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LIFELONG LEARNING ARRANGEMENTS IN CHINESE ORGANIZATIONS IN THE CONTEXT OF AN EMERGING KNOWLEDGE ECONOMY

DISSERTATION

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the doctor's degree at the University of Twente,
on the authority of the rector magnificus,
Prof. dr. W.H.M. Zijm,
on account of the decision of the Graduation Committee,
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by

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Yao Dilin (Meiyi)
June 2007

Abstract

There is a proverb in China: huo dao lao, xue dao lao, which means keep on learning as long as you live. Though this is an ancient thought for Lifelong Learning, the meaning of the current research in Lifelong Learning is still up to date. Kessels (2001) stated that our society is gradually moving towards a knowledge economy: an economy in which the application of knowledge replaces the importance of capital, raw materials, and labor as the main means of production. He suggests that knowledge productivity will remain the dominant economic factor in a knowledge society. He defined knowledge productivity as the ability to gather information, generate new knowledge, disseminate, and apply this knowledge to achieve stepwise improvement and radical innovation. Kessels (2001) concluded that the demand for knowledge productivity and the importance of continuous learning are described as the two sides of the same coin. Kessels' statement stresses that continuous learning is of vital importance in a knowledge society.

DeSimone, Werner and Harris (2002) acknowledged that organizations face many challenges as a new century unfolds before us. The increasing globalization and technological revolution (in particular, the Internet) have been identified as two primary factors that make for a new competitive landscape. Given the rapid changes that all organizations face, it is clear that employees must continue the learning process throughout their careers in order to meet these challenges. DeSimone, Werner and Harris (2002) suggested that organizations must find a way to provide Lifelong Learning opportunities to all of their employees, and meeting the need for lifelong individual learning is one of the present five challenges, which is currently facing the field of HRD.

Lifelong Learning is necessary at a national, organizational, and individual level to survive international competition (Van Woerkom, 2003). This project is intended to explore Lifelong Learning arrangements to satisfy the need for Lifelong Learning of employees in Chinese organizations in the context of an emerging knowledge economy. The thesis develops a new conceptual model for Lifelong Learning arrangements. This framework was constructed from the educational system level, the organizational level, personal characteristics, quality of Lifelong Learning and Lifelong Learning attitude and Lifelong Learning behavior aspects. The conceptual model led to a specific research design and the construction of a new data collection instrument, comprising a questionnaire that consists of 74 items. Six organizations participated in this research, two private-owned, two state-owned and two foreign-invested. These firms represent the current three main kinds of companies in China. 648 questionnaires were used to test the reliability of the instrumentation of the conceptual model. At last, the instrument was improved after the deletion of four items from their scale.
In addition to the quantitative data, interviews were held in the six participating organizations to reveal the background of the research findings from the questionnaire, which gave more explanation on the data from the questionnaires. On the basis of the interview analysis of the conditions for Lifelong Learning of the six participating organizations, the author provides recommendations for the future of Lifelong Learning in Chinese organizations. A regular regression analysis was used to investigate the effects of education support, organizational level, personal characteristics and quality of Lifelong Learning variables on Lifelong Learning attitude and behavior. Two factors from the organizational level, namely communication and reward system, became the most important predictor variables for both Lifelong Learning attitude and Lifelong Learning behavior. Lifelong Learning attitude and behaviour are directly influenced by communication and reward system.

The framework and recommendations outlined in this project are only a starting point and basis to the future Lifelong Learning related research. The general framework for Lifelong Learning arrangements in this research might provide a reference for such actions. Each organization should probe its own practical way related to the specific circumstances. Dahlman, Zeng and Wang (2007) argued that Lifelong Learning research and actions should be open enough to constantly absorb, adapt, and apply new and successful experiences globally and locally. The Lifelong Learning framework in this research also needs constant adjustment and improvement responsive to the changing demands of the economy and society. China's Lifelong Learning system should be integrated with the evolving global system to keep itself updated (Dahlman, Zeng & Wang, 2007).

LIFELONG LEARNING ARRANGEMENTS IN CHINESE ORGANIZATIONS IN THE CONTEXT OF AN EMERGING KNOWLEDGE ECONOMY

Chapter 1
Introduction to Lifelong Learning in China

1.1 Introduction

The main objective of this project is to explore the kind of learning arrangements that contribute to the Lifelong Learning of employees in Chinese organizations. For this purpose, Chapter 1 starts with the socio-economic context of China, and introduces the Lifelong Learning situation in China from the educational level and organizational level. The research question: What is the current situation of Lifelong Learning in China? is answered in this chapter. From the educational level, Section 1.3 introduces the educational system for Lifelong Learning in China. Section 1.4 introduces the training problems in practice from the organizational level. Section 1.5 shows the outline of this dissertation.

1.2 The socio-economic context

Education, which reflects and is influenced by politics, economies and other factors, can never be developed in isolation. Lifelong Learning, which covers all the educational aspects, also reflects and is influenced by other factors of the socio-economic context (Fang, 1998). Below the socio-economic factors that influence the education and Lifelong Learning of China will be explained.

People's Republic of China has an area of 9 561 000 square kilometers, and had an estimated population of 1.3 billion people. Its capital is Beijing. The communist government took over in 1949. During the Cultural Revolution from the 1960s to the 1970s, the whole Chinese educational system was destroyed. The downfall of the Gang of Four in October 1976 marked the end of the Cultural Revolution. Meanwhile, the death of Mao Zedong in 1976 heralded the beginning of a period of economic reform led by Deng Xiaoping. During this period China started a new revolution and adopted the open policy and economic reform. The management of the economy moved from a centrally planned command economy to a socialist market economy (Holden & Glover, 2004). Under the new policy, the private sector of the economy, excised as capitalism during the Cultural Revolution, has been developed in line with the development of the socialist market economy (Fang, 1998).

The socio-economic development has led to strong demand for education from people of all ages. The entire educational system for Lifelong Learning has been developed rapidly to meet great demands. The education scale extends continuously. By 2001 there were about 260,000,000 students that were in attendance in all kinds of school and universities in China, accounting for more than 1/5 of the total amount of the national population (Chinese research institute of personnel science, 2005). Since 1977 changes have been made in various aspects of education, all designed to speed up modernization. Entrance examinations for higher education have been re-introduced, and play a larger part in selection now than during the previous ten years. There is more emphasis on formal education (Mauger, 1979).

1.3 The educational system for Lifelong Learning in China

The Chinese saying, *huo dao lao, xue dao lao,* means learning throughout one's life. Traditionally, Chinese people mainly fulfilled Lifelong Learning through self-study (Fang, 1998). UNESCO (1976a) introduced the term of lifelong education and learning as: 'The term lifelong education and learning denotes an overall scheme aimed both at restructuring the existing education system and at developing the entire educational potential outside and the education system... education and learning, far from being limited to the period of attendance at school, should extend throughout life... the educational and learning processes in which children, young people and adults of all ages are involved in the course of their lives, in whatever form, should be considered as a whole'. UNESCO recognized the concept of education and learning as a lifelong process.

<table>
<tr><td rowspan="8">Training & Social, cultural and leisure education

(including self-study)

for the people at any age</td><td colspan="4">Continuing professional education</td></tr>
<tr><td colspan="2" rowspan="2">Adult higher education (including self-study higher education examinations</td><td colspan="2">Higher education (postgraduate)</td></tr>
<tr><td colspan="2">Higher education (undergraduate)</td></tr>
<tr><td>Adult specialized secondary education

(including self-study specialized secondary education examinations)</td><td>Adult senior secondary education

Adult vocational and technical education (including self-study specialized secondary education examinations)</td><td>Senior secondary education

Vocational secondary education</td><td>Specialized secondary education</td></tr>
<tr><td colspan="2">Adult junior secondary education</td><td colspan="2">Junior secondary education</td></tr>
<tr><td colspan="2">Adult primary education (incl. literacy)</td><td colspan="2">Primary education</td></tr>
<tr><td colspan="2"></td><td colspan="2">Pre-school education</td></tr>
</table>

Figure 1.1 The educational system for Lifelong Learning in China since the 1980s (Fang, 1998)

In the 1980s the contemporary understanding of lifelong education and learning was introduced into China. The terminology 'lifelong education' and 'the system of Lifelong Learning' was introduced by *A Dictionary of Adult Education in 1989 (Guan, 1989)*. *The book Lifelong Education for Adults: An International Handbook*, edited by Colin J. Titmus, was translated and published in Chinese in 1990 (Fang, 1998). In the preface of this book, Cheng Fangping (1990, translated by Fang 1998) argued that the conception of lifelong education for adults was far from widespread in China. The regular formal education still dominated the whole education system, but people started to recognize that formal education has become limited and has difficulties in meeting the needs of the rapid social, political, economic, cultural, scientific and technological development. In terms of future education, lifelong process will become the basic characteristic of education, and education will be a process throughout everyone's life.

In practice, since the late 1970s, with the socio-economic development, education has covered the whole system of Lifelong Learning and has been rapidly developed in China (see Figure 1.1). Within the system of Lifelong Learning, apart from the parallel formal educational systems for children, young people and adults, there are various forms of training and social, cultural and leisure education, as well as self-study activities (Fang 1998). The system covers both the public sector and the private one.

There is a Chinese proverb: 10 years to grow a tree, 100 years to educate a person. Below, the initial education, private education, higher education, adult education, and the education for the aged will be introduced in detail.

1.3.1 Initial education

The communist government took over in 1949. Achievements of the government in the first ten years were remarkable. From 24 million children attending primary school (aged 7 to 12) in 1949, the number in 1960 had risen to 90 million – about 80 percent of the child population in that age range (Mauger, 1979). Mauger (1979) continued that the number in middle schools of various kinds had risen from about one million to around 10 million – a significant advance, though still only some 13 percent of youngsters between the ages of 13 and 18. In 1986 after China enacted the compulsory education law of the People's Republic of China, the initial education got a quick development (Liu, 2004). See the following Table 1.1:

Table 1.1 Enrolment in primary and middle schools by rate (%) (Liu, 2004)

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Primary schools	97.2	97.7	98.4	98.5	98.8	98.9	98.9	99.1	99.1	99.1	99.3
Middle schools	79.7	81.8	86.6	90.8	92.6	93.7	94.3	94.4	94.9	95.5	97.0

After the communist government took over in 1949, especially after the economic reform, the senior high school education has developed greatly in China. By 1966 over 1,848,200 students were in attendance in senior high schools, and was 5.8 times of 1949; by 2000 over 25,404,300 were in attendance in senior high schools, and was 80 times of 1949 (Hao, 2001).

1.3.2 Private Education

The tradition of Chinese private education goes back to Confucius' private school about two thousand years ago. In the early 1950s, some private schools were set up. The government took over the whole educational system in 1956. During the Cultural Revolution from the 1960s to the 1970s, the remaining private vocational schools disappeared. Since the late 1970s, in the context of economic reform and the development of the market economy, the private sector of the economy has emerged and developed. Meanwhile, those young people who were deprived of education during the Cultural Revolution returned to study with great enthusiasm. There was a great demand for all aspects of education. In this context, various social forces were encouraged to run forms of education, and some private schools were restored.

Fang (1998) observed that in April 1981, the People's Government of Beijing City issued the *Provisional Management Measures on Schools Run by Private Individuals in Beijing City*. This was the first governmental document in China to encourage the development of the private sector of education after the Cultural Revolution. In April 1984, the People's Government of Beijing City issued a document, *Provisional Measures on Schools Run by Social Forces in Beijing*. This was the first government document on such schools, and used the term 'schools run by social forces' officially for the first time. According to the Constitution passed by the fifth National People's Congress in may 1982, with the exception of schools run by government, all of the schools run by enterprises democratic parties, academic organizations and individuals could be regarded as schools run by social forces.

Schools run by social forces provide education for people of all ages and can be seen as the private sector of

Lifelong Learning in China. There have been four phases since their evolution in 1978: from 1978 to 1982, the launching stage; from 1982 to 1986, the developing stage; from 1986 to 1991, the stage of setting up regulations, strengthening administration and readjustment; from 1992, a new development stage.

1.3.3 Higher education

Xiao (1998) introduced that During the Cultural Revolution, 106 of the PRC's higher education institutions were shut down and those that were permitted to operate admitted no new students. By the time admissions were resumed in higher education institutions in 1970, enrolment had decreased to 48.000 from 674.000 in 1965. Enrolment gradually rebounded to 565.000 in 1976. During the decade-long Cultural Revolution, higher education institutions only graduated one million students, 70% of whom were enrolled before the Cultural Revolution. The whole country was engaged in wiping out bourgeois ideology and resisting revitalization of capitalism.

Destroyed by the Cultural Revolution (1966-1976), China's higher education was rebuilt only in the later 1970s as one element of a strategy to modernize the country (World Bank, 1997). In addition to the 1080 regular public universities and colleges, there are 1172 public adult education institutions at post-secondary levels, including radio and television universities, independent correspondence colleges, and continuing education courses run by the regular universities (Henley, 1987). Ma and Ren (2005) stated that in 1949 there were 205 universities and colleges that employed 16,000 full-time teachers. About 117,000 undergraduate students and 629 graduate students were in attendance. By the end of 1988 the number of universities and colleges had developed to 1075. There were 2,066,000 undergraduate students, 100,800 graduate students and 393,200 full-time teachers.

Fees for higher education were introduced in 1997. The proportion of self-financing students grows significantly, and such trends are reinforced by the keen competition for entry to the prestigious universities. The numbers studying abroad are also likely to increase as the market economy creates a fresh class of relatively prosperous families (Field & Leicester, 2000). Such programmes are seen as necessary to China's economic development plans (Yang, 1993).

1.3.4 Adult education

Since the foundation of the People's Republic of China in 1949, the term adult education was informally used sometimes but never in official government documents. In the late 1970s, the Four Modernizations and the Open Door policy were initiated as the means for achieving economic transformation. Demand for human resources soared. However, the education system revealed its incapability of rising to the challenge to produce well-trained personnel in large numbers. To address this problem, the PRC government adopted a 'walk-on-two-legs' strategy to develop a large education system by expanding formal education enrolment and building up an adult education system (Xiao, 1998). The development of adult education was put on the national agenda as an imperative for human resources development (see Appendix A). Adult education was seen as a necessary condition for economic growth and technology advancement.

In 1981, the Association for Adult Education was formed, and the term was used for the first time publicly. In 1987, the Decision on the Reform and Development of Adult Education was implemented after ratification by the PRC State Council. This decision emphasized the importance of adult education as a national policy and adult education is a prerequisite for the development of our society and economy. Ever since that time, adult education in China has shown rapid changes in its scale and content.

In 1995, China enacted the Education Law of the People's Republic of China as the fundamental law in this field. Appendix B shows the situation of adult education in China as of 1995. In this law, the definition of adult education was further developed, and the adult education system was defined as a chief pillar of the lifelong education system that plays a role distinct from that of the in-service vocational training for employees (Makino, 2001). The relation between adult education as defined in the Education Law and vocational education is shown in Table 1.2.

Table 1.2 Comparison between "Adult Education" and "Vocational Education"

	Adult Education	Vocational Education
Object	Adults above school age (including senior people)	Adults of working age
Time	Lifetime	During employment
Opportunities	Offered to everyone	Offered as necessary
Content	- Liberal arts and other cultural education - Political and democratic legal education - Technical and skill training	- Vocational ethics education - Technical and skill training
Effects	- Development of the society and economy - Solution of major social problems	Promotion of industrial development
Means	Formation of a learning society	Establishment of a training system
Objective	Promotion of the full development of the people	Improvement of professional ability

Source: adopted on the basis of information from Dong Mingchuang (1998), Strategy and Management of Adult Education, Wenhui Press, p.140.

1.3.5 Education for the aged

The first university in China that provided learning opportunities for the aged people was initiated in 1983 in Shandong Province, and the association for the old-age universities was established in 1988 in China (Ji, 2002). By 1995 there were over six thousand universities and schools for the aged people, and over 500,000 students in attendance (Chen, 2001). Dale (2001) stated that by 1996 there were some eight thousand universities or schools of various sorts across China providing appropriate programs for older people, and over 690,000 students were in attendance. By 1998 there were over thirteen thousand universities for the aged people, and over 1,000,000 students were in attendance (Liu, 2004). These people benefit by renewing their knowledge, increasing their proximity with society and enhancing the quality of their lives (Dale, 2001). The spirits of the aged people got heightened. The aged people were re-employed or found meaningful activities to do.

1.4 Training problems in practice from the organizational level

Since the start of economic reforms in 1979, a national network of Cadre Management Training Institutes has been established providing compulsory training courses for all (potential) managers (Warner, 1992). In 1981, the State Council of China stipulated that enterprises should allocate a minimum of 1.5 percent of the total wage bill as funding for employee education and training (Lu, 1987). In 1995, the Temporary Regulations on Continuous Education for Professional and Technical Personnel in China was introduced by the state. This is seen as an important policy document for national continuous training, which marks the beginning of the formalization of continuous training for professional and technical staff (Cooke, 2004). In practice, Human Resources (HR) and training in specific still display a number of problems, described as follows:

1. At the national level, the most severe challenge facing HR is that of the skills shortage and the insufficiency of training provision. Training provisions remain generally low.

Holden and Glover (2004) stated that one of the HR problems confronting China is the huge scale of training and development that is needed to ensure that industry and commerce can continue to develop. Warner (1992) suggests that this relates back to two key factors. First, education and development were severely disrupted during the Cultural Revolution; for example, management development and training were banned during this period. The lack of effective training and development caused that there was a lack of educated managers and engineers, and the legacy of this still remains today. Second, the speed of economic development in China has created a great demand for educated, skilled staff. The state has responded by encouraging the development of

an infrastructure for management development and training (Child, 1994). However, there remains a lack of systematic training within companies.

2. Training provisions are unevenly distributed across different regions, enterprises and industries.

Cook (2004) observed that in general, foreign firms, joint vestures and the state sector provide more training than other forms of business, with small private and self-employed business perhaps providing the least training. Firms located in the more developed east and southeast regions of the country provide more training in general than those in the north and west. Employees in manufacturing and public sector organizations also receive more training in general than those in the private-service sectors.

