must combine their ideas and do further research to gain personal understanding. *Interview: First she must look for what is near her ideas and then check with the teacher as to which one is correct.	*Absolute to Transitional	She would believe the most experienced teachers' opinion, but nothing is absolute so she would need to consider more factors and opinions. * Interview: If there are different ideas, she will ask the teacher and keep asking different teachers if they all disagree. If they all disagree, she does not know what to do except keep asking and then make her own decision from the answers.

Figure A.26: Fei's First and Second MER

Self-regulatory Skill	First MSLQ	Second MSLQ
Learning strategy - Critical Thinking	5.8	5.4
Learning strategy - elaboration	6.2	5.7
Learning strategy – effort regulation	6.0	5.5
Learning strategy – help seeking	6.0	5.8
Learning strategy – organisation	7.0	6.5
Learning strategy – peer learning	5.7	3.7
Learning strategy – rehearsal	6.5	5.8
Learning strategy – self-regulation	5.8	5.8
Learning strategy – time management and study environment	5.1	5.6
Metacognitive control of learning beliefs	5.8	5.5
Extrinsic goal orientation	5.5	5.5
Intrinsic goal orientation	5.0	4.5
Self-efficacy for learning and performance	5.0	6.5
Test Anxiety	5.6	4.2
Task value	5.5	6.0
MSLQ total mean	5.7	5.6

Figure A.27: Fei's MSLQ means (First and second MSLQ)

Zhaopei's Personal factors, MSLQ and MER results

Age	18
High school grades	Mostly B grades
English level	IELTS of 5 (too low for FS entry) so complete English Language Level three C+ grade.
Chosen course of study in FS	Science
Expectations of future grades	High marks except English.
Interim grades	B/D
CPAI-2 Accommodation	Low on defensiveness and veraciousness and high on graciousness.
Dependability	Very low on family orientation, meticulousness, optimism, practical mindedness and responsibility, low on internal locus of control, high on emotionality and very high on face.
Interpersonal Relatedness	Very low on tradition and thrift and low on relationship orientation and discipline.
Social Potency	Low on extraversion and very high on divergent thinking, diversity, enterprise, logical orientation, leadership and novelty.

Figure A.29: Personal Factors affecting Zhaopei

Area	Level	What was said	Level	What was said
Decision		Due to extrinsic motivation		Due to interest and future choice
Student	Transit-ional	He prefers facts and practical things as he needs a basic foundation; He does not want to get led astray (from what? – the truth?) by others viewpoints.	Transit-ional to indepen-dent	He prefers factual learning as he learns more from the practical and gets more understanding. He needs his own opinion and understanding – this is important.
Teacher	Transit-ional	The teacher should be a friend and not push students to achieve good exam results. He had had the bad experiences of overly structured teaching in China.	Indepen-dent	Teachers are no help. They provide 'communication of opinions'.
Peers	Transit-ional	Student talk increases interest and they can look at all angles. It provides self-expression and is interactive.	Transit-ional	Student talk increases motivation and teaches teachers what students want. However, you need some teacher control
Evaluation	Indepen-dent	Evaluation should be an exam plus interview (had this in Singapore). There should be student control and learning.	Transit-ional	Hard work and effort do not create success, but evaluating your own theories and independent thinking. You need correct viewpoints towards world (because you need to get qualified)
Knowledge	Indepen-dent *Absolute	One can be more accurate. There are disagreements in academia, so each talks only from his viewpoint. There is one-sidedness or bias in one's knowledge and you don't know everything.* If there are different ideas, he will discuss with the teacher first and the teacher will make the decision because they are more knowledgeable. He may keep his own ideas but use teacher's for the exam. In history, different people can have different opinions; he just needs to follow the books.	Indepen-dent *Absolute	One can be more correct than another, but there is little certainty in life. You need to do your own research, understand, find your own opinion and argue it. He will ask the teacher first and do some research. If they are still different, he will look at his own ideas. He will try to persuade the teacher to understand his meaning, but even if the teacher does not accept his meaning, (Independent) he will keep his ideas in his heart and believe them. *He will use teacher information for exams even if he does not believe it (Absolute).

Figure A.30: Zhaopei's First and Second MER

Self-regulatory Skill	First MSLQ	Second MSLQ
Learning strategy - Critical Thinking	6.8	6.0
Learning strategy - elaboration	5.2	4.8
Learning strategy – effort regulation	4.0	3.0
Learning strategy – help seeking	5.3	3.8
Learning strategy – organisation	2.8	4.5
Learning strategy – peer learning	5.7	4.3
Learning strategy – rehearsal	4.3	4.0
Learning strategy – self-regulation	4.9	4.4
Learning strategy – time management and study environment	3.3	2.1
Metacognitive control of learning beliefs	4.0	3.8
Extrinsic goal orientation	2.5	3.0
Intrinsic goal orientation	5.8	4.5
Self-efficacy for learning and performance	5.9	4.6
Test Anxiety	2.8	4.6
Task value	6.5	4.2
MSLQ total mean	4.7	4.1

Figure A.31: Zhaopei's MSLQ means (First and second MSLQ)

Min Min's Personal factors, MSLQ and MER results

Age	18
High school grades	A and B grades but didn't complete second year of high school.
English level	IELTS 5.5 (5 for writing, 5.5 for reading and listening, and 6 for speaking) plus an English Language Level three B+ (72.1%) grade.
Chosen course of study in FS	Arts
Expectations of future grades	Not given
Interim grades	C+/D
CPAI-2 Accommodation	An extremely low score (more than 6 from the mean score) for graciousness, and a very low score for veraciousness and very high for defensiveness.
Dependability	Very low on internal locus of control, meticulousness, optimism, practical mindedness and responsibility and very high for inferiority.
Interpersonal Relatedness	Very high on traditionalism.
Social Potency	Very low on enterprise, logical versus affective orientation, leadership and novelty and very high for aesthetics.

Figure A.32: Personal factors affecting Min Min

| Area | First MER | | Second MER | |
	Level	What was said	Level	What was said
Decision		Interest is very important. It is the only way she can work.		Interest is very important (despite lack of jobs).
Student	Transition-al *Absolute	She likes facts and applying knowledge. Then she is happy and tries hard and persists. *In the interview she says she will attend classes, hand in homework and try her best in exams.	Transitional	Concepts help to know what must be mastered and remembered, but they are not practical.
Teacher	Transition-al	The teacher is a guide to deeper understanding and to stimulate student interest. Once interest is stimulated, then she will self-study and research and report her findings.	Absolute	The teacher presents knowledge clearly and is well organised; students learn and review.
Peers	Absolute	The teacher should talk and students may discuss it later. This will help understanding.	Absolute	The teacher talks, although teacher not always right.
Evaluation	Indepen-dent	Evaluation should be to discover student strengths and should be based on independent thinking and self-assessment. Student can apply knowledge and learn through practice.	Indepen-dent	Effort and hard work are important. You should try your best and evaluate yourself by how hard you try.
Knowledge	*Absolute and Transition-al	You need personal judgement and your own research to make a decision. *If it is related to exam, then she would ask the teacher's opinion; otherwise she would research books and the reasons given. She thinks you can agree with both opinions and say why the writer thinks they are correct – you don't need to know right and wrong.	*Absolute to Indepen-dent	One answer can be more correct so you should do research, but you can never be sure what is correct, it's just personal opinion. You cannot check history, but you can check books. *If it is for exams she will still believe the teacher; otherwise she will choose which one feels right, do her own research in books and on the internet and may have to wait for the future for confirmation of ideas.