3. At the enterprise level, there are problems of retaining staff they have trained.

Cook (2004) stated that foreign and domestic private firms face the dilemma of whether to train their employees for the key skills required at the risk of having them poached or to recruit from the market with attractive employment packages. Foreign invested enterprises (FIEs) experience problems in retaining staff they have trained, especially given the tight labor market for skilled managerial and technical employees (Tsang, 1994). Firms that provide training may have to readjust their training plan in order to reduce the cost associated with staff turnover. For example, Motorola (China) Ltd had to reduce its training period from 6-12 months to 3 months in order to stop trainee employees (who were sent to the USA for training) from abandoning the firm to stay in the United States (Editorial Team of Development and Management of Human Resources, 2001). Hence, firms that successfully recruit, develop and motivate their skilled employees may have significant competitive advantages (Bjorkman & Fan, 2002).

4. At the enterprise level, problems are the lack of strategic planning and the low priority of training in organizational activities.

Cook (2004) mentioned that enterprises often carry out training without any strategic planning, costing or taking into account what the training needs of the enterprises are. Employee training is often seen as part of the non-core business for companies and the training department is often used to accommodate cadres who are deemed unsuitable for the front line of production. Training departments usually operate in a reactive mode. They are there to fulfill the task given by the higher authority. While training officers complain that senior management of the company neglect training, criticisms often leveled at the training provision are that it is irrelevant, out-of-touch, a formality to tick the training box and an opportunity for individuals to gold plate their qualifications (Xu, 2000). Borgonjon and Vanhonacker (1994) also pointed out that the Chinese state-owned enterprises (SOEs) were mostly concerned about technical training, and did not yet have the capability to run management training courses.

1.5 Outline of this dissertation

1. The main characteristics of an emerging knowledge economy

The main characteristics of a knowledge economy are the changes concerning the global, technological, economic and social environments. The present cycle of change has two features: firstly, the set of changes is occurring so rapidly that the cycle may repeat itself several times within a single lifetime; the second feature of change in the modern world is that it is global, and transcending regional and national boundaries (Knapper & Cropley, 1991). Knapper and Cropley (1991) argued that the most obvious area in which rapid change occurs involves the world of work: factors such as technological progress, development of manufacturing techniques, emergence of new products and increases in knowledge are combining to produce a situation in which some jobs are simply ceasing to exist, while in others the basic skills are changing so extensively and rapidly that it is no longer possible to acquire them once and for all during an initial education and then spend the rest of one's life applying them.

In the knowledge economy, change is so rapid that workers constantly need to acquire new skills, and firms need workers who are willing and able to update their skills throughout their lifetimes (World Bank, 2002).

The most promising way to assure this is Lifelong Learning (Mihnev & Nikolov, 2004). Han (2001) stated that the structural transition from a capital-based economy to a knowledge-based economy has strongly encouraged the active role of Lifelong Learning on the global level. OECD Education Ministers, at their meeting in January 1996, identified the goal of Lifelong Learning for all as a means of anticipating and responding to on-going changes, promoting economic efficiency, and enhancing social cohesion (Han, 2001). In a word, in the global knowledge economy, continuous change requires continuous learning. Lifelong Learning is crucial to preparing workers to compete in the global knowledge economy. So this project aims to expore the Lifelong Learning arrangements in Chinese organizations in the context of an emerging knowledge economy.

2. The overall problem statement

This project intends to explore the kind of learning arrangements that contribute to the Lifelong Learning of employees in Chinese organizations. For this purpose, Chapter 1 introduces the Lifelong Learning situation in China. It starts with the description of the socio-economic context in China. Then, the educational system for Lifelong Learning in China and the observed training problems in practice have been discussed at an organizational level.

In order to construct a new conceptual model for Lifelong Learning arrangements, Chapter 2 examines relevant literature on Lifelong Learning. The author introduces the historical background of Lifelong Learning, the definitions of what is Lifelong Learning, characteristics of Lifelong Learning, the reasons why we are talking about Lifelong Learning and prerequisites for successful Lifelong Learning. Then the relationship between Lifelong Learning, the learning organization and the learning society is discussed. On the basis of the literature study, the author concludes the literature review on Lifelong Learning, and puts forward her own opinions about Lifelong Learning as a basis for constructing the conceptual model.

Based on Chapter 2's literature study on Lifelong Learning, Chapter 3 provides a theoretical framework for Lifelong Learning arrangements. In this chapter the author constructs the conceptual framework of Lifelong Learning arrangements from the following aspects: the educational system level, the organizational level, personal characteristics, quality of Lifelong Learning, Lifelong Learning attitude and Lifelong Learning behavior. The educational system level is composed of initial education, private education, higher education, adult education and education for the aged as factors to be included in the conceptual model. The organizational level comprises the main elements of a learning organization such as systems thinking & shared vision, leadership, team learning, communication, learning culture, reward system and information system. Personal characteristics are related with age, gender, position, work experience and education level. The quality of Lifelong Learning is formed by thirteen characteristics of Lifelong Learning. At the same time, the author develops the concept of Lifelong Learning attitude and Lifelong Learning behavior that includes needs assessment, learning plan and learning evaluation.

To test the conceptual framework as constructed in Chapter 3, Chapter 4 makes the conceptual model operational in a questionnaire and describes how the conceptual model will lead to a specific research design and the needed data collection instruments. This chapter describes how the empirical study has been carried out in order to test the reliability of the instrumentation of the conceptual model. The data collection consisted of two distinct parts. In the first part 648 respondents from six companies participated in a survey. In the second part additional personal interviews were conducted within each of the six companies.

To test if the respondents with different age, male and female, different year's work experience, different position at the workplace, different education background in different organizations have distinctive discrepancy to the variables of the instrument, Chapter 5 organizes one-way ANOVA analyses in age groups, male and female, position groups, education groups, employment groups, and six organizations.

Chapter 6 offers the analysis processes as well as the interview results, on the basis of the designed questions and the obtained data in Chapter 4. The interviews were developed to reveal the background of the research findings from the questionnaire. Each of the six participating organizations has three respondents taking part in these interviews. The interviews will give more explanation for the data from the questionnaires. The conditions for Lifelong Learning of these six organizations will be explained in this chapter.

To test what factors, as specified in the conceptual framework of Lifelong Learning arrangements developed in Chapter 3, are of influence on Lifelong Learning attitude and behavior, the author firstly checked in Chapter 7 whether or not observations are clustered by performing a multi-level analysis. The multi-level analysis shows that observations within organizations are not correlated at all. On the basis of this analysis, it could be concluded that the observations were not affected by organizational membership and truly independent. Therefore, the author decided to use a regular regression analysis to investigate the effects of education support, organizational level, personal characteristics and quality of Lifelong Learning variables on the dependent variables Lifelong Learning attitude and behavior.

As a summary of this study, Chapter 8 offers a conclusion of the separate chapters and critically reflects on the research, including some weak and strong points in the research methods and literature study. Meanwhile, the author provides recommendations for the development of Lifelong Learning in Chinese Organizations in the future.

3. The introduction of research questions

The main objective of this study is to explore the kind of learning arrangements that contribute to the Lifelong Learning of employees in Chinese organizations. The first research question: What is the current situation of Lifelong Learning in China? is answered in Chapter 1, that discusses the socio-economic context of China, and introduces the Lifelong Learning situation in China.

In Chapter 2 that offers a review of relevant literature the following research questions are answered: 1) what is Lifelong Learning and how is it defined by the author? 2) What are characteristics and qualities of Lifelong Learning?

Chapter 3 constructs a conceptual framework of Lifelong Learning. The research question - what kind of conceptual framework do we need to construct for further examination of the characteristics and dynamics of Lifelong Learning? will be answered in this chapter.

The research question the author intends to answer in Chapter 4 is: How can we measure the reliability of the research instrument based on the conceptual framework of Lifelong Learning? (as developed in Chapter 3).

Chapter 5 gives an answer to the following research question: Do the different age groups, male and female, position groups, education groups, employment groups, and six organizations have distinctive discrepancy in the variables of the instrument?

Chapter 6 offers the analysis processes as well as the interview results on the basis of the designed questions and the obtained data in Chapter 4. Here, the following research question is answered: What are the conditions for Lifelong Learning in six organizations on the basis of the analysis of additional interviews?

In Chapter 7, on the basis of a regular regression analysis the following research question is answered: What factors, as specified in the conceptual framework, are of influence on Lifelong Learning attitude and behavior?

The main research question that is answered in the concluding Chapter 8 is: On the basis of the interview analysis of the conditions for Lifelong Learning of six participating organizations, what are the author's recommendations and reflection for the future of Lifelong Learning in Chinese organizations?

Chapter 2
Literature overview of Lifelong Learning

2.1 Introduction

This chapter starts with an introduction of Lifelong Learning. Section 2.2 introduces the historical background of Lifelong Learning. In Section 2.3, the author offers the definitions of what is Lifelong Learning. Section 2.4 describes characteristics of Lifelong Learning. In Section 2.5, the author explores the reasons why we are talking about Lifelong Learning. Section 2.6 investigates the prerequisites for successful Lifelong Learning. In Section 2.7 and 2.8, the relationship between Lifelong Learning, the learning organization and the learning society is discussed. On the basis of the above sections, in Section 2.9, the author concludes the literature on Lifelong Learning, and puts forward her own opinions about Lifelong Learning.

2.2 Historical background

Longworth (2003) stated that the Lifelong Learning movement is now rampaging around the whole world. The range of terminology associated with lifelong, from adult education, continuing education, social education, recurrent education, lifelong education and community education, to popular education, self-directed learning, continuing vocational training, on-the-job training, and senior citizen education, ultimately reflects the varied and sometimes contested perspectives and practices associated with the notion itself (Rausch, 2003). Considerable analytical confusion in this area stems from these varied uses of the same term, and even the term 'learning' has a range of meanings (Bloomer, 2001). Below, the historical background of Lifelong Learning will be introduced from an objective viewpoint to have a look how Lifelong Learning was produced.

2.2.1 History of the Lifelong Learning

In this part, the history of Lifelong Learning will be introduced according to temporal sequence:

1. Two origins of the idea of Lifelong Learning

Learning has been a lifelong activity ever since humanity has existed, or even since the earliest origin of living beings. In its institutionalized form, it is of recent origin. Kallen (2002) in his paper *Lifelong Learning Revisited* explored two origins that determined the conceptualization and development of Lifelong Learning. Firstly, organized Lifelong Learning was given a strong impetus by the nineteenth-century industrial revolution with its aftermath of social and cultural upheaval. But there is another less often mentioned root: the evolution of civil society towards democratic participation and self-management, spurred by a tidal wave of political unrest and protest against domination, whether from above or abroad. Denmark in the nineteenth century showed the

way, and under the leadership of Grundvig gave birth to Lifelong Learning for participatory democracy. These two origins determined the conceptualization and development of Lifelong Learning over the next century.

2. The origins of the concept of Lifelong Learning

Jarvis (1995) and Lengrand (1989) argued that the origins of the concept of Lifelong Learning have been traced back to the writings of Dewey, Lindeman and Yeaxlee in the early twentieth century. Most of those who write about Lifelong Learning trace the origins of the concept of Lifelong Learning back to the term 'lifelong education'. The term 'lifelong education' appeared in English language writings almost 70 years ago (Richmond, 1973) and many of the main contemporary ideas about lifelong education had already been stated immediately after the Second World War (Jacks, 1946). Nonetheless, the past two decades have been marked by considerable discussion of the importance of Lifelong Learning, and descriptions of the personnel, processes, methods and materials, institutions and administrative and organizational conditions necessary for its facilitation (Hummel, 1977).

3. Lifelong Learning in the 1960s

Hasan (1999) stated that early in the 1960s, the International Conference on Adult Education, held by UNESCO in Montreal in 1960, sought to integrate adult education in the wider educational system and a document was prepared for the follow-up conference in 1965. This formulated proposals for the implementation of *'education permanente'* (Lengrand, 1965). However, as a distinct concept, recurrent education was first launched in a speech by the Swedish Minister of Education, Olof Palme, in 1969, at the Versailles Conference of European Ministers of Education (Houghton, 1974; Schuller & Megarry, 1979). Jallade and Mora (2001) stated that the concept of Lifelong Learning emerged almost simultaneously in the Council of Europe, UNESCO and OECD in the late 1960s as 'recurrent education', 'adult education' or education permanente. The central idea was the same: the development of coherent strategies to provide education and training opportunities for all individuals during their entire life. In the early 1970s the concept became popular internationally through the efforts of UNESCO (1972), OECD (1973, 1975, 1977-1981 and 1991) and the Council of Europe (1978).

4. Lifelong Learning in the 1970s

The term 'Lifelong Learning' then appears to take its place in the 1970s alongside other terms such as 'recurrent education', 'popular education', 'continuing education', 'adult education' or simply 'post-initial education and training' in international policy documents of the time (Hodgson, 2000). The most often cited international policy document of this era, where the term Lifelong Learning is used, is the influential Faure Report, *Learning To Be* (Faure et al, 1972).

Papadopoulos (1994) mentioned that the term of recurrent education could be interpreted in a narrow or broad sense: in the narrower meaning, recurrent education envisaged a discontinuous, periodic participation in educational programmes by adults who lacked initial schooling; in its broader manifestation, the concept of recurrent education implicitly advocated the principle of alternation between education and other activities. It encompassed education not only after schooling but also within it and implied major changes in socio-political and economic institutions (Kallen, 1979). In practice, it was the narrower interpretation that dominated policy discussion and formulation.

Similarly the term 'adult education', which Lifelong Learning is often assumed to include and even supersede, had a much broader definition in the report of the UNESCO General Conference in 1976 than was often accorded to Lifelong Learning in the 1990s: the term 'adult education' denotes the entire body of organized educational processes, whatever the content, level and method, whether formal or otherwise, or whether they prolong or replace initial education in schools, colleges, and universities, as well as an apprenticeship, whereby persons regarded as adult by the society to which they belong develop their abilities, enrich their knowledge, improve their technical or professional qualifications, or turn the attitude in a new direction and bring about changes in their attitude or behavior in the two-fold perspective of full personal development and participation in balanced and impendent social, economic and cultural development (Hodgson, 2000).

5. Lifelong Learning in the 1980s

During the 1980s, the incidence of bibliographic references to the terms lifelong education and Lifelong Learning declined, while those to the term 'adult education' continued to remain at a constant level (Sutton, 1996). Hodgson (2000) introduced that it may be that the focus in many countries throughout the 1980s on combating the severe social and economic effects of recession and widespread unemployment by raising the literacy, qualifications and skills base of the adult population explains why a more specific term, such as 'adult education', proved more useful for policy makers. Using a more specific term might also have helped them to distinguish between the resource needs of younger and older learners in relation to the labor market in a time of economic constraint and limited state budgets for education and training.

6. Lifelong Learning in the 1990s

During the 1990s, at international policy level, and in many individual countries at national level, Lifelong Learning became an umbrella term which subsumed part or all of what might earlier have been referred to as 'lifelong education', 'recurrent education', 'popular education', 'adult education' or simply 'post-initial education and training' (Hodgson, 2000). At the same time, Knapper and Cropley (2000) argued that having attracted a great deal of interest, particularly at international level, in the 1960s and 1970s, discussion and usage of the concept then suffered a slump, only to return with a vengeance in the mid-1990s, this time at both international and national levels: The European Union designated 1996 'the year of Lifelong Learning'. The meeting of the education ministers of the Organization for Economic Cooperation and Development in January of the same year used the slogan 'Making Lifelong Learning a reality for all'. The 1996 report of the United Nations Educational, Scientific and Cultural Organization's International Commission on Education for the Twenty-first Century adopted 'learning throughout life' as its key concept. At their meeting in Cologne in June 1999 the members of the Group of Eight agreed to promote mass education throughout the world, and named 'lifelong retraining' as a priority. Tight (2002) stated that the most plausible explanation why there has been this remarkable resurgence of interest in the concept, seems to be that, while the understanding of the concept may vary, Lifelong Learning offers a useful label for policy-makers.

Kallen (2002) in his paper *Lifelong Learning Revisited* mentioned that the main concepts and policy guidelines for Lifelong Learning put forward by the Council of Europe, the OECD and UNESCO all originated in the 1960s. He said that each of these organizations had, of course, its own agenda, and the concepts and paradigms that were put forward reflected their particularities. It was agreed across all three that initial education and training needed to be followed by lifelong opportunities accessible to all citizens, irrespective of their social or economic status or by such conditions as gender or age. Kallen (2002) identified that the history of Lifelong Learning has been heavily influenced by the three international organizations that have been most responsible for its development: Council of Europe, UNESCO and OECD. Below the specific contributions from these international organizations will be introduced.

2.2.2 Statement from UNESCO

The United Nations Educational, Scientific and Cultural Organization (UNESCO) put forward its major statements endorsing the meaning of Lifelong Learning.

1. The World Educational Crisis: A Systems Analysis (Coombs, 1968)

Fagerlind (1999) introduced that in 1971, when student upheavals had been going on world wide for 3 years, the former Prime Minister and Minister of Education of France, Mr. Edgar Faure, was asked to chair a panel of seven persons that should try to define the new aims to be assigned to education as a result of the rapid changes in knowledge and in societies. The Faure Commission published its report, *Learning to be* (Faure et al., 1972), where the concept Lifelong Learning was established at a time when the formal, traditional systems were being challenged. The report published in 1996 by Delors et al. has built upon the 1972 report, but another UNESCO report from 1968 has also played a role; it is *The World Educational Crisis: A Systems Analysis* published by Phil Coombs (1968). He was the Director of UNESCO's International Institute for Educational Planning (IIEP) at that time and in his report he drew on the work of the Institute to examine the problems facing education, and recommended far-reaching innovations.