Figure A.33: Min Min's First and Second MER

Self-regulatory Skill	First MSLQ	Second MSLQ
Learning strategy - Critical Thinking	2.8	3.8
Learning strategy - elaboration	3.5	3.5
Learning strategy – effort regulation	3.0	3.0
Learning strategy – help seeking	4.8	4.0
Learning strategy – organisation	3.8	5.0
Learning strategy – peer learning	4.0	2.3
Learning strategy – rehearsal	3.5	5.0
Learning strategy – self-regulation	3.3	3.3
Learning strategy – time management and study environment	3.1	3.5
Metacognitive control of learning beliefs	6.0	6.0
Extrinsic goal orientation	6.0	6.3
Intrinsic goal orientation	4.5	4.5
Self-efficacy for learning and performance	5.6	4.3
Test Anxiety	5.2	3.6
Task value	5.3	5.3
MSLQ total mean	4.2	4.1

Figure A.34: Min Min's MSLQ means (First and second MSLQ)

	Environment					Personal								
Student (age)	Intake	Course	Gender	Initial grade	Final grade	English level Pre/post	CPAI scores 1.Clinical 2. Face	CPAI scores Dependability (optimism)	Length of schooling	Time in NZ	Previous indepen-dent learning	Epistemo-logical beliefs - Pre/Post	Proximal goals	Mastery/ performance goals
Yi Sen (20)	June	Science	Male	A	A	IELTS 5.5/C+	1. Av. 2. Ext. high	(low)	13 years	18 days	No	Absolute/ Absolute	Excellent grades	Performance
Yang (17)	June	Com-merce	Male	A	A	IELTS 6/ B	1. Av. 2. High	High (low)	11 years	4 days	No	Absolute/ Absolute	Excellent grades	Performance
Lisheng (18)	June	Science	Male	A	A	EL B-grade/C+	1. High 2. V. low	(high)	12 years	90 days	Yes	Contextual/ Transitional	High grades	Mastery and performance
Hui Xin (20)	June	Science	Female	ABC	A-	IELTS 6/C+	1. Av. 2. Low	(very high)	12 years	7 days	Yes	Independent/ Independent	High grades and scholarship	Mastery and performance
Jing (19)	Feb	Com-merce	Female	A	B+	IELTS 6/ B-	1. Low 2.Low	(high)	12 years	180 days	No	Independent/ Contextual	High grades	Mastery and performance
Huaqing (19)	June	Com-merce	Female	ABC	B	IELTS 5.5/C	1. A. 2.High	Very Low (low)	12 years	60 days	No	Independent/ Independent	A degree	Performance
Dayi (18)	June	Science	Male	A	B-	EL B grade/B-	1.High 2.Av.	Very low (very low)	12 years	210 days	No	Absolute/ Absolute	Pass	Performance
Yi Jie (23)	June	Arts	Male	ABC	C+	EL B grade/C	1. High 2.High	Very high (average)	11-12 years	240 days	No	Independent/ Independent	Pass	Performance
Fei (22)	Feb	Com-merce	Female	ABC	C	IELTS 5.5/C	1. High 2.High	High (low)	12 years	90 days	No	Absolute/ Transitional	Pass	Performance and mastery
Zhaopei (18)	Feb	Science	Male	ABC	D	EL C+ grade/D	1.High 2.High	Very low (very low)	12 years	120 days	No	Independent/ Independent	High grades	Performance
Min Min (18)	Feb	Arts	Female	ABC	D	EL B+ grade/C+	1.High 2.High	Very low (very low	10 years	80 days	No	Transitional/ Independent	Pass	Performance

Figure A.35: Summary of Key Findings

	Behaviour											
	MSLQ											
Student	Self-efficacy (5.76)	Effort Regul-ation (5.21)	Self-regulated Learning (5.14)	Intrinsic/ extrinsic motivation (5.28/4.99)	Helpseek-ing/ peer learning (5.00/4.19)	Task Value (5.93); Test Anxiety (3.80)	Study Strategies (Rehearsal (5.38), elaboration (5.19), organization, (5.28)	Metacog-nitive self-regulation (4.82)	Time Manage-ment (5.06)	Critical Thinking (5.08)	Metacog-nitive Learning Beliefs (5.97)	Overall SRL scores
Yi Sen	5.3-5.9	5.0-4.0	4.5-5.2	3.8-4.8/ 5.5-6.3	HS=3.5-5.3 PL=3.3-5.3	TV=4.0-5.5 TA=4.6-4.8	R=4.8-5.8;EL=3.7-5.3; O=4.8-5.5	4.3-5.0	3.9-4.3	5.8-5.6	5.0-5.8	Increase
Yang	6.8-6.5	5.8-6.8	5.8-5.3	6.5-5.8/ 7.0-5.5	HS=5.5-6.0 PL=5.7-4.0	TV=7.0-6.2 TA=2.6-2.8	R=6.0-5.8;EL=6.2-4.7; O=6.3-4.5	5.2-5.1	6.4-5.6	4.0-3.2	6.3-6.5	Decrease
Lisheng	6.6-7.0	3.5-5.5	5.0-5.2	6.3-6.5/ 4.8-3.0	HS=2.5-4.8 PL=2.7-2.7	TV=7.0-7.0 TA=1.6-3.4	R=6.3-4.8;EL=6.3-6.0; O=2.5-2.5	4.9-5.5	5.0-4.4	6.2-5.8	6.3-6.5	Same
Hui Xin	5.1-4.1	4.5-5.5	5.1-4.2	4.0-2.8/ 3.5-1.0	HS=5.3-4.5 PL=5.7-3.7	TV=6.3-5.3 TA=3.1-1.2	R=4.5-3.8;EL=5.8-5.3; O=6.3-5.5	5.3-4.3	5.0-4.4	6.0-5.8	5.0-5.0	Decrease (not ER)
Jing	6.3-7.0	5.3-6.8	5.0-5.4	5.8-6.5/ 3.8-3.8	HS=4.0-4.3 PL=4.7-3.3	TV=5.5-6.3 TA=1.6-1.0	R=5.0-4.5;EL=6.2-6.7; O=6.0-7.0	5.1-6.3	4.6-5.0	5.2-4.6	5.5-5.5	Increase
Huaqing	5.0-4.3	4.5-5.0	4.8-3.9	3.8-4.3/ 2.5-3.8	HS=6.5-6.0 PL=4.0-3.0	TV=5.7-5.7 TA=4.0-5.2	R=6.5-3.0;EL=3.8-2.3; O=5.5-2.8	4.4-2.7	6.0-5.4	2.8-1.8	6.5-4.5	Decrease (not ER)
Dayi	5.3-5.1	6.0-4.3	5.4-4.4	5.0-4.0/ 5.8-3.5	HS=5.8-4.8 PL=1.0-1.3	TV=6.8-5.3 TA=5.6-5.2	R=6.0-4.5;EL=5.7-5.2; O=4.8-3.0	5.1-4.9	5.4-3.3	5.4-4.2	6.8-6.0	Marked decrease
Yi Jie	6.9-6.9	6.3-6.8	5.2-5.1	5.0-5.5/ 3.8-5.5	HS=6.0-4.3 PL=1.7-2.3	TV=5.2-4.8 TA=2.0-3.0	R=4.8-6.0;EL=5.0-4.8; O=6.5-5.5	5.3-5.0	5.5-4.6	6.4-4.2	6.3-7.0	Same
Fei	5.0-6.5	6.0-5.5	5.7-5.6	5.0-4.5/ 5.5-5.5	HS=6.0-5.8 PL=5.7-3.7	TV=5.5-6.0 TA=5.6-4.2	R=6.5-5.8;EL=6.2-5.7; O=7.0-6.5	5.8-5.8	5.1-5.6	5.8-5.4	5.8-5.5	Same (high)
Zhaopei	5.9-4.6	4.0-3.0	4.7-3.9	5.8-4.5/ 2.5-3.0	HS=5.3-3.8 PL=5.7-4.3	TV=6.5-4.2 TA=2.8-4.6	R=4.3-4.0;EL=5.2-4.8; O=2.8-4.5	4.9-4.4	3.3-2.1	6.8-6.0	4.0-3.8	Marked decrease
Min Min	5.6-4.3	3.0-3.0	4.2-4.1	4.5-4.5/ 6.0-6.3	HS=4.8-4.0 PL=4.0-2.3	TV=5.3-5.3 TA=5.2-3.6	R=3.5-5.0;EL=3.5-3.5; O=3.8-5.0	3.3-3.3	3.1-3.5	2.8-3.8	6.0-6.0	Same (very low)

Figure A.36: Self-regulated Learning Changes

Note: Figures in brackets below each heading indicate the MSLQ average for these students.