2. Learning To Be (Faure et al., 1972)

UNESCO's Faure Report *Learning To Be*, published in 1972, was considered by many to be one of the most important educational reform documents of the second half of the 20th century. It proposed:

- The development of human skills and abilities as the primary objective of education at all levels;
- Support for situation-specific learning in the context of everyday life and work so that individuals could understand, and be given the competency, creativity and confidence to cope with the urgent tasks and changes arising throughout a lifetime;
- The creation of the sort of learning society in which independent learning is supported and provides an essential part of the continuum of learning as people move into, an out of, education during their lives;
- The involvement of the community in the learning process and the wider social role of education in understanding conflict, violence, peace, the environment and how to reconcile differences.

Gouthro (2002) stated that over the years, UNESCO has taken an active role in promoting the concept of lifelong education. Regarding the 1947 Universal Declaration of Human Rights, for the first time in history, education has been universally and officially accepted as a human right (Dave, 1976). The term 'lifelong education' gained widespread usage and popularity after the UNESCO Faure (1972) report, *Learning To Be*, was published in which lifelong education was heralded as the answer to the multiple problems plaguing non-Western countries and was seen as an effective way to adapt to the rapid social and economic changes created by the swift technological advances of the twentieth century.

3. Learning: The Treasure Within (Delors, J. et al., 1996)

In 1993 UNESCO formally established an International Commission on Education for the 21st Century, and its mandate was 'to study and reflect on the challenges facing education in the coming years, and to formulate suggestions and recommendations in the form of a report that could serve as an agenda for renewal and action for policy makers and officials at the highest levels' (Fagerlind, 1999). Dr Jacques Delors, former President of the Commission of the European Communities, was asked to chair the group of 14 persons coming from all over the world and representing varied cultural and professional backgrounds. The final report of the Commission has the title *Learning: The Treasure Within* (Delors et al., 1996).

The four pillars of 'The Treasure Within' – 'Learning to do, Learning to be, Learning to understand and Learning to live together' – put the needs and demands of the individual once more at the center of educational activity. Although this report was published in 1996, it still contains a considerable treasure within (Longworth, 2003). Fagerlind (1999) gave some specific explanations on the four pillars of 'The Treasure Within' as followings:

(1) Learning to live together

The far-reaching changes in the traditional patterns of life require of everybody a better understanding of other people and a worldwide view to reach mutual understanding and peaceful interchange. The Commission is aware that these are very difficult goals and for this reason it proposes that learning to live together is the most important pillar as the foundation of education. The interrelations between the universal and cultural pluralism are important principles of human identity discussed by philosophers, artists, scientists and policy makers for several decades. Developing an understanding of others, their history, traditions and spiritual values is important. At the same time we must recognize our growing interdependence and the risks and challenges of the future; people should understand that implementation of common projects is a good way to learn how to mange inevitable conflicts in an intelligent and peaceful way. Over and above this very important base, three other pillars of education are mentioned.

(2) Learning to know

The commission argues that the rapid changes taking place by the end of the 20th century, brought about by scientific progress and new forms of economic and social activity, makes it important for all countries to put the emphasis on learning to know. This means combining a fairly broad general education with in-depth work on a selected number of subjects. Such an education will also lay a foundation for learning throughout life.

(3) Learning to do

Learning to do means not only to learn a profession, but also to learn competencies to deal with different, often unforeseeable, situations and to work in teams. The possibilities for learners to develop their abilities by becoming involved in work experiences makes it important for policy makers to give more importance to programmes alternating study with work.

(4) Learning to be

The recommendations from the Edgar Faure report published in 1972 (Faure et al., 1972) are still considered relevant for the 21st century. Personal independence and judgment, combined with a sense of personal responsibility for the attainment of common goals are important goals for education in all countries. The Commission stresses that none of the talents 'hidden like buried treasure in every person' must be left unused. Memory, reasoning power, imagination, physical ability, aesthetic sense, communication ability and charisma of a group leader are examples given of such talents. Great self-knowledge will help individuals to become aware of such treasures within.

2.2.3 Statement from OECD

The Organization for Economic Cooperation and Development (OECD), too, has long been a strong supporter of Lifelong Learning.

1. Recurrent Education: A Strategy for Lifelong Learning (OECD, 1973)

OECD's own landmark report 'Recurrent Education: A Strategy for Lifelong Learning', produced in 1973, was well received by governments, higher education and NGOs alike. Recurrent Education concerned itself principally with post-compulsory and post-basic education and with preparation of the individual for a life of work, and in practice it acknowledged that work and learning are synergistic (Longworth, 2003). Among OECD's recommendations at the time were:

- The promotion of complementarity between school and adult education, with the emphasis on personal development and growth;
- Increasing the participation of adults in tertiary education by recognizing the value of work experience and 'opening up' the universities;
- Extending the provision of formal adult education to a wider audience;
- Abolishing 'terminal stages' in the formal education system so that all programmes lead on to other programmes.

Tuijnman and Bostrom (2002) stated that in parallel with the development of lifelong learning concepts by UNESCO, the Organization for Economic Co-operation and Development (OECD) advocated recurrent education as a strategy for prompting lifelong education. Recurrent education was defined by OECD (1973) as a comprehensive educational strategy for all post-compulsory or post-basic education, the essential characteristics of which is the distribution of education over the total life-span of the individual in a recurring way, i.e. in alternation with other activities, principally with work, but also with leisure and retirement. Tuijnman and Bostrom (2002) introduced that an important difference between the concepts of lifelong education and recurrent education was thus that the former referred to all stages of education and life-wide learning whereas the latter came to be associated with policies for the promotion of formal adult education. The goal of recurrent education was the modification of the education system so that access to organized education would become available throughout the lifetime of each individual. A recurrent education strategy would seek to promote complementarity between school learning and learning occurring in other life situations.

2. Lifelong Learning for All (OECD, 1996)

'Lifelong Learning for All', OECD's flagship justification for Lifelong Learning, resulted from the 1996 conference of Ministers (Longworth, 2003). OECD (1996) abandoned recurrent education and instead adopted a definition of Lifelong Learning: Lifelong Learning is best understood as a process of individual learning and

development across the life-span, from cradle to grave – from learning in early childhood to learning in retirement. It is an inclusive concept that refers not only to education in formal settings, such as schools, universities and adult education institutions, but also to "life-wide" learning in informal settings, at home, at work and in the wider community. It was this broader concept that OECD Education Ministers adopted in January 1996 when they agreed that making Lifelong Learning accessible to all would be essential for every one as we move into the 21st century (Hasan, 1999).

OECD (1996) said that the new concept of Lifelong Learning has several features that give it an operational significance for education and training policy in distinction from other approaches:

- The centrality of the learner and learner needs: that is, an orientation towards the "demand side" of education and training rather than just the supply of places;
- An emphasis on self-directed learning, and the associated requirement of "learning to learn" as an essential foundation for learning that continues throughout life;
- A recognition that learning takes place in many settings, both formal and informal; and
- A long-term view, that takes the whole course of an indiviudal's life into consideration."

OECD (1996) put forward the following aims of Lifelong Learning:

- Learning for a more highly skilled workforce;
- Learning for a better democracy and an inclusive society;
- Learning for a more personally rewarding life.

OECD Ministers accepted that none of these aims of Lifelong Learning can be separated from the other: all three elements interact and cross-fertilize each other. There is a complex interplay between all three. For this reason, the OECD Ministers argued that the whole notion and value of 'Lifelong Learning for all' has to be seen as a complex and multifaceted process, that begins in pre-school times, is carried on through basic, compulsory and post-compulsory periods of formal education and training and is then continued throughout life, through such learning experience, activities and enjoyment in the workplace, in universities and colleges and in other educational, social and cultural agencies and institutions, of both a formal and informal kind, within the community (OECD 1996).

2.2.4 Statement from CEC and EC

Another support for Lifelong Learning is from the Commission of the European Communities (CEC) and the Council of Europe (EC).

1. Growth, Competitiveness, Employment (CEC, 1994)

In the early 1990s, Europe was facing the significant challenges of high unemployment and low economic activity. Jacques Delors proposed some solution in his 1994 white paper Growth, Competitiveness and Employment. This paper paved the way for a development of European policies and programmes for Lifelong Learning. During the 1994-99 period the EU embarked upon a variety of initiatives that emphasized the importance of Lifelong Learning to employment, competitiveness, social inclusion, equal opportunities, citizenship, the ageing population and technical advances in the work place (Waddington, 2002). Watson and Taylor (1998) argued that the original impetus for the European Year of Lifelong Learning (EYLL) came from a European Union paper in 1994 entitled *Growth, Competitiveness, Employment*.

2. A Memorandum on Lifelong Learning (CEC, 2000)

Longworth (2003) introduced that the EU Lisbon Summit in March 2000 produced for Europe the strategic target of becoming the most competitive economy in the world capable of sustainable growth, with more and better jobs and greater social cohesion, through the development and promotion of a comprehensive Lifelong Learning strategy. As a result the commission organized a number of policy input seminars, the results of which were published in a 'Memorandum on Lifelong Learning for Active Citizenship in a Europe of Knowledge' in December 2000.

As the highly influential document on educational policy, the *Memorandum on Lifelong Learning* stated that Lifelong Learning is no longer just one aspect of education and training; it must become the guiding principle for provision and participation across the full continuum of learning contexts (Commission of the European Communities, 2000).

The publication of A Memorandum on Lifelong Learning (CEC, 2000) identified six essential elements for Lifelong Learning strategies:

- *Partnership working*, not only between decision-making levels (e.g. national, regional and local) but also between public authorities and education service providers (schools, universities, etc.), the business sector and the social partners, local associations, vocational guidance services, research centers, etc.
- *Insight into the demand for learning* in the knowledge-based society – which will entail redefining basic skills, to include for instance the new information and communication technologies. Analyses should take into account foreseeable labor market trends.
- *Adequate resourcing*, involving a substantial increase in public and private investment in learning. This does not only imply substantially increasing public budgets, but also ensuring the effective allocation of existing resources and encouraging new forms of investment. Investment in human capital is important at all points in the economic cycle; skills gaps and shortages can certainly co-exist with unemployment.
- *Facilitating access to learning opportunities* by making them more visible, introducing new provision and removing obstacles to access, for example through the creation of more local learning centers. Special efforts are necessary in this context for different groups such as ethnic minorities, people with disabilities or people living in rural areas.
- *Creating a learning culture* by giving learning a higher profile, both in terms of image and by providing incentives for the people most reticent to opt for learning.
- *Striving for excellent* through the introduction of quality control and indicators to measure progress. In concrete terms, provision must be made for standards, guidelines and mechanisms whereby achievements can be recognized and rewarded.

The *memorandum* (Commission of the European Communities, 2000) went on to recommend five community-related objectives as:

- To provide Lifelong Learning opportunities as close to learners as possible, in their own communities and supported through ICT-based facilities wherever appropriate;
- To build an inclusive society which offers equal opportunities for access to quality learning throughout life to all people, and in which education and training provision is based first and foremost on the needs and demands of individuals;
- To adjust the ways in which education and training are provided, and how paid working life is organized, so that people can participate in learning throughout their lives and can plan for themselves how they combine learning, working and family life;
- To achieve higher overall levels of education and qualification in all sectors, to ensure high-quality provision of education and training, and at the same time to ensure that people's knowledge and skills match the changing demands of jobs and occupations, workplace organization and working methods;
- To encourage and equip people to participate more actively once more in all spheres of modern public life, especially in social and political life at all levels of the community, including at European level.

The Memorandum (Commission of the European Communities, 2000) explicitly states that Lifelong Learning relates to all meaningful learning activities as follows:

- To the *formal* learning processes that take place in the classical education and training institutions and which usually lead to recognized diplomas and qualifications;
- To the *non-formal* learning processes that usually take place alongside the mainstream systems of education and training – at the workplace, in clubs and associations, in civil society initiatives and activities, in the pursuit of sports or musical interests, and
- To *informal* learning processes that are not necessarily international and which are a natural accompaniment to everyday life.

Alheit and Dausien (2002) stated that the point or purpose behind this new understanding of the term 'learning' is the option of networking these different forms of learning in a synergistic way – learning should

not only be systematically extended to cover the entire life span, but should also take place 'lifewide', i.e. learning environments should be engendered in which the various types of learning can complement each other organically. The 'lifewide' dimensions bring the complementarity of formal, non-formal and informal learning into sharper focus (Commission of the European Communities, 2000).

3. Permanent Education (Council of Europe, 1970)

Kallen (2002) draws attention to the fact that the Council of Europe had already placed *education permanente* at the center of this educational and cultural programmes in the 1960s: the introduction of the general theme of permanent education during the CCC's (Council for Cultural Cooperation) general policy debate in 1966 marked the a turning point in the history of educational policy within the Council of the Europe framework (Council of Europe, 1970). Permanent education was considered to be a fundamentally new and comprehensive concept to attain ambitions considered beyond the reach of initial education; an overall educational pattern capable of meeting the rapidly increasing and ever more diversified needs of every individual in the new European society. Three principles were to guide this Council policy: equalization, participation and globalization.

Coombs and Ahmed (1974) argued that education was considered as occurring throughout the life cycle of each individual. The authors thus determined it desirable to distinguish between three modes of education, as follows:

- Formal education: the highly institutionalized, chronologically graded and hierarchically structured "education system", spanning lower primary school and the upper reaches of the university.
- Non-formal education: any organized, systematic, educational activity carried on outside the formal system to provide selected types of learning to particular subgroups in the population, adults as well as children.
- Informal education: the lifelong process by which every person acquires and accumulates knowledge, skills, attitudes and insights from daily experiences and exposure to the environment – at home, at work, at play: from the example and the attitudes of the family and friends; from travel, reading newspapers and books or by listening to the radio or viewing films or television.

The above international organizations have been most responsible for the development of Lifelong Learning. Three international organizations, the CEC (1995), OECD (1996) and UNESCO (Delors et al., 1996), with major statements endorsed the broader meaning of Lifelong Learning and have put forward their particular visions of the concept.

2.3 Definition of Lifelong Learning

Concepts and theories of Lifelong Learning have evolved since the 1960s. The first major publications appeared towards the end of that decade, and these set out an encompassing view of learning across the entire lifespan (Edwards, Miller, Small & Tait, 2002). The lifelong-learning concepts advocated today have grown out of the 'lifelong education', 'permanent education' and 'recurrent education' plans proposed in key documents several decades ago (Faure et al., 1972; Husen, 1968 and 1986; OECD, 1973). Contemporary incarnations of Lifelong Learning are rather different from those associated with the older adult education tradition of 'recurrent education' and education permanante (Lawson, 1998). The definitions about Lifelong Learning vary not only over time but also between regions, countries and according to various contexts and fields of study. Below some definitions of Lifelong Learning will be introduced.

2.3.1 Definitions from the World Bank, EC and OECD

The Lifelong Learning definition proposed by the World Bank (2003): a Lifelong Learning framework (Figure 2.1) encompasses learning throughout the life cycle from early childhood to retirement including: formal learning (schools, training institutions, universities); non-formal learning (on-the-job and household training); and informal learning (skills learned from family members or people in the community). It allows people to access learning opportunities as they need them rather than because they have reached a certain age.

Another definition of Lifelong Learning proposed by the European Commission's 'Memorandum on Lifelong Learning' (Commission of the European Communities, 2000): All learning activity undertaken throughout life, with the aim of improving knowledge, skills and competencies within a personal, civic, social and/or employment-related perspective.

OECD (1996) in 'Lifelong Learning for all' says: 'Lifelong Learning' embraces individual and social development of all kinds and in all settings – formally in schools, vocational, tertiary and adult education institutions, and non-formally, at home, at work and in the community. The approach is system-wide; it focuses on the standards of knowledge and skills needed by all, regardless of age. It emphasizes the need to prepare and motivate all children at an early age for learning over a lifetime, and directs efforts to ensure that all adults, employed and unemployed, who need to retrain or upgrade their skills, are provided with an opportunity to do so.

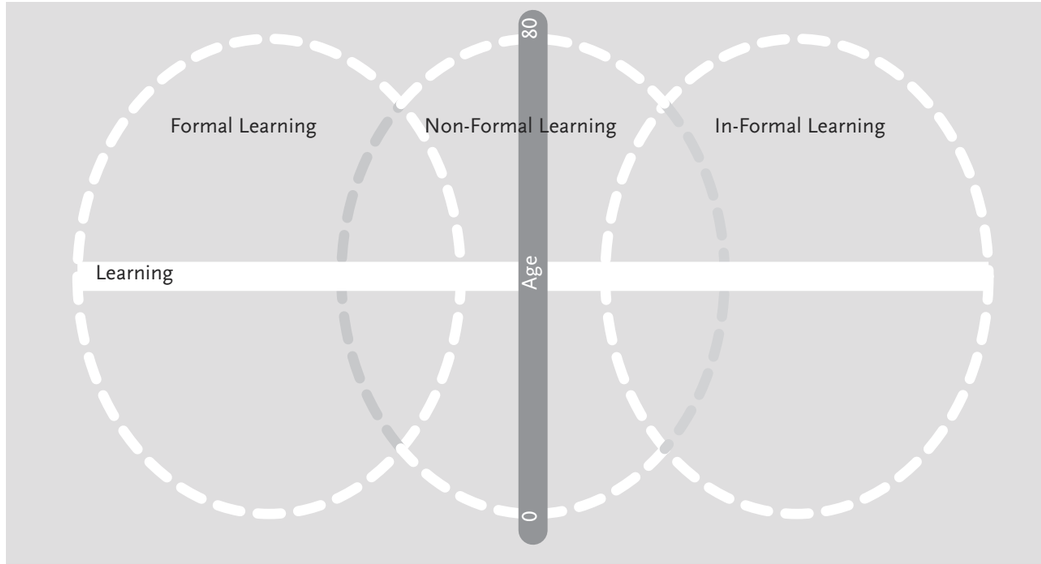

Figure 2.1 Framework for Lifelong Learning

2.3.2 Longworth's definition of Lifelong Learning

Longworth and Davies (1996) in their book *'Lifelong Learning: New Vision, New Implications, New Roles for People, Organizations, Nations and Communities in the 21st Century'* defined the concept of Lifelong Learning as the development of human potential through a continuously supportive process which stimulates and empowers individuals to acquire all the knowledge, values, skills and understanding they will require throughout their lifetimes and to apply them with confidence, creativity and enjoyment in all roles, circumstances and environments.