Appendix B:

Motivated Strategies for Learning Questionnaire (MSLQ):

North American and Mainland Chinese means and explanations of what factors encompass.

Motivation Scales:	NA Mean	Chinese mean (initial MSLQ)
Value Component		
Intrinsic Goal Orientation	5.03	5.28
Extrinsic Goal Orientation	5.03	4.99
Task Value	5.54	5.93
Expectancy Component		
Control of Learning Beliefs	5.74	5.89
Self-efficacy for Learning and Performance	5.47	5.19
Affective Component		
Test Anxiety	3.63	3.78

Learning Strategies Scales:		
Cognitive and Metacognitive Strategies		
Rehearsal	4.53	5.38
Elaboration	4.91	5.76
Organisation	4.14	5.28
Critical Thinking	4.16	5.08
Metacognitive Self-regulation	4.54	4.82
Resource Management Strategies		
Time and Study Environment	4.87	5.06
Effort Regulation	5.25	5.21
Peer Learning	2.89	4.19
Help Seeking	3.84	5.00

Explanations of Factors in MSLQ:

(Note: bold font is added)

Motivation Scales – *Value Component*:

'Goal orientation refers to the student's perception of the reasons why she is engaging in a learning task. On the MSLQ, goal orientation refers to student's general goals or orientation to the course as a whole. **Intrinsic goal orientation** concerns the degree to which the student perceives herself to be participating in a task for reasons such as challenge, curiosity, mastery. Having an intrinsic goal orientation towards an academic task indicates that the student's participation in then task is an end in itself, rather than participation being a means to an end.'(Pintrich et al., 1991, p.9).

'**Extrinsic Goal orientation** complements intrinsic goal orientation, and concerns the degree to which the student perceives herself to be participating in a task for reasons such as grades, rewards, performance, evaluation by others, and competition. When one is high in extrinsic goal orientation, engaging in a learning task is the means to an end. The main concern the student has is related to issues that are not directly related to participating in the task itself (such as grades, rewards, comparing one's performance to that of others). Again, this refers to the general orientation to the course as a whole.'(Pintrich et al., 1991, p.10)

'**Task Value** differs from goal orientation in that task value refers to the student's evaluation of the how interesting, how important, and how useful the task is ("What do I think of this task?"). Goal orientation refers to the reasons why the student is participating in the task ("Why am I doing this?"). High task value should lead to more involvement in one's learning. On the MSLQ, task value refers to students' perceptions of the course material in terms of interest, importance, and utility. (Pintrich et al., 1991, p. 11)

Motivation Scale – *Expectancy Component:*

'**Control of learning** refers to students' beliefs that their efforts to learn will result in positive outcomes. It concerns the belief that outcomes are contingent on one's own effort, in contrast to external factors such as the teacher. If students believe that their efforts to study make a difference in their learning, they should be more likely to study more strategically and effectively. That is, if the student feels that she can control her academic performance, she is more likely to put forth what is needed strategically to effect the desired changes.' (Pintrich et al., 1991, p.12)

'The items comprising this scale assess two aspects of expectancy: expectancy for success and self-efficacy. **Expectancy for success** refers to performance expectations, and relates specifically to task performance. **Self-efficacy** is a self-appraisal of one's ability to master a task. Self-efficacy includes judgements about one's ability to accomplish a task as well as one's confidence in one's skills to perform that task.' (Pintrich et al., 1991, p. 13)

Motivation Scale – *Affective Component:*
'**Test anxiety** has been found to be negatively related to expectancies as well as academic performance. Test anxiety is thought to have two components: a worry, or cognitive component, and an emotionality component. The worry component refers to students' negative thoughts that disrupt performance, while the emotionality component refers to affective and physiological arousal aspects of anxiety. Cognitive concern and preoccupation with performance have been found to be the greatest sources of performance decrement. Training in the use of effective learning strategies and test-taking skills should help reduce the degree of anxiety.' (Pintrich et al., 1991, p.15)

Learning Strategies Scale – *Cognitive and Metacognitive Strategies*:
'**Basic rehearsal strategies** involve reciting or naming items from a list to be learned. These strategies are best used for simple tasks and activation of information in working memory rather than acquisition of new information in long-term memory. These strategies are assumed to influence the attention and encoding processes, but they do not appear to help students construct internal connections among the information or integrate the information with prior knowledge.' (Pintrich et al., 1991, p.19)

'**Elaboration strategies** help students store information into long-term memory by building internal connections between items to be learned. Elaboration strategies include paraphrasing, summarizing, creating analogies, and generative note-taking. These help the learner integrate and connect new information with prior knowledge.' (Pintrich et al., 1991, p. 20)

'**Organization strategies** help the learner select appropriate information and also construct connections among the information to be learned. Examples of organizing strategies are clustering, outlining, and selecting the main idea in reading passages. Organizing is an active, effortful endeavour, and results in the learner being closely involved in the task. This should result in better performance.' (Pintrich et al., 1991, p21)

'**Critical thinking** refers to the degree to which students report applying previous knowledge to new situations in order to solve problems, reach decisions, or make critical evaluations with respect to standards of excellence.' (Pintrich et al., 1991, p.22)

'**Metacognition** refers to the awareness, knowledge, and control of cognition. We have focused on the control and self-regulation aspects of metacognition on the MSLQ, not the knowledge aspect. There are three general processes that make up metacognitive self-regulatory activities: planning, monitoring, and regulating. Planning activities such as goal setting and task analysis help to activate, or prime, relevant aspects of prior knowledge that make organizing and comprehending the material easier. Monitoring activities include tracking of one's attention as one reads, and self-testing and questioning: these assist the learner in understanding the material and integrating it with prior knowledge. Regulating refers to the fine-tuning and continuous adjustment of one's cognitive activities. Regulating activities are assumed to improve performance by assisting learners in checking and correcting their behaviour as they proceed on a task.' (Pintrich et al., 1991, p 23)

Learning Strategies Scale – *Resource Management Strategies*:
'Besides self-regulation of cognition, students must be able to manage and regulate their time and their study environments. **Time management** involves scheduling, planning, and managing one's study time. This includes not only setting aside blocks of time to study, but the effective use of that study time, and setting realistic goals. Time management varies in level, from an evening of studying to weekly and monthly scheduling. **Study environment management** refers to the setting where the student does her class work. Ideally, the learner's study environment should be organized, quiet, and relatively free of visual and auditory distractions.' (Pintrich et al., 1991, p.25)

'Self-regulation also includes students' ability to control their effort and attention in the face of distractions and uninteresting tasks. **Effort management** is self-management, and reflects a commitment to completing one's study goals, even when there are difficulties or distractions. Effort management is important to academic success because it not only signifies goal commitment, but also regulates the continued use of learning strategies.' (Pintrich et al., 1991, p.27)

'**Collaborating with one's peers** has been found to have positive effects on achievement. Dialogue with peers can help a learner clarify course material and reach insights one may not have attained on one's own.' (Pintrich et al., 1991, p.28)

'Another aspect of the environment which the student must learn to manage is the support of others. This includes both peers and instructors. Good students know when they don't know something and are able to identify someone to provide them with some assistance. There is a large body of research that indicates that **peer help, peer tutoring, and individual teacher assistance** facilitate student achievement.' (Pintrich et al., 1991, p.29)

Pintrich, P. R., Smith, D. A. F., Garcia, T. & McKeachie, W. J. (1991). *A manual for the use of the Motivated Strategies for Learning Questionnaire (MSLQ)*. Ann Arbor, Michigan: The University of Michigan.