Longworth (2003) in his book *Lifelong Learning in action: transforming education for the 21st century* explained that Lifelong Learning starting with the words themselves. Lifelong is from 'cradle to grave'. Learning means creating an out-and-out focus on the needs and demands of the learner, giving ownership of learning to the learner him or herself, and giving learners the tools and techniques with which they can learn according to their own learning styles and needs.

Longworth (2001) in his paper *Learning Communities for a Learning Century* stated that the engine of Lifelong Learning is the development of human potential at all levels, and the focus of education is the satisfaction of the needs of every learner. Lifelong Learning becomes what it says it is: 'lifelong' – from cradle to grave, from

0-90, as long as we have the blessed gift of a brain that will accept learning; 'learning' – giving learners the tools to learn according to their own learning styles and needs – not teaching, not training, nor even education in its narrow didactic sense, an out and out focus on the needs and requirements of the learner; 'for all' – excluding no-one and pro-actively creates conditions in which learning develops one's creativity, confidence and enjoyment at each stage of life (Longworth, 2001).

2.3.3 Statement from Jarvis, Parker and Holford

Jarvis, Parker and Holford (2005) broke the term into its three components: life, lifelong and Lifelong Learning. They stated that life is intelligent existence covering the breadth of our being and so it is almost tautologous to talk about life-wide learning. Wherever there is human life, there is learning. Lifelong implies duration. Learning is intrinsic to living. Lifelong Learning is about being and becoming, and so they offer the following definition: Lifelong Learning is the combination of processes throughout a lifetime whereby the whole person – body (genetic, physical and biological) and mind (knowledge, skills, attitudes, values, emotions, beliefs and senses) – experiences social situations, the perceived content of which is then transformed cognitively, emotively or practically (or through any combination) and integrated into the person's individual biography resulting in a continually changing (or more experienced) person. At the heart of Lifelong Learning is that all human living is a learning process.

However, Jarvis, Parker and Holford (2005) suggested that the concept of Lifelong Learning has other profound implications. Humanity itself is an unfinished project, that wherever and whenever there is human life, there will be learning and, therefore, humans themselves will continue to become (Simpson, 1995). Lifelong Learning is not only about the process of our learning, it points beyond us to others learning in different ages and into the future, so that it is an indication of the fact that humanity is an unfinished project.

2.3.4 Definitions from other authors

Concepts of Lifelong Learning are not static but evolve with time. They vary according to context, and they are given meaning according to political, economic, social and cultural factors. Many other researchers in the field of Lifelong Learning have their own ideas on Lifelong Learning (see Table 2.1):

Table 2.1 Definitions of Lifelong Learning from different authors

Definitions of Lifelong Learning:

- Stones (1966) stressed that Lifelong Learning includes recurrent education but it is not limited to formal educational experiences. What Lifelong Learning seeks to do is to provide a framework within which an individual can reflect on the past and prepare for the future in terms of learning experiences.
- Nadler (1982) said Lifelong Learning takes into account the incidental and the intentional aspects of learning.
- The contemporary versions of Lifelong Learning – though retaining the learning throughout life connotations – tend to view the nature and purpose of learning primarily in terms of skills updating and the 'training and development needs' of employees (Stephens, 1990).
- Long (1990) stated that the process of Lifelong Learning ought to continue throughout an individual's life, whether or not there is involvement with the formal educational system. It recognizes that much of the learning people do will take place outside of any formal or recognized educational system.
- Edwards (1997) suggests that Lifelong Learning is a notion of learning from the cradle to the grave.
- Tight (1998) suggests that the concept of Lifelong Learning has become part of a trinity – Lifelong Learning, the learning organization, and the learning society – aimed at articulating the importance of continuing learning for survival and development at the levels of the individual, the organization and society as a whole.

- Smith and Spurling (1999) identified that Lifelong Learning is intended and planned learning that goes on more or less continuously over the lifespan.
- Field (2000) argued that Lifelong Learning – that is, the recognition that learning may stretch out across a lifetime – is the new educational reality. He stated that human intellectual resources constitute a new 'grey capital' to be set alongside the more familiar resources of land, labor and capital. Human capital is a resource that anyone may and must use and renew throughout each individual's lifespan.
- Tuijnman and Bostrom (2002) argued that current statements on Lifelong Learning generally define a broad set of beliefs, aims and strategies around the central tenet that learning opportunities, available over the whole life span and accessible on a widespread basis, should be key attributes of modern societies.
- Everyone is already involved in some form of Lifelong Learning process: changes at work, meeting new people, and leisure interests, including television, mean that everyone 'learns' something new every day (Gorard & Rees, 2002).
- Today's notions of Lifelong Learning pay less regard to the role of formal institutions and more to non-formal and informal learning in a variety of settings – at home, at work and in the community (Edwards, Miller, Small & Tait, 2002).
- Kendall, Samways and Van Weert (2004) suggested that Lifelong Learning is about acquiring and updating all kinds of abilities, interests, knowledge and qualifications from the pre-school years to post-retirement. It values all forms of learning, including: formal learning, non-formal learning and informal learning.
- Wood, Wallace, Zeffane, Chapman, Fromholtz and Morrison (2004) stated that the essence of Lifelong Learning proposition is that learning should continue over the lifespan of the individual. Lifelong Learning is continual learning from the full variety of actual work and life experiences. It is both a personal responsibility and a prerequisite to long-term career success.
- Field (2005) stated that social capital could promote learning. He argued that it is clear that people acquire very particular skills through their connections, and such skills are derived from the practices of cooperation, whether in formalized associations or through more loose connection. Learning is not solely a simple by-product of social connections. People also bring their existing skills and knowledge to their connections.

'Learning' is the noun and 'lifelong' is the adjective describing the type of learning taking place. Lifelong Learning is first and foremost about learning, with this learning occurring over the lifespan. Lifelong Learning embraces all learning that takes place from infancy throughout adult life, in families, schools, vocational training institutions, universities, the work place, and at large in the community. It is neither confined to any specific age group nor to the education administered by educational institutions. The concept refers to all systematically organized learning activities associated with formal education as well as to learning that takes place in informal or no-formal settings.

2.4 Characteristics of Lifelong Learning

A number of characteristics of Lifelong Learning have been developed in an attempt to encapsulate the essence of Lifelong Learning. Below, some characteristics will be introduced.

2.4.1 Traditional learning versus Lifelong Learning

The traditional learning model differs from Lifelong Learning methods in important ways. The following table (Table 2.2) is taken from a World Bank Lifelong Learning report (World Bank, 2003, p.29), which emphasized these differences.

Table 2.2 Characteristics of traditional and Lifelong Learning models

Traditional learning	Lifelong Learning
• The teacher is the source of knowledge.	• Educators are guides to sources of knowledge.
• Learners receive knowledge from the teacher.	• People learn by doing.
• Learners work by themselves.	• People learn in groups and from each other.
• Tests are given to prevent progress until students have completely mastered a set of skills and to ration access to further learning.	• Assessment is used to guide learning strategies and identify pathways for future learning.
• All learners do the same thing	• Educators develop individualized learning plans.
• Teachers receive initial training plus ad hoc in-service training.	• Educators are lifelong learners. Initial training and on-going professional development are linked.
• "Good" learners are identified and permitted to continue their education.	• People have access to learning opportunities over a lifetime.

The World Bank (2003) Lifelong Learning report stated that traditional educational systems, in which the teacher is the sole source of knowledge, are ill suited to equip people to work and live in a knowledge economy. Some of the competencies, such as teamwork, problem solving, motivation for Lifelong Learning that the society demands, can not be acquired in a learning setting in which teachers dictate facts to learners who seek to learn them only in order to be able to repeat them. But the Lifelong Learning model enables learners to acquire more of the new skills demanded by the knowledge economy. Teachers and trainers serve as facilitators rather than transmitters of knowledge and more emphasis is placed on learning by doing, working on teams, and thinking creatively. A Lifelong Learning system must reach larger segments of the population, including people with diverse learning needs, and it must be competency driven rather than age related (World Bank, 2003). Other authors, like Kendall, Samways and Van Weert (2004) also mentioned many characteristics in Lifelong Learning different from traditional learning as the following Table 2.3:

Table 2.3 Characteristics in Lifelong Learning, according to Kendall, Samways and Van Weert (2004)

- Lifelong Learning is not necessarily the consequence of teaching, and also not of provision of information by someone who knows something the other does not.
- Lifelong Learning is mostly done outside school; classroom, textbooks and teachers are not by definition ingredients of any environment that is supposed to facilitate learning.
- Not textbooks, but opportunistic and rich environments form triggers for Lifelong Learning.
- Lifelong Learning is by empirical observation and enhances personal experience.
- Lifelong Learning occurs 'Just in Time'.
- Lifelong Learning is about interactions and groups (teams or communities): one-to-one, many-to-many (virtual).
- Self-motivation is the driving force in Lifelong Learning. This raises the question however of what to do about the socially and educationally excluded: the people who cannot motivate themselves or be motivated.
- Lifelong Learning requires active participation in learning teams and communities; citizenship is Lifelong Learning.
- In Lifelong Learning forms of progression and personal achievement are different. It is not what students can reproduce that counts, nor the solution of artificial exercises. What counts is what you are able to achieve in real-life situations, be it in real economic life, real social life and real personal life measured by common, real-life standards.
- Lifelong Learners will maintain a portfolio of personal achievements.
- Lifelong Learning is Open Window learning, the learning environment is global.
- Lifelong Learning may be Mobile Learning, Home Based learning, Work Based learning.
- Community learning, but it is essentially a social activity involving interaction with others. ICT will support these interactions from any place at any time.
- Lifelong Learning education is learner centered: demand driven and aiming for personal achievements.
- Lifelong Learning allows informal and organic learning. It satisfied multiple learning needs/styles/groups of individuals.
- Lifelong Learning is from cradle to grave. The age profile of learners will change, for example retired people will take part.

2.4.2 Characteristics of Lifelong Learning from Smith and Spurling

Smith and Spurling (1999) identified some features of Lifelong Learning. Table 2.4 sets out these features.

Table 2.4 Features of Lifelong Learning according to Smith and Spurling (1999)

- Lifelong Learning relates to learning throughout the lifespan – covering all life from cradle to grave, and starting at any age.
- Learning has the widest possible boundaries. It includes all the main types and classes of learning: vocational, critical, formal, and the opposites of all these. It includes formal and informal education, and self-directed learning.
- Continuity is not of the very strictest kind. It allows for some gaps and delays, so long as a broad momentum is maintained.
- Intention and planning on the part of the individual or organization is seen as an ongoing intent to learn. It is expressed through some form of personal/organizational plan or strategy for ongoing learning which is maintained and acted upon over time. The plan might be written down as an unfolding concept, subject to reappraisal over time; or it might be held in the mind, more informally.

2.4.3 Statement from Knapper and Cropley

Knapper and Cropley (2000) stated in their book Lifelong Learning in Higher Education that the kind of Lifelong Learning that is the object of lifelong education is what Tough (1971) called 'deliberate' learning. They stated that it is important to make clear that what is meant here by 'learning', is not the spontaneous, day-to-day learning of everyday life. Such learning is lifelong, and will continue to be. It has the following definitive characteristics:

- It is intentional – learners are aware that they are learning;
- It has a definite, specific goal and it is not aimed at vague generalizations such as 'developing the mind';
- This goal is the reason why the learning is undertaken (i.e. it is not motivated simply by factors like boredom);
- The learner intends to retain what has been learned for a considerable period of time.

2.4.4 From education and training to a Lifelong Learning future

Longworth (2003) in his book Lifelong Learning in action: transforming education for the 21st century demonstrated the changes needed to take us from the age of education and training into the Lifelong Learning era. The author compared the characteristics of education and training in the 20th century with Lifelong Learning in the 21st century, and identified the action for such kind of change. Longworth (2003) offers the full set as Figure 2.2.

From the age of education and training to the era of Lifelong Learning		
Education and training C20th	**Lifelong Learning C21st**	**Action for change**
1. Educational decision making rooted in a 20th-century mass education and training paradigm	Decisions are made on individual learning needs, demands and styles of all citizens of all ages, abilities and aptitudes	Find the barriers to learning and dismantle them. Develop and market a strategy based on lifelong and lifewide learning for all
2. Ownership of the need to learn and its content is with the teacher	Learner, as customer, rules. As far as possible, ownership of the need to learn and its content is given to the learners	Involve in-service teachers in strategies to empower learners. Train a team to run Lifelong courses in every learning provider
3. Work-based – educates and trains for employment and short-term need	Life-based – educates both for employability and a full and fulfilled life in the long term	Provide the tools to empower whole person's learning needs. Career, job, leisure, family, community, interests, change-audits, personal learning plans etc

4. Teachers regarded as information and knowledge purveyors – sole distributors of resource	Teachers as mangers – of all the resources and expertise available in a community	Discover and use the talents, skills, expertise, finance and knowledge within the community. Each learning provider appoints a person to tap into and distribute this resource
5. Courses decided and provided by education organizations on their own premises	Learning influenced by learner and provided where, when, how and from who he/she wants it	Encourage providers to provide learning where people are-home, schools, workplaces, pubs, stadia, church halls etc
6. Sparse mass educational support and backup structures brought into service when problems arise	Sophisticated ongoing support structures available to all learners according to needs and demands. Early warning, early treatment	Provide a wide angle of learning support people from scratch, including learning counselor, community mentors, psychologists etc, and make available to all learners of all ages. Forestall problems before they arise
7. Examinations used to separate successes from failures irrespective of circumstance	Examinations as failure-free personal learning opportunities confirming progress and encouraging further learning	Influence development of innovative assessment tools embedded into personal learning curricula and examined when the student feels ready, not when convenient
8. Knowledge and information based – what to think	Understanding, skills and values based – how to think	Develop personal skills- and values-based curricula that expand the capacity of people to enjoy and benefit from learning throughout life
9. Learning as a difficult chore and as received wisdom	Learning as fun, participative and involving, and as perceived wisdom	Celebrate learning frequently and encourage active citizenship by individuals, families, organizations and communities
10. Education is compartmentalized according to age	Learning is lifelong in concept and content, providing links vertically and horizontally between age groups	Provide whole-community-based facilities which encourage links between learning providers and people of all ages. Foster productive partnerships
11. Reactive – meets identified needs of organizations and some people	Proactive–actively encourages the habit of learning in all people	Encourage active learning methods – use technology wisely
12. Addresses present personal learning needs and circumstances	Also prepares for future personal learning needs and circumstances	Change mindsets. Create a Lifelong Learning culture

Figure 2.2 From education and training to Lifelong Learning (Longworth, 2003)

2.5 The reasons why choosing for Lifelong Learning

Hasan (1999) presented that the economic rationale for Lifelong Learning comes from two principal sources: Firstly, with the increasing importance of knowledge-based economy and the progressive demise of Taylorism, the threshold of skills demanded by the employers is being raised constantly. Secondly, there is a need for continuous renewal and updating of skills. As firms respond to a more volatile market and shorter product cycles, career jobs are fewer and individuals experience more frequent changes in jobs over the working life. As a result, the shelf life of skills is shorter, the need for reskilling more frequent. In this section, the other reasons why choosing Lifelong Learning and why Lifelong Learning is particularly appropriate for this age, will be explained specifically from the following aspects.

2.5.1 Continuous change requiring continuous learning

The reasons that have led to this increased interest in the promotion of Lifelong Learning, and that give it an urgency and relevance that was lacking in earlier times, are social, economic and cultural in nature (De Sanctis, 1977). They arise from the phenomenon of change that is a major element in contemporary life (Cropley, 1977). Knowles (1975) identified that in the past changes have always been slow relative to the life expectancy of a single human being, so that people could adapt themselves to a set of conditions that remained more or less constant during their lifetimes. Knapper and Cropley (1991) stated that the present cycle of change has two features: firstly, the present set of changes is occurring so rapidly that the cycle may repeat itself several times within a single lifetime; the second feature of change in the modern world is that it is global, transcending regional and national boundaries.

Cornford (2002) identified that over the past two decades industrially advanced societies have been subjected to three pervasive revolutions, technological, economic and social in nature, which are the substantial reasons for the resurgence of interest in Lifelong Learning. Below, Lifelong Learning will be seen against the background of change. These changes concern the global environment, but also our technological, economic and social environments.

1. The changing global environment

The World Bank sees changes in our global environment as presented in Table 2.5 (World Bank, 2002, p8). Next to specific opportunities there are specific threats that may be countered by Lifelong Learning approaches.

Table 2.5 Opportunities and threats stemming from changes in the global environment

Change factor	Opportunities	Threats
Growing role of knowledge	Possibility of leapfrogging in selected areas of economic growth Resolution of social problems (food security, health, water supply, energy, environment)	Increasing knowledge gap among nations
ICT revolution	Easier access to knowledge and information	Growing digital divide among and within nations
Global labor market	Easier access to expertise, skills, and knowledge embedded in professionals	Growing brain drain and loss of advanced human capital
Political and social change Spread of democracy	Positive environment of reform	Growing brain drain and political instability
Violence, corruption, and Crime HIV/AIDS		Loss of human resources

Han (2001) identified that the most important factor to be considered in this context is the fact that Lifelong Learning is a global phenomenon, and 'Lifelong Learning' as a system, in this context, stands at the very center of these turbulent changes. The author stated that the structural transition from capital-based economy to knowledge-based economy has strongly encouraged the active role of Lifelong Learning on the global level. OECD Education Ministers, at their meeting in January 1996, identified the goal of Lifelong Learning for all as a means of anticipating and responding to on-going changes, promoting economic efficiency, and enhancing social cohesion (Han, 2001).