Appendix C:

<u>Western epistemological beliefs</u>

Perry (Hofer & Pintrich, 1997; Perry, Jr., 1999) first introduced the ideas of stages of intellectual development with his research on liberal arts students at Harvard University in the 1950s and 60s. He suggested three stages of development, which he later expanded to nine. According to Kitchener and Wood (1987), who advanced a seven-stage model of Reflective Judgement, these stages occur at specific ages. From their US research (Kitchener, Lynch, Fischer & Wood, 1993) they have found that rapid increases in epistemological development occur at ages 14-15 (Stage 5), 19 (Stage 6) and 24-25 (Stage 7). These stages appear to correspond to times of educational change in the US and 'may be due to some extent to the increased demands of a changing educational environment' (p. 904). Therefore, there has been the suggestion (Moore, 1994, cited in Hofer and Pintrich, 1997), that at the upper levels of the model results may have more to do with the effects of the students' Western education and its' values rather than actual developmental steps. As students reach these different stages they are able to complete all the intellectual tasks below that stage of thinking and none that are above it (Kitchener et al, 1993). Furthermore, these authors hypothesize that 'ordinary functional growth' is slower than 'optimal' growth by several years (p. 905) and it is quite an effortful process for an individual to operate at their 'optimal level' even when provided with outside support. The maximum speed of change appears to be one stage movement in two years of education in North America (although Kitchener and Wood (1987) found that this was not the case for German graduate and undergraduate students) and it seems that the change is slower for older students, perhaps due to the 'ceiling' effect of the model (King, Kitchener, Davison, Parker & Wood, 1983, p. 114; Kitchener et al., 1993). Once a student reaches a new stage of the model, the responses they would make from a previous stage diminish and most of their responses will come from their main stage of reasoning about knowledge (Davison, King, Kitchener & Parker, 1980). King et al. (1993) also point out that males score higher on their model once the effect of verbal ability is removed; however, King and Kitchener (2002) hypothesize that this may be due to the larger number of males who obtain graduate degrees compared to females. From their research, Felder and Brent (2004) have suggested that engineering and science students move more slowly through the stages of epistemic belief about knowledge than humanities students as their education has, at least in the past at undergraduate level, been more fact-based and has not required them to think too deeply and question ideas too strenuously.

Felder and Brent, furthermore, comment that the types of tasks and instruction that are provided at secondary level will have an effect on the type of beliefs about knowledge that students possess when they enter tertiary institutions. If, at secondary level, they are forced to consider difficult ideas and find solutions, their level of epistemic beliefs about knowledge may be more advanced than if they are in a teacher-led environment where all the answers are given and few are questioned. Furthermore, if they are constantly given multi-choice tests they may conclude that knowledge equals facts and study equals memorisation (Hofer & Pintrich, 1997). These authors also suggest that a student's emotional state may affect their epistemological development. Hofer (2000) found that 1^{st}-year college students consider knowledge in science to be more certain and unchanging than in psychology or history and, according to King & Kitchener (2002), most undergraduates are at Stage 4 of their model, the point where they can recognise ill-structured problems (problems with no clear answers).

In addition, Andre and Windschitl (2003) point out that a student's epistemological beliefs will affect what they consider to be the aims of learning. Those who are absolute thinkers will view acquisition of facts as the aim and be unable or unwilling to view 'anomalous data' as relevant and important. Changes in epistemological beliefs for these students may occur once the possibility is accepted that new knowledge does not agree with old knowledge, whereas those who hold independent or contextual beliefs are likely to see knowledge as negotiated, changing and uncertain and be less accepting of information and more reflective and enquiring about that information (also Mason, 2003).

The model of epistemological development makes a number of assumptions which may affect students' learning. The first assumption is that students' beliefs about knowledge affect how they go about learning; for example if knowledge is certain, absolute or simple then it acceptable to use study strategies of memorisation and repetition of exactly what the teacher said in order to learn (Hofer & Pintrich, 1997; King & Kitchener, 2002) and there is no reason to attempt to use deeper processing strategies such as elaboration. However if knowledge is relative and a student needs to make their own decisions, then it may be necessary to think much more carefully and critically about the knowledge in order to make a decision about it. Secondly, these beliefs about knowledge change over time and thirdly, the beliefs students have about knowledge 'are tied to their sense of self' (King & Kitchener, 2002).

It is possible, furthermore, that there is a link between high epistemological beliefs, mastery goals and deep learning (Hofer & Pintrich, 1997); and also a positive connection with 'intrinsic

motivation, self-efficacy, self-regulated learning and academic performance' (Hofer, 1994, cited in Hofer & Pintrich, 1997, p. 128). Perry, Jr. (1999) and Boyes and Chandler, cited in Hofer and Pintrich (1997) both suggest that in times of change (such as moving to a different level of education or school) an individual may feel stressed, unable to cope or alienated and as a result of this may retreat back to a more secure and well grounded stage of epistemological belief to reduce the stress, rather than forcing themselves to develop further. King and Kitchener (1994) consider 'openness to new interpretations of experience' (possibly measured by novelty in the CPAI-2) as a key indicator of certainty or uncertainty of knowledge (cited in Andre & Windschitl, 2003, p. 184). Development of epistemological beliefs seems valuable since if one is willing to consider other points of view more fully, Mason (2003) speculates that this behaviour may facilitate 'more effective reasoning and critical thinking' (p. 201). In addition, apparently students who espouse more developed epistemological beliefs tend to write more coherent essays, understand controversial reading passages more fully and demonstrate enhanced maths concept understanding (Schommer, cited in Mason, 2003).

Another model of the development of epistemological beliefs has been proposed by Baxter Magolda in her Measure of Epistemological Reflection, which incorporates four stages of beliefs about knowledge moving from absolute beliefs, through transitional, then independent to contextual belief (See Appendix D or Figure 2.1, p. 34, for more detail). Baxter Magolda (2003) comments, that for US students' university study does not achieve the maturity of thinking and knowledge of self needed for future adult life. In fact she suggests that it may encourage reliance on external authorities, thus slowing down or preventing the acquisition of internal authority. In order for this maturity of thinking to develop she says that individuals need some success after university, a degree of dissonance in their life, to learn to listen to internal cues and act on them (Baxter Magolda, 2001b). Teaching the students to think, to deal with complex tasks, rewarding independent thinking and modelling contextual thinking during their years in university may enable students to develop this internal authority earlier, according to Baxter Magolda (2003). However, if students listen to external voices when making their first choices regarding study and careers instead of listening to their own voice, this may lead to dissonance in their lives (Baxter Magolda, 2001b) which may later lead to epistemological change.

> Many students enter college having learnt how to follow formulas for success, lacking exposure to diverse perspectives and unclear about their own beliefs, identities, and values … Extracting themselves from what they have uncritically assimilated from authorities to define their own purposes, values, feelings, and meanings involves far more

than information and skill acquisition. It requires a transformation of their views about knowledge, their identity, and their relations with others (Baxter Magolda, 2007, p. 69).

Different authors have postulated slightly different models with different labels for epistemic belief stages, but there seems to be reasonable agreement that these stages supersede each other; that students will have a 'modal' or main stage of reasoning, but may also express beliefs from one stage above or below that modal stage; and that age and educational level affect the stage a student is in their thinking. More recently, Andre and Windschitl (p. 187, 2003) highlight the debate about whether epistemological beliefs are unchanging in a person at a given time despite changes in topic or domain and whether they do actually exist on a 'continuum' (also suggested by Kitchener et al., 1993). They suggest instead that one individual may have different knowledge beliefs in different areas and yet not see the conflict in their life.

Comments on MER and Chinese educational culture

Problems with using the MER in Mainland China

The MER questionnaire measuring students educational and knowledge beliefs produced some interesting differences from the North American original results. Firstly, very few students appeared to have tidy responses where everything in their questionnaire was more or less at the same level of response; instead responses seemed to be at a mixture of levels and even within one area responses were mixed. Secondly, some seemed to regress in their responses in some areas in their second questionnaire (for example a response that seemed to be independent the first time might, in the second questionnaire, be transitional). Therefore, it may be that a number of the questions posed in this questionnaire may be culturally invalid and that the significance of the levels of belief may be different at least initially for students from Mainland China.

In answering the questionnaire, students often seemed to provide their own opinion and also a cultural opinion, especially if exams or assessments were mentioned. In that situation they would then say they would learn what teacher taught even if they did not believe it. This may be because learning and assessment are very important to them and they do not like peers disrupting their learning from the teacher because they need those ideas for their academic success. Do those who have been here longer and have been taught at English language school have different ideas about teacher and student roles? Have their beliefs about knowledge changed more than those who just arrived? (Possibly, however Lisheng, Hui Xin, and possibly Huaqing had higher beliefs. This may have more to do with intelligence and previous independent learning than any Western influence).

One reason for these anomalies could be that questionnaires and interviews, which were used as supplementary verification of ideas, took place several months apart and thus responses may have had time to change. Secondly, depending on how the question was asked in the interview compared with the questionnaire and what the student was thinking about may have resulted in different responses. Also, if, in the questionnaire they responded to the questions on the final page about knowledge construction by talking about only science or only history, their responses may have been different. Furthermore, as questionnaires and interviews asked about whether something could be true or correct, this may have been a leading question causing respondents to answer using the words true or correct which may have affected the interpretation of their answer. In addition, initial translation, while as accurate as possible, may have missed subtleties of meaning in the English original and/or cultural nuances may have been incomprehensible to the respondents. What is more, students were answering several questionnaires at one time and this may have had an effect on how clearly they read, understood and answered the questionnaire. Perhaps the pages of the MER should have clearly designated headings explaining the change in questioning from page to page so that students do not continue an idea over from one page to another as a few seem to have done.

Why do these students from Mainland China appear to have markedly different epistemological beliefs to North American students? Students who are gifted or of above average ability are generally unable to ask questions and dispute knowledge in class (or outside) as knowledge is transferred by authorities in CHC culture and is unchallengeable. However if students regularly see inconsistencies in what they are told and can only dispute them in their own head as they have no time or permission to dispute ideas, this may lead to dissonance which Baxter Magolda (2002) says is what is needed for a movement in epistemological beliefs. It may also encourage critical thinking even if it is not expressed openly. If school experiences challenge them from an early age their belief changes may be more rapid than US students who are allowed to question openly and so may not feel the same dissonance. These Chinese students then come to another culture with different language, learning styles and expectations and experience more dissonance and possibly more challenge to their epistemological beliefs. It is possible that students who have been here for longer may have more advanced epistemological beliefs than ones who have been here for a shorter time; firstly, due to a greater length of time of dissonance; secondly, because these students have had time to get over any real shock and possible retreat to safety in epistemological beliefs (as suggested by Perry, Jr., 1999). When making this suggestion it is necessary to take age and academic ability into account, as these may affect results. This is because older students

should have developed further through the stages, and having higher ability may also mean they think deeper and thus advance more rapidly.

One problem is that most students also want to agree with teacher (as the teacher holds the authority and also the marking of and creating of exams). Thus, when they talk to the researcher (a teacher in their programme), does this mean they actually have absolute beliefs or is it just that their cultural expectations mean they will express absolute beliefs about knowledge when study and learning is mentioned to a teacher in an educational environment? It seems that Yi Jie, who had left school for three years and worked, expresses more advanced beliefs initially and then relapses back to believing what the teacher says as life gets more stressful and grades more important. From these findings it seems that even lower ability and younger students have higher epistemological beliefs initially. Perhaps this is because the type of student who is willing to study overseas and feels dissatisfaction with their country's education system rather than just accepting it is a student who will usually score higher on diversity and divergent thinking. This may mean they have been questioning the educational status quo much more than a Chinese student who stays at home or a US student who only has the challenge of higher education to deal with, rather than the challenge that all of life has changed.

Zhang and Watkins (2001) have discovered in their research that mainland 'Chinese students' cognitive development progressed in a direction opposite to that described by Perry' (p. 241) and expressed beliefs indicative of Perry's relativism and commitment scales in their early undergraduate years and then became more dualistic (or absolute in Baxter Magolda's model) in later undergraduate years. The two authors suggest that this may be due to the lack of choice experienced by these students in their undergraduate studies resulting in less cognitive dissonance due to lack of challenge. However, the students in my study could be expected to have encountered a strong degree of dissonance over the course of their year in the Foundation Studies course due to different teaching methods and study expectations as well as cultural differences and the need to live independently. Furthermore, some of these students had already experienced a length of time studying here at English language classes and so may have reconciled some of their dissonance by the time they entered the course. Nevertheless, a few came directly from Mainland China to do the course and it might be expected that their initial cognitive development might be closer to that found by Zhang and Watkins. Interestingly, dissimilar to US studies, the researchers found no connection between the student's epistemological development and their academic achievement and queried whether this meant that epistemological development is not needed for Chinese students to be academically successful. This would seem to be the case since, as indicated

in interviews, students were able to make themselves study because they had to, and as up until that point at least, memorisation and surface learning tactics had worked well for Chinese high school learning, their beliefs may have been able to be quite independent of their study practices. Also, cue seeking and reacting to high repetitive workloads may, for some, have required rote learning to attain university entrance (which may be compared with some of the students' perceptions that the Foundation Studies course provided university entrance and simply required the same learning strategies as in China, except when studying English). Zhang and Watkins also suggest that the use of memorisation as a route to understanding for higher achieving students may cause a difference in their epistemological development. If Chinese students do start with higher levels of epistemological development does this mean that they begin learning with deep strategies? Perry (1981), cited in Zhang and Watkins suggests that, as students' beliefs about knowledge changed, so too would their ways of learning change and they should utilise deeper strategies. Despite this they also point out that Chinese students appear to think in concrete terms; a possible sign of an absolute belief about knowledge.

Chinese students, due to years of intensive study, appear to be masters at knowing the skills needed to achieve academically. Nevertheless, Zhang and Watkins (2001) point out that one individual with different strengths and weaknesses will find the different events they encounter in their studies and lives more or less challenging and dissonant than will a different individual. Thus these differences may affect students' cognitive development in different ways. (They also mention that travel within their country or abroad, previous employment and leadership involvement appear to predict the degree of relativistic beliefs a student expressed. As these students have all travelled abroad and one had had previous employment, it might be expected that their epistemological beliefs would have changed or be changing from initial absolute beliefs).

It is possible that critical thinking skills in China develop in students with higher ability through their questioning the information delivered to them in class even if they cannot dispute these ideas in exams. Theories of epistemological change (including Baxter Magolda's) discuss being stretched and producing dissonance and challenge to ideas in order for change in thinking and movement between stages of the model to take place. It appears that Chinese education may provide this dissonance for higher ability students because they must learn what the teacher tells them for their exams which are vitally important for their future, but at the same time they may disagree with these ideas. This may cause them to think about the ideas more deeply and result in changes in their MER stage on the model. They then come to New Zealand and experience more dissonance from the change in culture and teaching which may again affect their way of thinking.