2. The changing technological environment

In the year of 1979, Stonier mentioned the 'two revolutions' of ordinary life: technological change and changes in the information domain. Cornford (2002) argued that the advent of computerization and a range of

information technologies have resulted in enormous technological change. So great are the changes that it has been claimed, with reasonable justification, that the natures of work, skill and knowledge have changed as a result of these information technologies to be more cognitively demanding (Zuboff, 1988). The effect of globalization and rapid advances in technology indicate that change will continue as an even more rapid rate, thus intensifying the need for Lifelong Learning (Longworth & Davies, 1996).

In turn, the technological revolution has been accompanied by an economic revolution as the new technologies have superseded existing equipment, manufacturing processes and methods of industrial organization (Cornford, 2002). Drucker (1994) stated that the globalization of world trade has further increased economic competition with the adoption of advanced production processes by many of what were once patronizingly referred to as third world countries. As a result of the technological and economic changes, there have been concomitant major social changes as well, as some occupations have been rendered obsolete and a whole raft of new enterprises and sources of wealth, power and status have emerged.

3. The changing economic environment

Knapper and Cropley (1991) argued that the most obvious area in which rapid change occurs involves the world of work: factors such as technological progress, development of manufacturing techniques, emergence of new products and increases in knowledge are combining to produce a situation in which some jobs are simply ceasing to exist, while in others the basic skills are changing so extensively and rapidly that it is no longer possible to acquire them once and for all during an initial education and then spend the rest of one's life applying them. This is true not only of manual skills and trades, but also of the professions. Dubin (1974) has shown that the 'half life' of an average engineering class taught in an American university (the period of time during which half of its content becomes obsolete) is diminishing continually, so that what is being learned today may be irrelevant in only a few years. Changes of this kind mean that it may be necessary, even for workers at fairly humble levels, to renew, upgrade or even change basic job qualifications at least once during a normal lifetime.

Tapscott (1996) stated that in the old economy, the basic competences of the industrial worker, bricklayer, or bus driver were relatively stable. In the knowledge economy, change is so rapid that workers constantly need to acquire new skills, and firms need workers who are willing and able to update their skills throughout their lifetimes (World Bank, 2002). The most promising way to assure this is Lifelong Learning (Mihnev & Nikolov, 2004). To keep up with changes and developments in a knowledge economy, workers need to adapt continuously to new changes and developments: they are in a process of Lifelong Learning.

4. The changing social environment

The global knowledge economy is placing new demands on citizens who need more skills and knowledge to be able to function in their day-to-day lives (World Bank, 2002). The effects of sociocultural change are potentially disastrous, since they bring with them the possibility of a 'collapse of values' (Aujaleu, 1973). If people are unable to develop new kinds of relationships with other people an accept altered social roles, changes of the kind just outlined constitute a threat to psychological well-being (Suchodolski, 1976). Change brings psychological dangers and difficulties in situations where people are unable to cope with it. Lifelong Learning is seen as a constructive response that can help to avert these dangers and is crucial to preparing workers to compete in the global economy.

McClusky (1974) made the connection between change and Lifelong Learning in a particularly succinct way, pointing out that continuous change requires continuous learning. People must be able to adjust to change that is both rapid and sweeping. The earlier ideas that adulthood is slimly a time for reapplying old learning and most deliberate learning is supposed to occur in childhood and youth, are no longer appropriate. As Methven and Hansen (1997) argued that traditional attitudes towards learning must be changed because 'the inherent weakness of a system in which it is assumed that one can be educated for life is that life itself changes. The rapid rate of change created by modernization is the main justification that has been given to support the need to develop Lifelong Learning or a 'learning society' (Edwards, 1997).

2.5.2 Reasons at national, organizational and individual level

Lifelong Learning is necessary at a national, organizational, and individual level to survive international competition (Van Woerkom, 2003). Below, the necessity of Lifelong Learning at the national, organizational and individual level will be explained.

1. The necessity of Lifelong Learning at the national level

Cornford (2002) stated that governments have a clear and vested interest in developing Lifelong Learning policies to ensure that there is maintenance of an economic, competitive edge in a global economy. Lifelong Learning can resolve many of the economic, social, cultural and even political problems that confront our twenty-first-century societies (Papadopoulos, 2002). Apart from the ability to maintain continuous employment there is a need to keep abreast of the changes to taxation laws, superannuation regulations, and welfare entitlements. The need to maintain current knowledge about these things illustrated the importance of individuals of all ages maintaining knowledge currency for personal benefit throughout their lives. In other words, there are substantial social benefits to be gained by individuals in the maintaining knowledge through the lifespan (Cornford, 1999, 2000). Lifelong Learning is fast becoming a necessity in China. As Morgan (2000) said that China's path is towards modernization with the need to build an infrastructure capable of sustaining a market economy, the development of education and training being seen as the key to this.

2. The necessity of Lifelong Learning at the organizational level

Senge (1990) stated that the organization that will truly excel in the future will be the organization that discovers how to tap people's commitment and capacity to learn at all levels of the organization. Senge identified that the success of organizations depends on the continuous learning of employees throughout both their own lives and the life of the organization. For individual and organization, learning is essential not just for survival but for the quality of life itself. Corporations need Lifelong Learning in order to have access to a highly qualified labor force so that they can continue to grow. Hasan (1999) stated that the skills and competence of the workforce are major factors in economic performance and success at the enterprise level. Much of the policy interest in Lifelong Learning is in fact preoccupied with the development of a more productive and efficient workforce (Field, 2000).

3. The necessity of Lifelong Learning at the individual level

For the individual, life-long learning emphasizes creativity, initiative and responsiveness, attributes that contribute to self-fulfillment, higher earnings and employment, and to innovation and productivity (Hasan, 1999). Chapman, Gaff, Toomey and Aspin (2005) argued that Lifelong Learning offers the opportunity for people to being their knowledge up to date. They said that Lifelong Learning enables people to enjoy activities that they may have either long since laid aside or always wanted to do but were previously unable to; Lifelong Learning allows people to try their hands at activities and pursuits that they had previously imagined were outside their available time or competence; Lifelong Learning enables people to work consciously at extending their intellectual, vocational and personal horizons by seeking to understand and grasp some of the more significant advances of recent times that have done so much to affect and transform their worlds.

The point of departure for Lifelong Learning may be, on the one hand, the demands placed on the individual by social change and, on the other hand, the individual's own needs for growth and development (Tuomisto, 1998).

(1) The changing personal environment

Divjak et al. (2004) stated that personal development has been changing, because the environment we live in is changing:

- Technology that we use on a day-to-day basis;
- The amount of information that "bombards" us packed in different media formats;
- The ways we communicate with other people, with institutions and in the workplace;
- The amount of things that we have to know and be able to handle in order to keep up with the world around us.

The authors said that as the changing environment, we should be able to learn in a new manner and from the cradle to grave in order to be able to realize our life potential, and to fulfill our goals in life to a maximum extent.

(2) The individual's own needs

Learning is the self-renewing mechanism that enables individuals to survive and grow, develop and change, and learning is a condition for life. Senge (1990) stated that through learning we recreate ourselves; through learning we become able to do something we never were able to do; through learning we reperceive the world and our relationship to it; through learning we extend our capacity to create, to be part of the generative process of life. Senge (1990) identified that there is within each of us a deep hunger for this type of learning. Jarvis, who revised Maslow's 'hierarchy' of needs (Figure 2.3), used 'a taxonomy of human needs' to explain that the human being has the need to learn. Below, the models proposed by Maslow and Jarvis will be explained specifically.

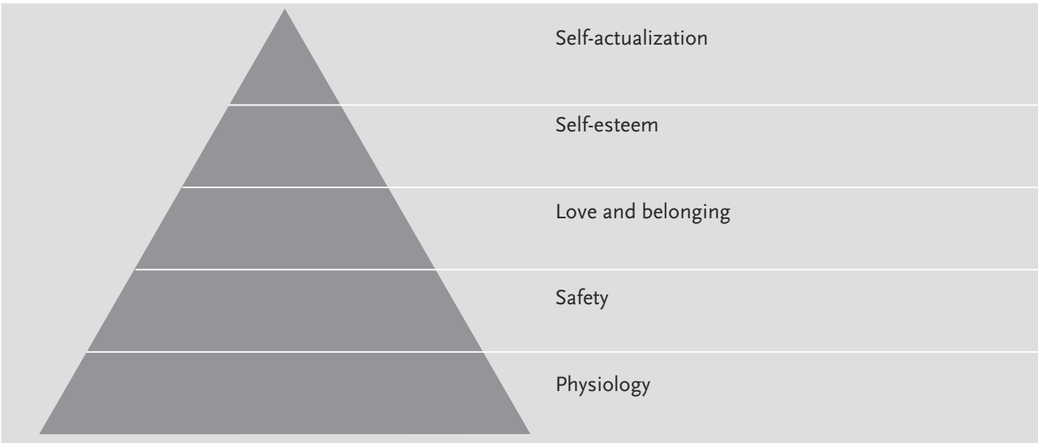

Figure 2.3 Maslow's 'hierarchy' of needs (Maslow, 1968)

Maslow suggested that there are five basic areas of human being needs: physiological, safety, love and belonging, self-esteem and self-actualization. Ormrod (2004) introduced Maslow's Hierarchy of Needs as follows:

- Physiological needs. People are motivated to satisfy needs related to their immediate physical survival – needs for food, water, oxygen, warmth, exercise, rest, sex, and so on.
- Safety needs. People have a need to feel safe and secure in their environment. Although they may enjoy an occasional surprise, generally speaking they prefer structure and order in their lives.
- Love and belongingness needs. People seek affectionate relationships with others and like to feel that they "belong" and are accepted as part of a group.
- Esteem needs. People need to feel good about themselves (need for self-esteem) and to believe that others also feel positively about them (need for esteem from others). To develop positive self-esteem, individuals strive for achievement and mastery of their environment. To attain the esteem and respect of others, they behave in ways that gain them recognition, appreciation, and prestige.
- Need for self-actualization. People have a need to self-actualize – to develop and become all they are capable of becoming. Individuals striving toward self-actualization seek out new activities as a way of expanding their horizons and want to learn simply for the sake of learning.

Ormrod (2004) stated that Maslow proposed that the five sets of needs form a hierarchy, as illustrated in Figure 2.3. When two or more of these needs are unmet, people tend to satisfy them in a particular sequence. They begin with the lowest needs in the hierarchy, satisfying physiological needs first, safety needs next, and so on. They attempt to fulfill higher needs only when lower needs have been at least partially met.

The five different sets of needs exist in individuals and human beings seek to satisfy them. Hence the provision of education throughout the whole of the lifespan may help the learner to satisfy a basic human need, especially in a rapidly changing world in which the individual may be posing many questions of meaning (Jarvis, 2004). Jarvis has argued that learning is actually an existential phenomenon and so revised Maslow's famous diagram even further. Jarvis used a taxonomy of human needs (See Figure 2.4) to explain that the human being has the need to learn.

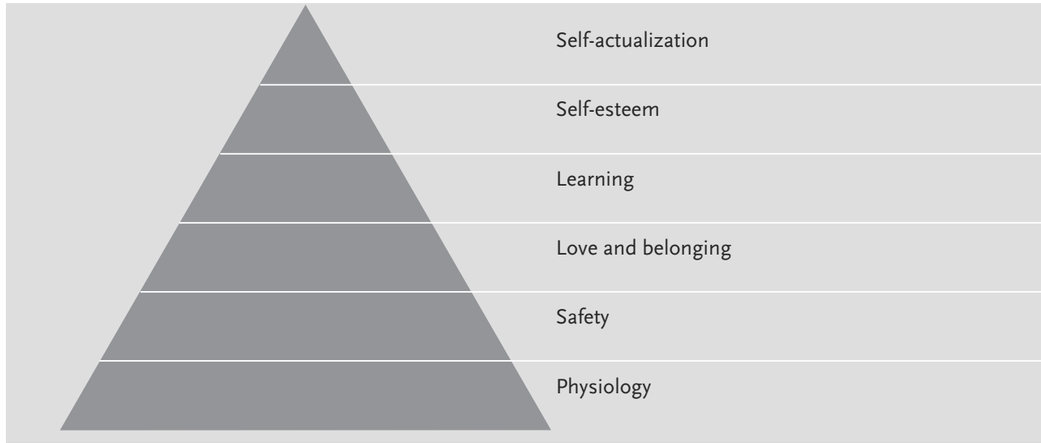

Figure 2.4 A taxonomy of human needs (Jarvis, 2004)

Lifelong Learning can mean different things to different employees. For example, for semiskilled employees, learning and development may involve training to expand existing skills and prepare for different jobs, promotions, or even for new jobs after requirement (Mathis & Jackson, 2004). DeSimone, Werner and Harris (2002) gave another two examples: this is particularly important for certified professionals who are required to complete a certain number of continuing education courses to maintain their certificates; to managers, Lifelong Learning may include attending management seminars that address new management approaches.

Summarily, corporations need Lifelong Learning in order to have access to a highly qualified labor force so that they can continue to grow; individuals needs Lifelong Learning in order to grow and develop to sustain employability; nations need Lifelong Learning to sustain employability and economic development.

2.6 Prerequisites for Lifelong Learning

Knapper and Cropley (1991) mentioned a number of prerequisites for Lifelong Learning, including attitudes, values and capacity. They argued that interest is the psychological factor that influences adults' willingness to engage in a process of Lifelong Learning. This willingness to learn is affected by a group of attitudes and values: attitudes to learning itself, to themselves as learners, to particular learning, teaching activities and conditions, and to particular kinds of contents. In addition, the capacity for Lifelong Learning depends on competencies or study skills. Such skills include the capacity to work without the direct supervision of a teacher, knowledge about how to obtain information from outside sources such as libraries, the ability to set goals and devise strategies for achieving them, the capacity for assessing the extent to which such goals have been accomplished and to design alternative ways of pursuing them, skill in self-evaluation and so on.

These prerequisites define an idealized lifelong learner. Cropley (1981) developed the following list. This individual:
1. is strongly aware of the relationship between learning and real life;
2. is aware of the need for Lifelong Learning;
3. is highly motivated to carry on Lifelong Learning;
4. possesses a self-concept favorable to Lifelong Learning;
5. possesses the skills necessary for Lifelong Learning.

The skills or competencies mentioned in item 5 include the following:
1. capacity to set personal objectives in a realistic way;
2. effectiveness in applying knowledge already possessed;
3. efficiency in evaluating one's own learning;
4. skill at locating information;
5. effectiveness in using different learning strategies and in learning in different settings;
6. skill in using learning aids such as libraries or the media;
7. ability to use and interpret materials from different subject areas.

2.7 Lifelong Learning and the learning organization

Conceptually, Lifelong Learning is related to two other concepts, namely learning organizations and learning society (Merrill, 1977). In Section 2.7, the learning organization and Lifelong Learning will be introduced. The relationship between Lifelong Learning and the learning society will be introduced in Section 2.8.

2.7.1 The relationship between Lifelong Learning and the learning organization

Glastra, Hake and Schedler (2004) suggested that in the face of continuously changing circumstance both organizations and employees have to become flexible, and creating the learning company and developing Lifelong Learning with a view to economic competitiveness have become the gospel of the 'knowledge economy'. In other words, in a knowledge economy era with a view to economic competitiveness, work organizations must become at the same time learning organizations and develop Lifelong Learning.

Walker (2001) stated in the paper *Lifelong Learning and the Learning Organization* that organizational learning and learning organizations become closely interrelated with the idea of Lifelong Learning, and provide potentially some of the most supportive contexts and value systems for Lifelong Learning. He argued that just as Lifelong Learning is a condition for the well-being of the individual, organizational learning has become recognized as a condition for the continuing life and vitality of the organization, in whose interest it is to promote the continuing open-ended learning of its members. He summarized that a strong implication is that the continuing life of the organization depends on the Lifelong Learning of its members. A corollary is that to the extent that individuals spend their lives working and living within organizations, the Lifelong Learning of individuals is dependent on organizations creating and sustaining a culture of learning – one of the features of a learning organization. Thus there is a profound implicit connection between the concept of Lifelong Learning and the concept of a learning organization. As Longworth and Davies (1996) stated that advocates of Lifelong Learning recognize that the development of learning organizations is a trend enabling Lifelong Learning. Below, definitions, framework and development stages of the learning organization will be stated.

2.7.2 Definitions of the learning organization

The interest of learning organization was inspired mainly by two books published at the beginning of 1990s: "The Fifth Discipline" by Senge in 1990 and "The Learning Company" by Pedler et al. in 1991 (Mumford, 1995). Senge (1990) stated that learning organizations are organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together. Pedler, Burgoyne and Boydell (1991) said that a learning company is an organization that facilitates the learning of all its members and consciously transforms itself and its context.

On the other hand, Mumford (1995) contends these two definitions are visionary. He identified his own definition that the learning organization is one that creates an environment where the behaviors and practices involved in continuous development are actively encouraged. He argues that this definition encourages people to look into the more fundamental issues of learning organization. Mumford (1995) developed a learning pyramid (Figure 2.5) that explained that learning organization is at the top of the learning pyramid and it is based on and compasses the other three learning levels: learning in group, one-to-one relationship learning and individual learning.

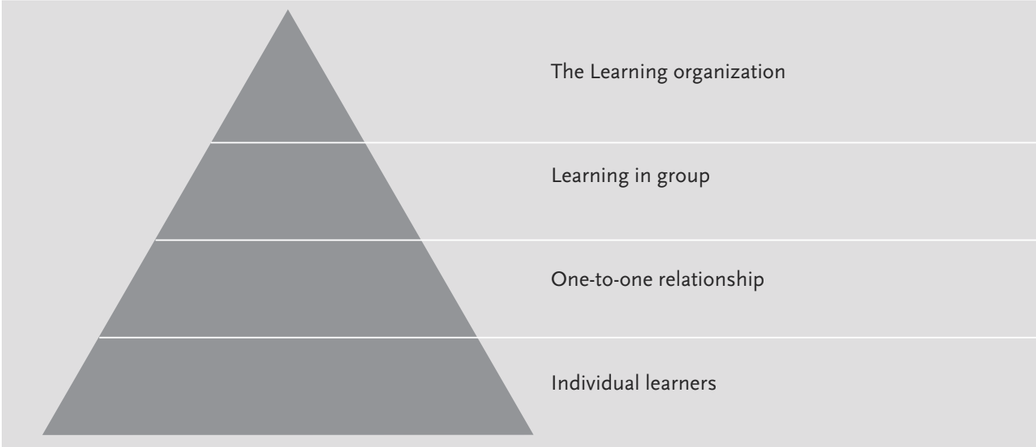

Figure 2.5 The learning pyramid developed by Mumford (1995)

Watkins and Marsick (1993) stated that the learning organization is one that learns continuously and transforms itself. They also identified that learning takes place in different levels: in individuals, teams, the organization, and even the communities with which the organization interacts.