Therefore if a student has been here longer, do they have epistemological beliefs at a higher level than those who have been here for a shorter time, taking into account age and ability as measured by grades and previous experience of independent learning?

Chinese students may be able to compartmentalise their lives much more than Western students do and have separate compartments for 'my beliefs' and 'my beliefs to help me succeed academically'. They may have little free time to examine these two compartments together, however for those who do; this would appear to be something that would increase dissonance for students. Perhaps students who have extremely high achievement motivations and/or are quite young may have simply never argued with the teacher, even in their mind, and thus the dissonance is not there. However, for any student who thinks critically; and all students (except Huaqing, who had low to very low scores for diversity, divergent thinking and novelty) had high scores on this, it seems the dissonance must be there in the background constantly.

Cultural effects on the MER responses

One part of the MER asks about how students make decisions. As Chinese students see themselves as closely linked to their in-groups, it is seen as culturally acceptable and perhaps expected, to ask for advice or approval from one's family or group before finalising a decision (Yu, 1994, cited in Yu, 1996). This cultural behaviour may affect students' comments about decision making and knowledge beliefs. Another issue is that culturally Chinese students are expected to listen to and obey the external cues from their parents, teachers and other groups in their society, while Baxter Magolda (2001b) mentions that for North American students to develop in their epistemological beliefs and find their own voice they need 1) experience of initial post-college success 2) dissonance 3) learning to listen to external cues 4) need to act on internal cues. From her longitudinal research she believes that student career and educational choices are often made without listening to the students own voice which leads to dissonance. Yet, as it is a part of their cultural expectations, compared to Western expectations of developing independence, it may be acceptable to Chinese students to continue to listen to external voices because of their cultural upbringing (which may then create less dissonance). However, perhaps they too need to develop internal authority. Do all individuals need their expression of individuality and autonomy expressed in whatever way is appropriate and available in their culture, as mentioned by Iyengar and Lepper (1999) and do some find that moving to a Western culture allows them more freedom to do so? Future research may be needed to illuminate this in the future.

The MER judges students who require the teacher to provide all the information and to be all knowledgeable to have absolute beliefs about teacher student relationships. This may be true

given that the educational culture these students come from teaches and requires this; nevertheless it is also possible that students may need the teacher more in a new environment because they are encountering new learning, ideas, vocabulary and thus need more guidance. The MER also deems that this way of thinking is less developed than others stages of thinking, yet for Chinese students with strong cultural expectations of who is responsible for knowledge and how it is passed on, this may not be valid. Another possibility is that due to the dissonance and stress of the new environment students' beliefs regress to a safe and stable position (Perry, Jr., 1999; Hofer & Pintrich, 1997). At the same time they also encounter new ways of teaching that they may not have experienced before. As mentioned earlier, all of these novel and diverse changes may cause their epistemological beliefs to alter in some way. Hofer & Pintrich (1997) also discuss a possible link between high epistemological beliefs, mastery goals and deep learning (as well as with 'intrinsic motivation, self-efficacy, self-regulated learning and academic performance'; Hofer & Pintrich, 1997, p. 128). Furthermore, they suggest that types of tasks and ways of teaching may shape students epistemological beliefs over time and for Chinese students who have experienced a great deal of exams with exact answers (facts) and large amounts of study that must be memorized, it would seem that absolute beliefs are being encouraged. Hofer and Pintrich also mention the possibility that in collectivist cultures an individual's epistemological beliefs look for 'consensus' (p. 130), rather than independence, which appears to be something the eleven students were espousing.

There appears to be some confusion of epistemological stages in student MER responses especially for the first questionnaire. If MER questionnaires were carried out a month or two earlier than the interviews which was the case, might this affect how students view knowledge? Could ideas start to change during those two to three months due to dissonance from presentation of new ideas and ways of learning? It should be noted that some of these students had been in New Zealand for a number of months before beginning the course and that this may have started the move to a further stage of thinking.

A number of students MER results seemed to regress with the second questionnaire. One possibility is that in the first MER questionnaire students may talk about their ideals (especially if they are out of the Chinese education system for the first time and have experienced some Western English Language teaching). However, the second MER questionnaire was completed for many when they were in the midst of numerous assessments and due to this pressure their beliefs may have reverted to their original Chinese educational beliefs; a safe place where the idea is to work appropriately so that they are successful in their studies.

Do beliefs about learning and knowledge have an effect on student outcomes and experiences? Students will choose lower level rehearsal strategies if they have absolute beliefs that knowledge cannot be questioned. Perhaps students are unable to indulge in deep learning/critical thinking until they have developed at least transitional or independent beliefs.

Students with higher ability or epistemological beliefs may have different learning needs to those who still believe knowledge to be absolute or have not thought seriously about what they believe. Silverman & Casazza (2000) say that Chinese students who use higher level thinking want more diversity, abstraction and less structure in their learning and if they are still in the earlier stages of thinking they want more structure, and less abstraction and diversity. Thus independence and autonomous learning requiring self-regulation may be more possible and relevant for those students who have begun to think in less absolute ways.

It should be noted that a number of the students, not only those who are older but also younger ones with higher grades seemed to have developed in their epistemological beliefs. If the Measure of Epistemological Reflection stages are universal, this may mean that Chinese learning develops more mature epistemological beliefs. Firstly, due to the dissonance created by the educational system, its stresses and rigidity ; secondly, the fact that these students have made major changes in their living and studying systems thus creating more dissonance and thirdly, the possibility that the MER, while tested on those in tertiary education may nevertheless have tested those who had remained in the same town or state all their lives and experienced an educational system which did not have the same rigidity and stresses and thus produce the same degree of dissonance. A fourth possibility is that some of these students, in general, while no older than North American students at college, may have higher grades than American students studied by Baxter Magolda (1992) and, as measured by the CPAI-2 and their decision to move to another country to study, may have higher levels of divergent thinking, acceptance of diversity, enterprise and novelty than North American students studying in their home country may have. Nine of the eleven students in this study had scores for divergent thinking at or above the Chinese mean and ten out of eleven had the same for diversity. All of these traits may have an effect on how much a student questions what they are told and also how willing they are to consider foreign and challenging ideas. However, as results appear not to provide any clear evidence of this happening, it would seem that other factors such as students' self-efficacy beliefs may be more relevant.

Do epistemological beliefs affect self-regulated learning? They do not seem to. Those with the highest grades seemed to be lowest on epistemological beliefs but had also been in the country for a short time, except for Hui Xin who has also experienced previous independent learning.

Williams & Deci (1996) found that more academic autonomy leads to more conceptual learning, more enjoyment and the ability to deal with failure. Could this be the case with Hui Xin as she likes learning from concepts, analogy, and inference; and could this be part of the reason she was more successful? Furthermore, Schmeck & Geisler-Brenstein (1989) said that for students of all abilities who have internal control (possibly the same as internal locus of control) a deep approach to learning is better. Yi Jie had a surface approach to learning, and used memorisation, but also reported a strong internal locus of control. He did not enjoy his learning which he saw as a means to an end. Using a surface approach when a deep approach might be better may reduce enjoyment of learning; while using a deep approach may perhaps result in more enjoyment of learning. For example, Jing talked about getting deeper into learning, had a high internal locus of control and expressed enjoyment of her learning.

If Chinese students have strong beliefs in simple, certain and innate knowledge, is this due to a social and educational culture which expects docility, agreement and relies on authority figures for knowledge? Williams & Deci (1996) said that Chinese may have low epistemological beliefs yet are still able to make conceptual change, unlike Americans, possibly because their epistemological beliefs are not closely linked to educational success as in America or because the questionnaires use Western cultural ideas. Finally, Moore (2002) said that it has been shown that students' learning problems may stem from their conception of knowledge rather than from inability, lack of motivation, or study skills.