2.7.3 Learning organization framework

A number of frameworks have been developed since the late 1980s in an attempt to encapsulate the essence of a learning organization (Walton, 1999). Below in the Table 2.6, four models are presented.

Table 2.6 Learning organization models

Senge (1990)	Pedler et al. (1991)	Pearn et al. (1995)	Watkins&Marsick(1993)
Systems thinking	Learning approach to strategy	Vision for the future	Create continuous learning opportunities
	Participative policy making Informating	Supportive management	Promote inquiry and dialogue
Personal mastery	Formative accounting and control Internal exchange Reward flexibility	Enhanced learning	Encourage collaboration and team learning
Mental models	Enabling structures Boundary workers as environmental scanners	Transforming structures	Empower people toward collective vision
Shared vision	Inter-company learning Learning climate	Nurturing cultures	Establish a system to capture and share learning
Team learning	Self-development opportunities for all	Inspired learners	Connect the organization its environment

1. Senge's model of a learning organization

Senge (1990) in his work *The Fifth Discipline: The Art and Practice of the Learning Organization* explained that there are five disciplines in building a learning organization, showed in Figure 2.6.

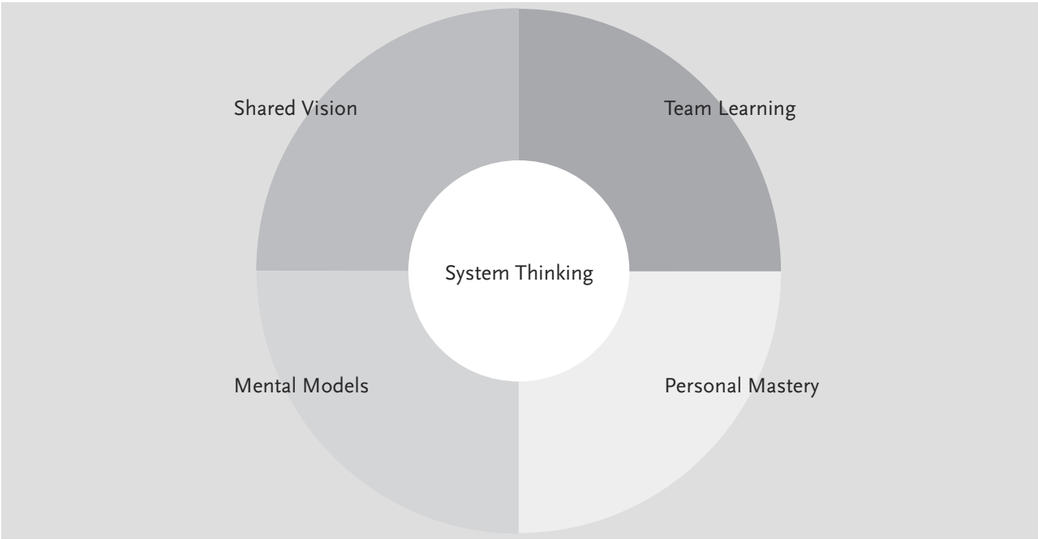

Figure 2.6 Senge's Five Disciplines (Senge, 1990)

(1) Systems Thinking
Systems Thinking is the most important discipline in building a learning organization at the very beginning by viewing the organization as an entire system. People in the organization are considered as one part of the system. It allows the organization as a whole to be greater than the individuals. Moreover, the discipline integrates the other disciplines within a company.

(2) Personal Mastery
Senge (1994) described personal mastery as one of the core disciplines needed to build a learning organization and defined that personal mastery is the discipline of continually clarifying and deepening our personal vision, of focusing our energies, of developing patience, and of seeing reality objectively. Personal mastery applies to individual learning. Senge (1990) said that organizations cannot learn until their members begin to learn. Through this discipline people are highly expected committing to Lifelong Learning that contributes both to themselves and the organization.

(3) Mental Models
Mental model note a way in which people understand the world and how they play and perceive in it. If the personal mastery leads people to develop themselves, the mental models tell them how to use the knowledge and even skills dealing with the changing world.

(4) Shared Vision
Shared vision is that to what extent the employees contribute their values and knowledge to the organization and whether all members share the business goal with the management team. Through the practice of shared vision, people are bound together around a common identity.

(5) Team Learning
Team learning is a practice of group interaction. Senge (1990) finds that teams, not individuals, are the fundamental learning unit in modern organizations. In other words, modern organizations operate on the basis of teamwork, and organizations cannot learn if team members do not come together and learn.

2. Pedler *et al.*'s model of a learning organization

Pedler, Burgoyne and Boydell (1991) identify the 11 characteristics of the Learning Company as follows:

(1) A Learning Approach to Strategy
Where policy and strategy formation are consciously structured for learning, for example, deliberate pilots and small-scale experiments are used to create feedback loops for learning about direction and the formulation of 'emergent strategy'.

(2) Participative Policy Making
Where all members of the organization together with key stakeholders have a chance to contribute and participate in policy making.

(3) Informating
In the Learning Company information technology is used not just to automate, but to make information widely available to front-line staff in order to empower them to act on their own initiative.

(4) Formative Accounting and Control
This is a particular aspect of Informating, where systems of budgeting, reporting and accounting are structured to assist learning for all members about how money works in the business.

(5) Internal Exchange
Where there is a high degree of Internal Exchange, all internal units and departments see themselves as customers and suppliers in a supply chain to the end user or client; contracting with and learning from other departments is normal.

(6) Reward Flexibility
With greater participation comes a need for more flexible and creative rewards. High Reward Flexibility means that there are alternatives in both monetary and non-monetary rewards to cater for individual needs and performance.

(7) Enabling Structures
Roles, departments, organization charts and even procedures and processes are seen as temporary structures that can easily be changed to meet job, user or innovation requirements.

(8) Boundary Workers as Environmental Scanners
Environmental scanning is carried out by all people who have contracts with external users, customers, suppliers, clients, business partners, neighbors, and so on. Processes are in place for bringing back and welcoming the information into the company.

(9) Inter-company Learning
Through joint ventures and other learning alliances, the organization learns from other companies and meets with them for mutual exchange.

(10) A Learning Climate
In the Learning Company all managers see their primary task as facilitating company members' experimentation and learning from experience, through questioning, feedback and support. The company seeks to export this Learning Climate to its context and business partners.

(11) Self-development Opportunities for All
Resources and facilities for self-development are made available to all members, especially those in the front line with users or clients. People are encouraged to take responsibility for their own learning and development.

3. Pearn *et al.*'s model of a learning organization

Pearn, Roderick and Mulrooney (1995) developed a six-factor INVEST model as follows:

(1) Inspired learners
The measure of "inspired learners" is where all employees learn continuously, are excited by learning and understand the significance of individual, group and organizational learning for the current and future viability of the organization.

(2) Nurturing culture
The measure of "nurturing culture" is where there is universal support for continuous examination of established ways of thinking and doing at all levels are highly regarded by everyone.

(3) Vision for the future
The measure of "vision for the future" is where the vision is shared, fully articulated, communicated and understood by all members of the organization who are committed to it. The vision should reflect the organization's capacity to identify, respond to, and benefit from future possibilities.

(4) Enhanced learning
The measure of "enhanced learning" is where all employees benefit from practices and techniques to enhance and enrich learning, for example, learning contracts, networks, mentoring, and personal development plans.

(5) Supportive management
The measure of "supportive management" is the extent to which managements in all parts of the organization actively support and encourage their own and other people's continuous learning.

(6) Transforming structures
The measure of "transforming structures" is the extent to which the organization is designed to facilitate and encourage continuous learning. For example, there is great emphasis on sustained business partnership encouraged by a high degree of autonomy. The organization is as flat as possible.

4. Watkins and Marsick model of a learning organization

Watkins and Marsick (1993) lay out six action imperatives for the creation of a learning organization:

(1) Create continuous learning opportunities
Various attempts are described to foster continuous learning through more effective planning for informal learning, learning how to learn, and just-in-time learning. The nature of work itself must change for continuous learning to be successful. The workplace should be a learning organization.

(2) Promote inquiry and dialogue
At the nexus between individual and team learning is a spirit of inquiry. Inquiry that questions and helps, but does not accuse, has the potential to build a bridge between people who are attempting to solve the same problems and to create the possibility of dialogue. Dialogue is telling what is on one's mind, asking questions about its impact, listening for the reasoning in people's answers and keeping open to new view points.

(3) Encourage collaboration and team learning
Teams, groups and networks can become the medium for moving new knowledge through the learning organization. Team learning is enhanced when teams learn the skills of framing, reframing, experimenting crossing boundaries and creating an integrative perspective.

(4) Establish a system to capture and share learning
Learning should be captured and collected in systems to keep what is learned in the organizational memory. A learning organization finds ways to preserve what is learned so that it will endure and to also disseminate what is learned so that is widely dispersed. Learning is often shared informally.

(5) Empower people toward collective vision
Autonomy is having the power to act on one's own initiative. A more participatory workplace affords both individuals and the organization more space for learning. Many organizations have attempted to empower people by suggesting that individuals change themselves without radically altering the structure and culture of disempowering.

(6) Connect the organization to its environment
Being connected to the internal environment is being responsive to the members of the organization and their work-life needs. This is not separate from being responsive to external customers whose needs influence all members of an organization. External customers in the broadest sense include the earth or the environment (competitors, society etc.).

2.7.4 Development stages of a learning organization

Reeve, Cartwright and Edwards (2002) argued that learning becomes the chief organizational principle and there are said to be three different states of learning within an organization: individuals within an organization learning things; organizational learning – where the organization as an entity starts to develop ways in which it can learn lessons collectively; and the learning organization – where the central organizational goal is systemic learning.

Van Weert (2004) argued that to keep up with demands and competition innovative businesses and organizations have to create new operational knowledge in their domain: how to do better and how to offer new products and/or services, while in a learning organization work is organized in non-traditional ways and professionals work in a different way. Advocates of organizational learning and the learning organization recognize that these should not be left to chance (Marquardt, 1996). Jones and Hendry (1992) proposed the five-stage model of development of a learning organization. The first three stages of the model (Foundation, Formation and Continuation) represent a stage of organizational learning. Stages 4 and 5 (Transformation and Transfiguration) represent the transition to becoming a learning organization (see Table 2.7).

Table 2.7 Stages in the development of a learning organization

Organizational learning
1. Foundation Basic skills development, plus equipping learners with habits and enthusiasm to learn more. Basic HRD strategies to motivate and build confidence for further learning
2. Formation Organization encourages and develops skills for self-learning and self-development, helps individual learn about the organization and their place in it. Opportunity and resources are made available to meet demand for learning
3. Continuation The learner and organization are becoming more innovatory, independent and self-motivated. HRD promotes learning on an individual basis, with tailor-made learning experiences
Step change/Paradigm shift Learning Organization
4. Transformation A complete change in the form, appearance and character/culture of the organization. HRM characterized by fairness, openness, flexibility, meritocracy. Ethical considerations important in general business management
5. Transfiguration People come first and a concern for society's welfare and betterment The organization represents a way of life to be cherished because of its values Learning is at the center of activities Lack of concern about credentials The organization is instructing and controlling itself by means of total involvement in the community The organization is judged by the extent to which the people who make it up control and teach the organization how to learn, rather than vice versa No formal appraisals

Source: Adapted from Jones and Hendry (1992).

In Chapter 3, the author will construct a conceptual framework of Lifelong Learning from three levels: the educational level, the organizational level and the individual level. According to the literature study in this section, learning organizations provide a supportive environment to Lifelong Learning and the development of learning organizations is a trend enabling Lifelong Learning. So the author put forward the learning organization from the organizational level. On the basis of the study in this section, the author also identified several elements of the learning organization as the promoting factors for Lifelong Learning. The specification will be explained in next chapter.

2.8 Lifelong Learning and the learning society

The other concept that is related to Lifelong Learning is the learning society. Barnett (1996) defined the learning society as such kind of a society that takes learning seriously and whose members come to understand that learning is not fully accomplished by any age or biographical point but is a responsibility to be fulfilled more or less continuously through the lifespan. Such society motivates and provides both formal and informal learning. Husen (1974) identifies a number of prerequisites for the learning society:

- people have an opportunity for Lifelong Learning,
- formal education extends to the whole age group,
- informal education – such as adult studies – is in a central position and self-study is widely accepted,
- other institutions and organizations support education which in its turn depends on them.

The learning society can provide a good social environment from the macro level to make Lifelong Learning come true. According to Husen (1974), education whatever formal education or informal education is as a prerequisite for the learning society. As a result, in the construction of conceptual framework of Lifelong Learning in the next chapter, the author emphasizes an uninterrupted line from initial education to the education for the aged from the macro level.

2.9 Conclusions

The various sources in the literature mentioned above show that there is no universal definition of Lifelong Learning. Different authors have different perceptions on it. So, after analyzing a number of theories about the nature of Lifelong Learning, the author now will try to integrate definitions and bring these together in a conceptual framework that forms the basis of this study.
Lifelong Learning articulates the importance of continuing learning for survival and development at the levels of the individual, the organization and society as a whole. The objective of Lifelong Learning is the development of human potential at all levels. Lifelong Learning is both a personal responsibility and a prerequisite to long-term career success. It has the following characteristics and qualities:

l Lifelong Learning relates to learning throughout the lifespan from cradle to grave, and starting at any age. At the heart of Lifelong Learning is the assumption that all human living is a learning process. Where there is human life there is learning. Lifelong Learning is continual learning from the full variety of actual work and life experiences. Continuity, in a lesser strict sense, allow for some gaps and delays.

- Lifelong Learning has the widest possible boundaries. It includes formal learning (in schools, training institutions, universities), non-formal learning (on-the-job and household training), and informal learning (skills learned from family members, colleagues in the workplace, or people in the community).

- Lifelong Learning is intended and planned learning. Lifelong Learning is a deliberate learning process. It is intentional. Learners are aware that they are learning and it has a definite and specific goal.

- Lifelong Learning is essentially a social activity involving interaction with others. Lifelong Learning is about interactions and groups, and requires active participation in learning teams and communities. People learn in groups and from each other.

- Lifelong Learning is about understanding, skills and values. More emphasis is placed on learning by doing and thinking creatively. It must be competency driven rather than age related. Learning is fun and perceived wisdom.

- Lifelong Learning is life based. More emphasis is placed on applying knowledge and skills with confidence, creativity and enjoyment in all roles, circumstances and environments, and what counts is what people are able to achieve in real-life situations.

- Lifelong Learning focuses on the needs and demands of the learner, giving ownership of learning to the learner, and giving learners the tools and techniques with which they can learn according to their own learning styles and needs.

- In Lifelong Learning, educators are guides to sources of knowledge. Teachers and trainers serve as facilitators rather than transmitters of knowledge. Examinations as failure-free personal learning opportunities confirm progress and encourage further learning.

- People have access to learning opportunities over a lifetime. Learning opportunities are available over the whole lifespan and accessible on a widespread basis.

- Lifelong Learning is expressed through some form of personal plan for ongoing learning. Such plan might be written down, and assessment is used to guide learning strategies and identify pathways for future learning.

According to the literature, the author concluded to the following definition of Lifelong Learning: 'Learning' is the noun and 'lifelong' is the adjective describing the type of learning occurring over the lifespan; Lifelong Learning embraces all learning activities from cradle to grave both formal education and learning activities that take place in informal or non-formal settings.

In this chapter, the following research questions have been answered:
1) What is Lifelong Learning and how is it defined by the author?
2) What are characteristics and qualities of Lifelong Learning?

But according to the author's definition and the collected qualities for Lifelong Learning, what kind of conceptual framework do we need to construct for further examination of the characteristics and dynamics of Lifelong Learning? Chapter 3 will offer an answer to this new question.

Chapter 3
Construction of a conceptual framework for researching Lifelong Learning

3.1 Introduction

On the basis of Chapter 2, this chapter will construct a conceptual framework of Lifelong Learning. The research question - what kind of conceptual framework do we need to construct for further examination of the characteristics and dynamics of Lifelong Learning? - will be answered in Chapter 3. Before the introduction of the conceptual model, Section 3.2 introduces relevant stakeholders in Lifelong Learning. Section 3.3 identifies the conceptual framework of Lifelong Learning arrangements. In Section 3.4, 3.5 and 3.6, there will be specific statements on the Lifelong Learning arrangements from the educational system level, organizational level and Lifelong Learning attitude and Lifelong Learning behavior aspect.

3.2 Stakeholders in Lifelong Learning

Longworth (2003) introduced various stakeholders in Lifelong Learning. He stated that all sectors of society bear a responsibility for Lifelong Learning, and some stakeholders have a larger responsibility than others to promote Lifelong Learning: Local and regional governments, universities and higher education, national governments, schools, industry and business. Every type of organization is a key element to promote Lifelong Learning. Figure 3.1 demonstrates in pictorial form how sectors can work together to develop mutually beneficial partnerships and how Lifelong Learning ideas can take root in the exchange of knowledge, experience and skills. They are an excellent way of sharing resources, of spreading ideas and experiences, and of providing and acquiring skills and knowledge where they do not yet exist in a certain organization (Longworth, 2003).

Longworth (2001) specifically introduced the role of government in Lifelong Learning. Through its economic and political power, government is the chief enabler of Lifelong Learning programmes, values, and attitudes. It has the ability to define targets, to support worthwhile initiatives, to change systems, to influence developments, and to turn ideas into action. At the national level, the government can provide encouragement and establish good practices. At the local level, it can initiate new projects to support Lifelong Learning in the regions. Measures include tax incentives, investment grants for new technologies, and ministerial committees that have a remit to produce and implement plans.

Sasai (1998) presented the Japanese Lifelong Learning policy from government: after 1987, the term and idea of 'Lifelong Learning' came to be generally accepted in Japan. The structure of the Ministry of Education, Science, Sports and Culture (MESSC) was altered, and a Bureau of Lifelong Learning established within it. This introduced a national administrative system for regulating Lifelong Learning.

To promote Lifelong Learning MESSC took a wide range of measures including: developing promotional mechanisms for Lifelong Learning, enacting a 'Lifelong Learning Promotion Law', establishing a 'Lifelong Learning Council' and setting up departments and councils responsible for Lifelong Learning in local government.

Longworth (2003) suggested that a true learning community is not defined only by its learning provider. The informal education systems are as much a part of the Lifelong Learning scene as the school, college and university. Voluntary organizations, NGOs, professional associations, special interest groups, sports clubs, hospitals, individuals and all the departments of the city from health to social services, from finance to law and order, each have something to contribute to the growth of a Lifelong Learning culture.

Summarily, all sectors of society bear a responsibility for Lifelong Learning: the school, college and university, voluntary organizations, individuals etc. Each has something to contribute to the growth of a Lifelong Learning culture. Each can participate separately, but jointly they can do so much more. In the next section, the author will construct the conceptual model of Lifelong Learning arrangements from three levels – the educational, organizational and individual level - jointly.

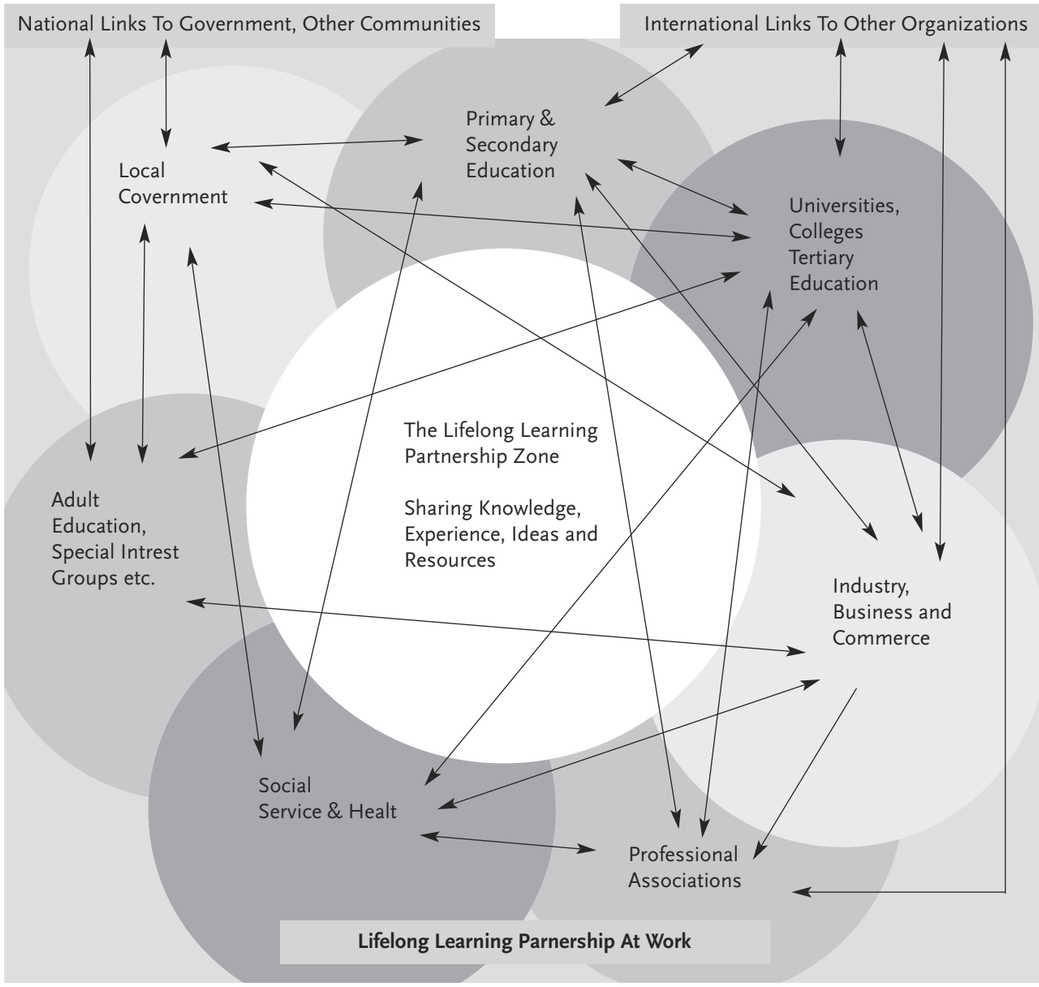

Figure 3.1 Lifelong Learning partnerships (Longworth, 2003)

3.3 A conceptual framework of Lifelong Learning arrangements

This study intends to explore the kind of learning arrangements that contribute to the Lifelong Learning of employees in Chinese organizations. Crucial for the success and sustainability of any Lifelong Learning system is to put all policies, strategies, and activities in an overall framework of incentives to all concerned (World Bank, 2003). For this purpose the author constructs a conceptual framework of Lifelong Learning from the following aspects: the educational system level, the organizational level, personal characteristics, quality of Lifelong Learning, and Lifelong Learning attitude and Lifelong Learning behavior (See Figure 3.2).

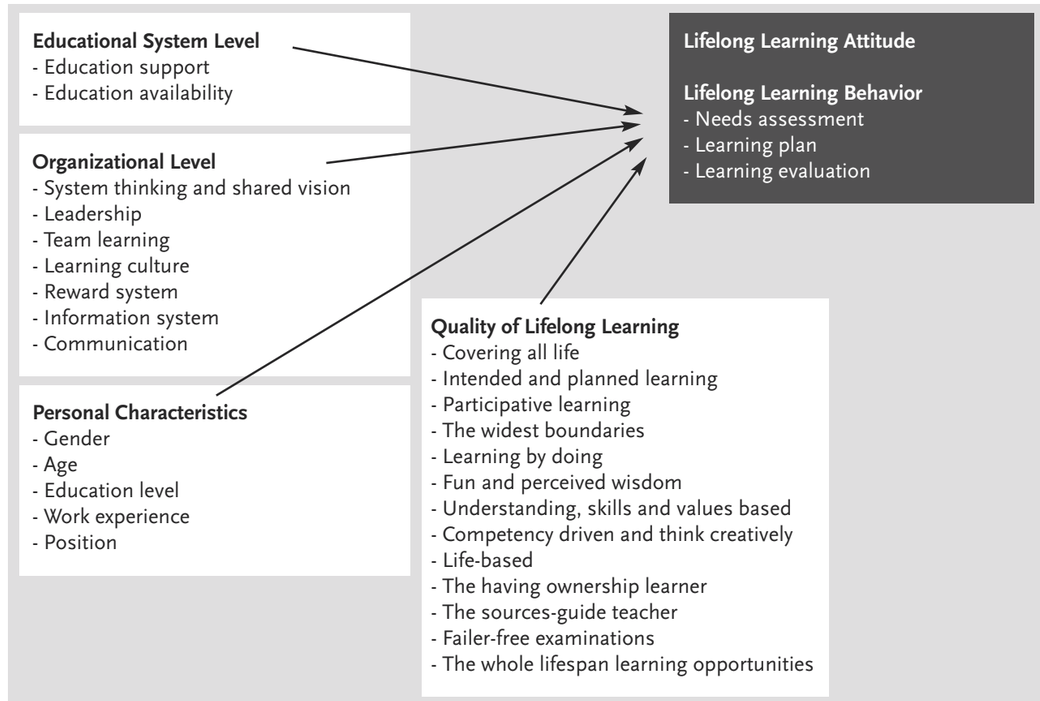

Figure 3.2 A conceptual framework of Lifelong Learning arrangements

(1) The educational system level

Lifelong Learning is not a kind of simple personal behavior but a kind of social behavior. The learning society can provide a good social environment from the macro level to make Lifelong Learning come true. According to Husen (1974), education whatever formal education or informal education is as a prerequisite for the learning society. As a result, in the construction of a conceptual framework of Lifelong Learning, the author emphasizes an uninterrupted line from initial education to the education for the aged from the macro level and defines it as the educational system level. At the educational system level, attention is focused on the macrostructure of education to foster Lifelong Learning. At the educational system level, initial education, education for the aged, private education, higher education, and adult education were identified as main factors. Section 3.4 will give some further explanations.

(2) The organizational level

According to the literature study in Chapter 2, learning organizations can provide a good learning environment to cultivate Lifelong Learning of employees. Longworth and Davies (1996) emphasized that the development of learning organizations is a trend enabling Lifelong Learning. So the author put forward the learning organization from the organizational level. On the basis of the literature study on learning organizations in

Chapter 2, the author identified seven elements of the learning organization that promote Lifelong Learning: systems thinking & shared vision, leadership, team learning, communication, learning culture, reward system, and information system. The specification will be explained in Section 3.5.

(3) Personal Characteristics

Personal characteristics are related with age, gender, position, education level and work experience. The personal characteristics are expected to influence individual's Lifelong Learning attitude and behavior. These characteristics of the respondents will be described in Chapter 4 Section 4.2.3 on data collection and Section 4.2.4 on basic characteristics of respondents.

(4) Quality of Lifelong Learning

The list of 13 aspects in the box Quality of Lifelong Learning was picked up in detail from the 10 points in the concluding Section 2.9 of Chapter 2. These 13 aspects are the main characteristics of Lifelong Learning, and together they form an important variable to influence the Lifelong Learning attitude and Lifelong Learning behavior of the learner. Quality of Lifelong Learning is a factor like other indepdendent variables, educational system level, organizational level and personal characteristics, relating to the process of Lifelong Learning. The further clarification and support from the literature to these 13 aspects in the box Quality of Lifelong Learning are as follows:

Covering all life. Lifelong Learning relates to learning throughout the lifespan from cradle to grave, and starting at any age. At the heart of Lifelong Learning is the assumption that all human living is a learning process.

Intended and planned learning. Lifelong Learning is intended and planned learning. Lifelong Learning is a deliberate learning process. It is intentional. Learners are aware that they are learning and it has a definite and specific goal.

Participative learning. Lifelong Learning is essentially a social activity involving interaction with others. Lifelong Learning is about interactions and groups, and requires active participation in learning teams and communities. People learn in groups and from each other.

The widest boundaries. Lifelong Learning has the widest possible boundaries. It includes formal learning (in schools, training institutions, universities), non-formal learning (on-the-job and household training), and informal learning (skills learned from family members, colleagues in the workplace, or people in the community). The spontaneous, not intended and not planned learning may seem in contradiction with the previous item on intended and planned learning. Hoever, these learning experiences may lay at the basis for deliberate and planned learning that is characteristic for Lifelong Learning.

Learning by doing. In Lifelong Learning, more emphasis is placed on learning by doing. People learn because they do. The knowledge directly comes from the action.

Fun and perceived wisdom. Lifelong Learning is seen as fun and perceived wisdom. Learning is not boring or being forced to learn, but a pleasurable activity to gain wisdom and improve the quality of life.

Understanding, skills and values based. Lifelong Learning is about understanding, skills and values. The aim of Lifelong Learning is not only the learning or knowledge. Learning and knowledge are the way to improve understanding, skills and values.

Competency driven and thinking creatively. Lifelong Learning is competency driven rather than age related. More emphasis is placed on thinking creatively.

Life-based. Lifelong Learning is life based. More emphasis is placed on applying knowledge and skills with confidence, creativity and enjoyment in all roles, circumstances and environments, and what counts is what people are able to achieve in real-life situations.

The having ownership learner. Lifelong Learning focuses on the needs and demands of the learner, giving ownership of learning to the learner, and giving learners the tools and techniques with which they can learn according to their own learning styles and needs.

The sources-guide teacher. In Lifelong Learning, educators are guides to sources of knowledge. Teachers and trainers serve as facilitators rather than transmitters of knowledge.

Failure-free examinations. In Lifelong Learning, examinations as failure-free personal learning opportunities confirm progress and encourage further learning.

The whole lifespan learning opportunities. People have access to learning opportunities over a lifetime. Learning opportunities are available over the whole lifespan and accessible on a widespread basis.

(5) Lifelong Learning attitude and Lifelong Learning behavior

For individuals, a positive attitude for Lifelong Learning is very important. Longworth (2003) stated that Personal Learning Requirements Audits and Personal Learning Action Plans could be important in the development of positive Lifelong Learning behavior. Both are to encourage the habit of learning and improve performance at the workplace. On the basis of the literature study on the Personal Learning Requirements Audits and Personal Learning Action Plans in the forthcoming Section 3.6, the author developed the Lifelong Learning attitude and behavior that include aspects like needs assessment, learning plan and learning evaluation as dependent variables. This is also consistent with the tenth point of Lifelong Learning qualities in Section 2.9: Lifelong Learning is expressed through some form of personal plan for ongoing learning. Such plan might be written down, and assessment is used to guide learning strategies and identify pathways for future learning. Section 3.6 will give some further explanations.

The dependent variables Lifelong Learning attitude and Lifelong Learning behavior in the conceptual model do not contradict with the chosen definition of Lifelong Learning and can be explained as: If the learning would be carried through the lifetime and become a lifelong time forming the Lifelong Learning, it should be intended and planned. The intended and planned learning activities are the dominant components in a person's Lifelong Learning activities, and form the dominant strength to define Lifelong Learning. All kinds of learning activities, for example the informal and non-formal learning, throughout one's lifetime are also components of individual Lifelong Learning activities. But the informal and non-formal learning activities are not dominant. They are just subsidiary components. The definition of Lifelong Learning identified the intended and planned learning as the dominant components to define Lifelong Leanring. The Lifelong Learning attitude and Lifelong Learning behavior of an individual are primairily focused on intended and planned learning activities. So the dependent variables Lifelong Learning attitude and Lifelong Learning behavior in the conceptual model do not contradict with the chosen definition of Lifelong Learning.

(6) The dependency relationships of the conceptual framework

Ormrod (2004) defined extrinsic motivation and intrinsic motivation as: extrinsic motivation exists when the source of motivation lies outside of the individual and the task being performed; in contrast, intrinsic motivation exists when the source of motivation lies within the individual and task, and the individual finds the task enjoyable or worthwhile in and of itself. Both education in the society and the learning organization provide a good learning environment to promote lifelong learning as extrinsic motivation. On the other hand, Lifelong Learning attitude and Lifelong Learning behavior of individuals themselves are the intrinsic motivation, because the human being has the need to learn (Jarvis, 2004). Only the extrinsic motivation plays a role through the intrinsic motivation. That is the reason to present the Lifelong Learning attitude and behavior as dependent variables and the educational system level and organizational level as independent variables. The personal characteristics as well as the quality characteristics of Lifelong Learning will influence the individual's Lifelong Learning attitude and behavior. On the basis of these reasons, the personal characteristics and quality of Lifelong Learning are chosen as independents variables.

3.4 The educational system level

At the educational system level, attention is focused on the macrostructure of education to foster Lifelong Learning. Initial education, education for the aged, private education, higher education, and adult education were identified as main factors. The initial education, education for the aged, private education, higher education and adult education had been introduced in Chapter 1. But the author will add some new contents to the initial education as follows.

The Lifelong Learning slogan is often being used as a popular means of challenging the mainstream school-centered, so-called 'front leading' model of educational provision (Hyland & Merrill, 2003). In this line, Bagnall (2004) said that the notion of Lifelong Learning has been used over the last four to five decades as a vehicle for advancing a wide range of preoccupations, fetishes and agendas for educational reform. Frequently, Lifelong Learning is discussed as an aspect of adult education rather than applying to the whole spectrum of education. Faure et al. in the UNESCO report, Learning to Be (1972), argued that Lifelong Learning should be used as a strategy to reform all levels of education. Building a Lifelong Learning system is not "adding" adult and continuing education on top of the existing school system, but rather a fundamental process of structural adjustment of the whole national education system from the perspective of a systems approach (Han, 2001).

Lifelong Learning itself is a combination of initial education and adult education, in a way that questions the distinction between the child who learns and the adult who produces (Furter, 1977). Consequently, Lifelong Learning embraces the socially institutionalized learning that occurs in the educational system, that which occurs beyond it, and that individual learning throughout the lifespan, which is publicly recognized and accredited (Jarvis, 1996). It required a deliberate policy and definite changes in curriculum aims, especially in initial education (Furter, 1977). Lifelong Learning begins in childhood, and schools are crucial organizations for shaping attitudes and values in Lifelong Learning. Longworth (2003) stated that attitudes and values built up during the early learning process are important during the total life-span of an individual and have a profound effect on total human development.

Smith and Spurling (1999) proposed a number of preparatory skills to support children's early start in Lifelong Learning that will provide helpful suggestions for Chinese education. They presented that a radical change is needed in schools if pupils are to be prepared for Lifelong Learning. School experience pre-16 would still involve opportunities for subject learning, but the dominant focus should be on providing the foundation skills for Lifelong Learning, combining good learning skills, self-confidence, a degree of self-knowledge, and some experience of the adult world. This preparation would be a sound basis for a more subject-based curriculum post-16. It would allow more people to handle subject learning more competently than the current culture could ever achieve. To achieve this, every pupil should have a personal development plan, agreed between the teacher acting for the school, and the parents. In cases where there is no co-operative parent, the school could offer the services of a mentor to parent and to pupil, at no cost. Pupils would be assessed for progress against their plans on e.g. a six-monthly basis. There would be discussions between parents and teaching staff to review progress and new objectives.