Further Research Questions:
This research has also brought up other questions which may be able to be addressed by this or future research. Firstly, do those students whose help seeking and peer learning decrease (thus removing further supports from their learning) also change MER stages more rapidly due to more stress and dissonance, or do they regress? Secondly, does a student's level of belief about knowledge affect their success at all? Thirdly, do divergent thinkers start the course with higher epistemological beliefs? Also, do those of higher intellectual ability (as measured by grades) develop more complex epistemological beliefs more rapidly than those with lower intellectual ability?

In conclusion, it is possible that while there are basic developmental aspects to change in epistemological beliefs of students as they progress through their studies, the environment and cultural beliefs and expectations may play a key role in how different cultures develop knowledge beliefs and thus the North American model of epistemological development in its entirety may only be valid for that particular culture and a different model may need to be developed for non-Western and collectivist cultures.

Appendix D:

Epistemological Reflection Model

Domains	Absolute Knowing	Transitional Knowing	Independent Knowing	Contextual Knowing
Role of learner (student)	Obtains knowledge from instructor	Understands knowledge	Thinks for self Shares views with others Creates own perspective	Exchanges and compares perspectives Thinks through problems Integrates and applies knowledge
Role of peers	Shares materials Explain what they have learnt to each other	Provide active exchanges	Share views Serve as a source of knowledge	Enhance learning via quality contributions
Role of instructor (teacher)	Communicates knowledge appropriately Ensures that students understand knowledge	Uses methods aimed at understanding Employs methods that help apply knowledge	Promotes independent thinking Promotes exchange of opinions	Promotes application of knowledge in context Promotes evaluative discussion of perspectives Student and teacher critique each other
Evaluation	Provides vehicle to show instructor what was learned	Measures students' understanding of the material	Rewards independent thinking	Accurately measures competence Student and teacher work towards goal and measure progress
Nature of (beliefs about) knowledge	Is certain or absolute (the answer will be found somewhere sometime)	Is partially certain and partially uncertain	Is uncertain – everyone has own beliefs	Is contextual; judge on basis of evidence in context

Adapted from Baxter Magolda, M. B. (1992). *Knowing and reasoning in college: Gender-related patterns in students' intellectual development*. San Francisco: Jossey-Bass.

Appendix E:

CPAI-2 Personality Factors, their underlying scales and Chinese means for each scale.

SOCIAL POTENCY

Social Potency Scales	Chinese Means for each scale
Novelty (NOV)	5.96
Diversity (DIV)	6.26
Divergent Thinking (DIT)	6.05
Leadership (LEA)	4.85
Logical v. Affective Orientation (L-A)	6.45
Aesthetics (AES)	5.79
Extraversion v. Introversion (E-I)	5.55
Enterprise (ENT)	5.26

DEPENDABILITY

Dependability Scales	Chinese Means for each scale
Responsibility (RES)	6.01
Emotionality (EMO)	3.84
Inferiority v. Self-Acceptance (I-S)	5.18
Practical Mindedness (PRA)	8.24
Optimism v. Pessimism (O-P)	6.55
Meticulousness (MET)	5.88
Face (FAC)	5.11
Internal v. External Locus of Control (I-E)	5.12
Family Orientation (FAM)	6.71

ACCOMMODATION

Accommodation Scales	Chinese Means for each scale
Defensiveness (Ah-Q Mentality) (DEF)	3.14
Graciousness v. Meanness (G-M)	6.92
Interpersonal Tolerance (INT)	6.45
Self v. Social Orientation (S-S)	4.58
Veraciousness v. Slickness (V-S)	7.57

INTERPERSONAL RELATEDNESS

Interpersonal Relatedness Scales	Chinese Means for each Scale
Traditionalism v. Modernity (T-M)	6.78
Ren Qing (Relationship Orientation) (REN)	10.07
Social Sensitivity (SOC)	7.72
Discipline (DIS)	6.14
Harmony (HAR)	10.83
Thrift v. Extravagance (T-E)	6.35

Note: While Clinical Scales were included in the CPAI-2 questionnaire which was administered to the eleven students these scales have not been differentiated out as looking for students personal problems was not the purpose of the questionnaire. The purpose was to ascertain whether any personality factors or scales might appear to have an effect on their ability to self-regulate their behaviour and be successful at university.

From information received in an e-mail attachment from Shu Fai Cheung, University of Macau, 22 October, 2005.

Appendix F:

Explanation of most Chinese Personality Assessment Inventory Scales

(from Cheung, Kwong, & Zhang, 2003, pp. 98-100)

Dependability Factor

Practical Mindedness – a high score indicates a person is 'steady; realistic and practical; works step by step; likes to do work with concrete outcomes; emphasizes actual gains; tends to be prudent, dutiful, and emotionally stable'.

Emotionality – a high score indicates a person who is 'hot-tempered; impulsive; capricious; temperamental; apprehensive and gloomy; hostile; vulnerable and emotionally unstable'.

Responsibility – a high score indicates a person who is 'serious; solemn; dependable; punctual; prudent; orderly; not afraid of difficulties; persistent; dedicated; starts and finishes projects well'.

Inferiority versus self-acceptance

Inferiority – a person who is high on inferiority is 'timid and weak; self-pitying; lacks self-confidence; compliant; does not have strong opinions of one's own; sees oneself as incompetent; tends to be gloomy, vulnerable, anxious, and emotionally unstable'.

Self-acceptance - a person who is high on self-acceptance 'believes in one's own abilities; is undaunted by difficulties; dares to take on responsibilities; optimistic and progressive, but sometimes lacking in modesty and awareness of own limitations'.

Optimism versus pessimism

Optimistic – a person who scores high for optimism is 'energetic; feels hopeful and confident; bears a positive attitude towards life; gives others a lively and vivid impression'.

Pessimistic – a person who scores high on pessimism is 'low-spirited; weary of the world; disappointed about the present and the future; grumbles passively; often sees the negative side of things; unable to let go of unhappy events'.

Meticulousness – a high score on this factor indicates a person who is 'cautious; reliable; serious; scrupulous about every detail; works systematically; arranges life in an orderly way;

does things in a rigid manner; excessively concerned with details; tends to be orderly, deliberate, and self-conscious'.

External versus internal locus of control
External locus of control – a person who has a high score 'emphasizes objective conditions in handling affairs; attributes success and failure to external factors; believes in luck, fortune, and fate; submits to destiny'.
Internal locus of control – a person who has a high score 'stresses one's own abilities in handling matters; makes internal attributions for success and failure; believes in human control over destiny; takes initiatives'.

Family Orientation – a high score on family orientation indicates a person who is 'filial-pious; values family bonding; takes good care of the family; values harmony in the family; positive relations between parents and children'.
Face – a high score indicates a person who is 'concerned about face; loves to show off; strong sense of self-respect; pays excessive attention to social recognition; self-conscious'.

Interpersonal Relatedness Factor

Harmony – a high score indicates a person who 'values harmony; willing to sacrifice to make peace; makes concessions to appease others; non-competitive; maintain peaceful relationships with others; calm and serene'.

Ren Qing (Relationship Orientation) – a high score indicates a person who 'values old friendships; interpersonally sensitive; courteous; takes the initiative to strengthen interpersonal relationships; caters to others wishes; may forsake one's own principles in the effort to attend to others demands'.

Modernization – a high score indicates a person who is 'liberal; dares to challenge traditional ideas; rejects traditional customs; advocates individual freedom; opposes feudalism and superstitions; open to different values'.

Thrift versus Extravagance
Thrifty – 'plain and unassuming; stingy; down-to-earth; frugal; unwilling to discard useless old things'.
Extravagant – 'squanders; high consumption; likes to buy expensive things; hedonistic; flaunts one's riches'.

Social Potency Factor

Diversity – a high score indicates a person who is 'flexible; reacts swiftly; adapts to changing circumstances quickly'.

Introversion versus extraversion
Introverted – 'solitary; likes to be alone; quiet; retreating; unsociable; shy'.
Extroverted – 'sociable; talkative; enjoys social gatherings; has many friends; assertive; warm'.

Leadership – a high score indicates a person who is 'ambitious; decisive; seeks challenges; independent; believes in one's own capacity to influence others; willing to adopt the leading role in a group; actively takes initiatives'.

Novelty – a high score indicates a person who is 'bold; willing to try new things; dares to take risks; has the courage to reform; explores the unbeaten paths; dares to be original; excitement-seeking; may act rashly'.

Logical versus Affective orientation
Logical – 'objective; emphasizes logic; good at controlling emotions; analytic; makes judgements or truth vs. falsehood'.
Affective – 'sentimental; relies on intuition; acts according to emotions; easily agitated; makes judgements of good vs. evil'.

Accommodation Factor

Defensiveness (Ah-Q Mentality) – a high score indicates a person who 'likes to boast; passive-aggressive; likes to show off accomplishments; bullies the weak and fears the strong; lacks the courage to confront failure; indulges in fantasies to comfort oneself; rationalizes to conceal one's sense of inferiority; tends to be narrow-minded'.

Graciousness versus Meanness
Gracious – 'magnanimous; tolerant; not calculating; bears no grudges; treats others leniently; optimistic and generous; deals with matters flexibly; accepts others easily'.
Mean – 'nitpicking; jealous; overly critical of others; sarcastic; demanding; scathing; seeks opportunities for retaliation; takes pleasure in others misfortune; hostile and calculating'.

Veraciousness versus Slickness

Veracious – 'sincere; honest and unassuming; true to facts; adheres to principles; speaks from the heart; upright and scrupulous; acts for collective interests; trusting; tends to be uninteresting'.

Slick – 'boastful; emphasizes superficial qualities; suave; smooth; slippery; avoids offending others'.

Self versus Social Orientation

Self-oriented – 'self-centred, not afraid of solitude; unwilling to join cooperative activities; does not conform to the crowd; selfish; does things alone; independent; does not like others' interference; unwilling to receive help from others'.

Socially oriented – 'gets on well with other; feels comfortable in a group; willing to cooperate with others in activities'.

Clinical Scales

Includes Depression; Physical symptoms; Anxiety; Somatization; Hypomania; Antisocial behaviour; Need for attention; Pathological Dependence; Distortion of reality; Paranoia; Sexual Maladjustment.

Appendix G:

<u>Possible First Interview Questions</u>

Family life – other siblings, who brought them up (parents, grandparents, daycare). Where are they from?

Parental concern for study and subject choice (especially for university study)

Schooling in China – Key schools? Describe your school (private/state; resources available; class size, homework, exams). How did your teacher teach you (teacher/student centred)? Did you enjoy learning in China?

How do you go about learning? When you write an essay? When you have a test? When you have some key points to remember? When you have to read an article or textbook?

If a subject is difficult, how do you help yourself learn it?

i) If you read in one textbook that something is true and then another textbook or your teacher tells you that it isn't true, who do you believe? ii) How do you decide what you will believe? iii) Can you ever know if one is more correct than the other?

Why come to NZ? Who decided? Where are you living (flat – on own or with friends)?

In NZ how does your teacher teach you? OR
If you did IELTS classes here, what are they like? How does the teacher teach?

Goals for future (this year, next year, etc.)

How do you feel you will do in your studies this year?

How important are your studies to you?

What does success mean to you?

Where did you go to school in China?

<u>Possible Second Interviews Questions</u>

Where and with whom are you living? Has this changed? How does this affect your ability to study?

How are you finding the FS course (what things are easy, what are difficult)? Why?

What types of teaching are you experiencing in FS? (How do your teachers teach you? Compare with China if necessary. Did you have any western teachers in China? If so, for how long?)

How do you feel about your studies (English/other subjects)?

What do you see as your likelihood of success this year? Has your expectation of success changed at all? How? Why?

What are your present and future goals? Have they changed over the year? How? Why?

Appendix H:

Entry and Exit requirements for the Foundation Studies Programme at the time this research was carried out

ENTRY REQUIREMENTS:

Suitable high school leaving grades in academic subjects

Either an IELTS score of minimum 5.5 with no individual score less than 5, or a pass at Level Three English Language (part of Bridging Programmes)

EXIT REQUIREMENTS:

A pass in the compulsory subjects of English and Study Skills and Computing

Plus a pass in 2-3 other subjects and an overall average of C

Note: The Foundation Studies Programme at that time took in students twice a year; once in late February and again in early June. February intake students had a much fuller timetable than June students as they took an extra option in the second semester. Due to the small size of the June intake in the year this data was collected, these options were not offered and therefore students had a lighter workload. However, to offset this during the twenty six weeks long course February students had 3-4 week breaks, whereas the June intake, which still planned to have students ready to begin undergraduate study in late February of the following year, and was therefore more compressed, only had one week breaks, except for slightly longer at Christmas, and thus June students were subject to more time pressure due to this.

Other differences between the two intakes:

As well as the difference in time pressure and workload, teachers also noted that for these two intakes there was a difference in behaviour. While there is no empirical evidence to prove this except differences in final grades which could have a number of other causes, teachers viewed the February students as lazier and perhaps having less ability, while they viewed the June intake as much more motivated and focused on their work. Final June grades were on average higher than February grades in support of this. It sometimes seems that a group mentality or behaviour can exist within an intake which seems to affect weak and more able students alike and may affect final grades.

Note on IELTS:

An IELTS sub-score of 5.5 or 5 usually means students will struggle with the Foundation Studies course, especially the English and Study Skills paper. Sub-scores of 5 for reading and writing are particularly worrisome as the English course especially requires a great deal of

academic reading and writing. Students' entering with IELTS sub-scores of 6 or more usually have fewer problems with course content and assessments.

Changes in the Foundation Studies Course after this research was carried out

In the year after this research was undertaken in the Foundation Studies programme the structure of the course was altered quite considerably. While entry criteria have remained the same, courses have been semesterised. Thus, the English and Study Skills course, which was a 26 week course, is now divided into two separate semester (or 12 week) courses. The first, English Language, is aimed at promoting continued development and improvement of students' language skills in all areas, while the second semester course, Academic Communication, introduces and practices academic language skills prior to study in first year classes. Students must successfully complete the English Language component before being permitted to enrol in the Academic Communication course.

Other subjects have changed in similar ways, with Science, Commerce and Arts offering introductory overview courses in the first semester and more specialised courses in the second semester which are only accessed after successful completion of first semester courses.

Furthermore, the course now has three semesters which enables more frequent intakes of students and also enables those who are required to repeat a semester of English to attain the Certificate to have the possibility of still entering university studies at the beginning of the following year.

Students must still take compulsory English courses (including an IT component which must be passed) and may also choose one subject stream course (Arts, Science, or Commerce) as well as one elective. Mathematics is now an elective rather than being a compulsory subject. In addition, due to the benefits of greater numbers enabling more courses to be offered, a number of humanities and social science electives are available to mixed classes of Foundation (international) and CUP (domestic) students. A higher IELTS entry score (6.0) is still required for entry to Arts subjects, although successfully completing the English Language English for Academic Purposes Two Course is an alternative pathway.

In order to achieve the Foundation Studies Certificate and gain university entrance, students 'must complete oral, practical, written and other work required as part of the programme, gain credit for the compulsory subjects and achieve an average grade of C or better across the programme'. (Bridging Programmes: English Language and Foundation Studies Prospectus 08, p. 11).