Smith and Spurling (1999) commented on the *National Curriculum* that should be redefined as a core entitlement for foundation level essential Lifelong Learning skills (Table 3.1). They proposed that this new curriculum should be related to a public assessment, normally at age 16, for a Foundation Certificate of Essential Lifelong Learning. Evans (2003) stated that a central purpose of Lifelong Learning is to enable people to remain in charge of their own lives. The curriculum (Table 3.1) finds priority time for young learners to develop Lifelong Learning skills, develop interests and enthusiasms, and to cultivate personal talent. It will help people to remain in charge of their own lives.

Table 3.1 A new curriculum (Smith & Spurling, 1999)

Essential skills of Lifelong Learning:

- ability to communicate and calculate at basic level;
- ability to operate computers at basic level;
- self-awareness and self-development skills;
- financial and consumer rights awareness;
- understanding the values of Lifelong Learning and the courage to apply them;
- ability to think inductively and deductively;
- ability and confidence to find things out, and to take a critical view;
- ability to learn with others, in mixed groups;
- realization of aptitudes and intelligences;
- ability to apply learning creatively and to socially responsible ends;
- basic knowledge of planning a learning career, and basic awareness of the systems for learning and guidance.

The new curriculum offers effective content to prepare pupils for the new Foundation Certificate of Essential Lifelong Learning Skills, usually at or before 16.

3.5 The organizational level

It has been widely acknowledged that many learning opportunities have to be provided by the non-educational sectors of society, such as companies, institutions and corporations (Jarvis, 2004). According to the literature study in Chapter 2, learning organizations can provide a supportive learning environment to cultivate Lifelong Learning of employees at the organizational level. The establishment of learning organizations is an important development for enabling Lifelong Learning. So the author included the learning organization at the organizational level in the proposed conceptual framework.

According to the literature study on learning organizations in Chapter 2, the author identified seven elements of the learning organization: (1) Organizations have a certain number of working systems and it is important how employees think the whole system is working and how their behaviors are integrated with it in order to work efficiently. Shared vision decides towards which the organization will go, and which employees put all efforts into one coherent path to realize that goal. As a result, the author identified the first element as *System Thinking & Shared Vision*. (2) Leadership is an important and solid foundation for the implementation of organizational learning. Leaders make critical contributions to the development of a learning organization. In learning organizations, leaders are in the position to pull the other members to take a real step. *Leadership* was identified the second element of the learning organization. (3) Team learning is a process of developing the ability to create desired results; to have a goal in mind and work together to attain it (Senge, 1990). Senge finds that teams, not individuals, are the fundamental learning unit in modern organizations. The author identified the third element as *Team Learning*. (4) One of the most important characteristics of a learning organization is the open communication throughout the organization. There shouldn't be fear or worries for the members to speak up their mind, to express their objectives, to send questions one with another to improve their performance. *Communication* was identified the forth element of the learning organization. (5) In the learning organization, learning is the central theme of the activities. The organizations realize that they can only learn through their people. In order to get the benefit from individuals as well as team learning, the organization creates an environment that promotes and supports learning. The author identified the fifth element as *Learning Culture*. (6) When employees contributed something good and extra ordinary for their workplace, appreciation and positive recognition from their surroundings will motivate them to perform better. *Reward System* was identified the sixth element. (7) The information system is a key element of organizational development through supporting its learning activities, especially when employees have free access to the Internet, and their learning activities are supported by the computer information system. The information system improves employees' performance and efficiency that will lead to their organization's development. The author identified the seventh element as *Information System*. The specific reasons why these elements are part of a Learning Organisation will be explained as follows:

1. Systems Thinking & Shared Vision
Organizations have a certain number of working systems that need to be linked as a whole in order to work efficiently and consistently. It is important how employees think the whole system is working and how their behaviors are integrated with it. Becoming a learning organization is a serious organizational change process. It asks changes not only at the practical level but also deeper to the most fundamental part of the organization. That is the shared vision towards which the organization will go, and which employees put all efforts into one coherent path to realize that goal.

2. Leadership
In learning organizations, leaders need not only understand the vision, mission, or other formal organizational statements, but also implement these in such a way that is visible for the members, to inspire them for doing the same. Leaders should strive to inspire their members with the new form of organization in as many aspects as possible. It can be in terms of new ways of thinking; new ways of solving problems, new values, new behavior, etc. Leaders should strive to get more participation from their members in the process of making decisions within their organizations. In a word, leaders are in the position to pull the other members to take a real step.

3. Team Learning
Team learning is a process of developing the ability to create desired results; to have a goal in mind and work together to attain it (Senge, 1990). Senge finds that teams, not individuals, are the fundamental learning unit in modern organizations. In other words, modern organizations operate on the basis of teamwork, and organizations cannot learn if team members do not come together and learn. It is the dialogue among the team members that results in stretching the ability of the organization to grow and develop.

4. Communication
One of the most important characteristics of a learning organization is the open communication throughout the organization. Organizations are totally reliant on communication; through communication, people exchange and share information with one another and influence one another's attitudes, behaviors, and understandings; without communication, organizations would not function (CliffsNotes.com, 2007). There shouldn't be fear or worries for the members to speak up their mind, to express their objectives, to send questions one with another to improve their performance. This kind of communication line will enable information sharing among the members and crossing the departments. Not only the line of communication is important, also the information being shared among the members that will determine the quality of the communication and impact the organization as a whole. One important element for communication is the person who involves in it. The members need to treat each other as equal partner who can work together with and share the responsibilities.

5. Learning Culture
In the learning organization, learning is the central theme of the activities. The organizations realize that they can only learn through their people. In order to get the benefit from individuals as well as team learning, the organization creates an environment that promotes and supports learning. This kind of environment includes: providing learning opportunities for the members; maintaining their internal motivation to learn through external factors; encouraging employees to pursue personal development as part of their job; applying knowledge and trying out new ideas; taking initiatives in order to learn that new ways, which indeed brings the possibility to make mistakes, will not face punishment; making the application and dissemination of learning results accessible for every member in the need of such experiences.

6. Reward System
You can never get employees to adopt new behaviors if you continue to measure and reward them on the basis of the old behaviors (Tobin, 1998). For further improvement, employees need appreciation and recognition for the work they are currently performing. Especially when employees contributed something good and extra ordinary for their workplace. Appreciation and positive recognition from their surroundings will motivate them to perform better.

7. Information System
Information technology has made the development of an organization easier by offering an efficient channel

through which information can flow instantly within the organization. The information system is a key element of organizational development through supporting its learning activities, especially when employees have free access to the Internet, and their learning activities are supported by the computer information system. The electronic and multi-media facilities are equipped for learning, and the high-tech learning system, training and actual work are combined to make the learning process complete. The information system improves employees' performance and efficiency that will lead to their organization's development.

3.6 The Lifelong Learning attitude and Lifelong Learning behavior

1. The literature study on Personal Learning Requirements Audits and Personal Learning Action Plans

Longworth (2003) stated that Personal Learning Requirements Audits and Personal Learning Action Plans could be important in the development of positive Lifelong Learning behavior. The author introduced that Personal Learning Requirements Audits aim to improve self-understanding and to generate the desire to get back into learning, and that Personal Learning Action Plans aim to remove barriers to learning and to initiate new learning activities. Both are to encourage the habit of learning and improve performance at the workplace, and cover a wider spectrum of personal activity.

A Personal Learning Requirements Audit is a tool to discover what, how, where, when and why people may want to learn. It asks questions about a wide range of topics concerning their own personal view of learning, and tries to produce insights into an individual's voyage of exploration into a learning world (Longworth, 2003). The author presented how a Personal Learning Requirements Audit works in three stages: (1) *Stage1* looks at past participation in learning: an exploration into past learning experiences in school and after school in all aspects of an individual's life – personal development, leisure, family, employment and community. Having completed this, the participant should have gained some insights into his/her personal attitudes to learning and the reasons for it. The task now is to deepen that understanding and to address the participant's present participation in learning. (2) *Stage 2* of the audit explores a number of issues relating to current self-knowledge: personal self-view, ambition, dedication, leadership attributes, stickability, attitudes to career and the updating of skills, and learning styles and preferences. These are mixed with questions and exercises on present learning activities and the development of a more coherent view of personal attitudes to learning and what support might be needed. Finally the participant is invited to list those things he/she might find interesting to learn if the money, time and motivation were available. (3) *Stage 3* of a learning audit explores how the respondent's own skills, talents and experience can be put to the service of others. Each of us has talents, skills, knowledge, values and experiences that could be valuable to others on their own learning voyages. In helping others, individuals can learn more about themselves and enhance their own learning experiences. Longworth (2003) summarized that this would normally complete a Personal Leaning Requirements Audit. This process needs to be carefully handled by the learning counselor. At the end of it, the participant should know whether or not he/she wants to enter the action phase, which is the Personal Learning Action Plan.

The Personal Learning Action Plan is also a three – stage process normally carried out with the help of a learning counselor, and it can be used independently of the Audit or as a result of it (Longworth, 2003). The author presented how a Personal Learning Action Plan operates in three stages: (1) *Stage 1* gathers and gives information. It describes the processes the potential learner will go through and the reasons for them. It recognizes potential difficulties and tries to address them. Then follow questions and exercises to encourage the respondent to explore those aspects of learning he or she has enjoyed in the past and to recreate those positive feelings. (2) *Stage 2* brings together all the information about the things one may want to learn. It examines future needs and desires, articulates realistic dreams and ambitions and envisions an improved quality of life. Respondents are encouraged to think freely and fully about things they know they can do and always wanted to prove, subjects they have always wanted to learn but could never find the time and skills they always wanted to acquire, life wide. (3) *Stage 3* stimulates the formulation of learning intentions into a written formal plan. This is the time to be realistic – it should include the where, the what, the how, the time to be committed, the target dates, the people who will help, the end goals and the priority to be assigned. The plan can cover one year or two but will be continuously assessed and extended over time. Longworth (2003) stated that Personal Learning Requirements Audits and Personal Learning Action Plans would be used to activate the ownership of learning, to create learning communities and to overcome learning disabilities and reluctance.

2. The dependent variable Lifelong Learning attitude and Lifelong Learning behavior was identified on the basis of above literature study.

First of all, for individuals the positive attitude for Lifelong Learning is very important. The Lifelong Learning attitude indicates that the learner is aware of the significance of learning, not only for the survival but also for the development of human potential at all levels. It is a prerequisite to long-term career success. The learner has a positive attitude to Lifelong Learning.

As for the Lifelong Learning behavior variable, Personal Learning Requirements Audits and Personal Learning Action Plans could be important in the development of positive Lifelong Learning behavior. According to the above literature study, Personal Learning Requirements Audit aims to generate the desire to get back into learning and is a tool to discover what people may want to learn. The stage 1 and 2 of it is to look at past participation in learning, explores present learning activities and list those things he/she might find interesting to learn if the money, time and motivation were available. So the author identified the first element of Lifelong Learning behavior as needs assessment. *Needs assessment* is a process by which an individual's learning needs are identified and articulated. The learners not only reflect on their past learning experiences in all aspects of their life but also reflect on their present attitude and participation in learning activities, and then list all the things that are interesting and necessary to learn if the money, time and motivation are available. It is the starting point of learning process.

Personal Learning Action Plans aim to initiate new learning activities. The stage 1 and 2 of Personal Learning Action Plans is about the formulation of individual learning intentions similar with learning needs assessment. The stage 3 of it stimulates the formulation of learning intentions into a written formal plan and the plan will be continuously assessed over time. So the author identified the second and third element of Lifelong Learning behavior is Learning Plan and Learning Evaluation. *Learning plan* is a process by which learners design their learning activities through some form of personal plan. The learners set personal learning objectives in a realistic way and devise learning strategies for achieving them, and then turn the formulation of learning objectives and strategies into a written, realistic and formal plan to be carried out. The learners also add to or change their learning plans frequently in the light of new information. *Learning Evaluation* is where the effectiveness of the learning process and achievement is measured. The learners regularly assess their learning progress and the extent to which their learning goals have been accomplished. On the basis of the assessment, they design better strategies to promote the achievement of learning goals and identify pathways for future learning. Learning Evaluation is the final phase in a learning process.

Summarily, on the basis of the literature study on the Personal Learning Requirements Audits and Personal Learning Action Plans, the author developed the Lifelong Learning attitude and Lifelong Learning behavior. The Lifelong Learning behavior is a complete learning process from needs assessment to learning plan and learning evaluation as dependent variables. This is also consistent with the tenth point of Lifelong Learning qualities in Section 2.9: Lifelong Learning is expressed through some form of personal plan for ongoing learning. Such plan might be written down, and assessment is used to guide learning strategies and identify pathways for future learning.

3.7 Conclusions

This chapter provides a conceptual framework for the further exploration of the kind of factors that contribute to the Lifelong Learning of employees in Chinese organizations. For this purpose the author constructed a conceptual framework of Lifelong Learning from the following aspects: the educational system level, the organizational level, personal characteristics, quality of Lifelong Learning and Lifelong Learning attitude and Lifelong Learning behavior (See Figure 3.2).

The educational system level is composed of initial education, private education, higher education, adult education and education for the agedl. The organizational level comprises the main elements of a learning organization such as systems thinking & shared vision, leadership, team learning, communication, learning culture, reward system and information system. Personal characteristics are related with age, gender, position, work experience and education level. The quality of Lifelong Learning is formed by thirteen different

characteristics of Lifelong Learning. At the same time, the author develops Lifelong Learning attitude and Lifelong Learning behavior that includes needs assessment, learning plan and learning evaluation as dependent variables.

In next chapter the conceptual model is further operationalized and forms the basis for the data collection instruments. Chapter 4 will describe how the empirical study has been carried out in order to test the reliability of the instrumentation of the conceptual model. The research question: How can we measure the reliability of the instrument based on the Lifelong Learning conceptual framework? Will be answered in Chapter 4.

Chapter 4
Research Methodology and instruments

4.1 Introduction

To test the conceptual framework of the previous chapter, Chapter 4 describes how the conceptual model as constructed in Chapter 3, will lead to a specific research design, and the needed data collection instruments. This chapter describes how the empirical study has been carried out in order to test the reliability of the instrumentation of the conceptual model. In Section 4.2 research design, the survey study method, the six participating organizations, response rate and basic characteristics of respondents who returned questionnaires will be introduced specifically. In Section 4.3, Instrumentation, the questionnaire is designed on the basis of the conceptual framework in Chapter 3 and the reliability of the instrument for the Lifelong Learning conceptual framework is measured. The research question the author intends to answer in this chapter is: How can we measure the reliability of the research instrument based on the conceptual framework of Lifelong Learning?

4.2 Research design

4.2.1 Survey study method

Fink and Kosecoff (1985) stated that a survey is a method of collecting information from people about their ideas, feelings, plans, beliefs, and social, educational and financial background. Surveys are most appropriate when information should come directly from people. It usually takes the form of questionnaires and interviews. Questionnaires and interviews share many of the same features. Both rely on directly asking people questions to get information, need instructions to be clear, must be concerned with who will be asked the questions (sampling), when and how often (design), and with the processing, analysis, and interpretation of data (Fink & Kosecoff, 1985).

Wiersma and Jurs (2004) compared advantages and disadvantages between the questionnaire and interview. They stated that questionnaire surveys are relatively inexpensive for reaching a substantial number of people but they have some disadvantages associated with non-response, and occasionally with careless response. Questionnaires can guarantee anonymity, but if we need in-depth information and want to probe people's views, interviews are better (Fink & Kosecoff, 1985). Wiersma and Jurs (2004) stated that the interview is an effective method of conducting a survey and provides opportunity for in-depth probing, and elaboration and clarification of terms, if necessary, but interviews are costly in terms of time and effort.

In this research, the author will adopt the combination of the questionnaire and interview. In the survey 648 respondents from six companies returned their questionnaires. In addition, personal interviews were held with

three employees of each of the six participating companies. In Section 4.3, 74 items of the questionnaire are designed according to the literature study and theoretical framework of Lifelong Learning. In this section, data from 648 respondents were used to measure the reliability of the instrument. The additional data collection by means of personal interviews was developed to reveal the background of the research results and would give more explanation for the data from the questionnaires. Below, the participating organizations and characteristics of those respondents will be introduced.

4.2.2 Participating organizations

There are three main kinds of companies in China, the private-owned, state-owned and the foreign-invested. The author will focus on these three kinds of organizations in this research. Combined with the support that the author could get from organizations, at last the author chose China Railway Sixth Group Co., Ltd. and China Machine Press in Beijing that are state-owned. They are the important state-owned enterprises and can be representative of the group of state-owned companies. Transfar Group Co., Ltd. in Hangzhou city and Times Bright China in Beijing city are both private-owned companies that the author chose, and they can reflect the current situation of organizational learning and employees' learning in private-owned enterprises. Siemens electrical and electronic company in Changchun city and Tyco International Ltd in Shanghai city are two essential foreign-invested enterprises. These six organizations participated in this research. Below, the participating organizations are briefly characterized.

1 Transfar Group Co., Ltd.
Transfar Group Co., Ltd. was established in October of 1986, after nearly twenty years of development, it has been a large-scaled modern private-owned group dealing with chemical, agriculture, logistics and investment in capital and industrial operation. Transfar Group is mainly engaged in the production and distribution of specialty chemicals for textile, leather, papermaking and plastics, building coating, cleaning products for home use, gardening, and etc. It also expands its business into capital and material trade, tourism, transportation, storage, distribution and real estate development. Transfar Group has built strategic partnerships with KAO, KIRIN and other trans-national corporations. Transfar Group insists on steady and practical development strategies, and advocates "Faithfulness, Practice, Innovation, Progress" as enterprise culture, with "Sense of Social Responsibility" as core ideas. Moreover, it empathizes on the construction of responsibility among staffs, according to the requirements "Personality, Morality, Intelligence, Will".

2 Siemens electrical and electronic company
Siemens is one of the world's largest electrical and electronics companies, and one of the most well-known, liked and respected corporate members in China. And this is not surprising given Siemens long history of co-operation dating back to 1872. The company's China operations are fast growing as a cornerstone of the Siemens' global business. All business segments of Siemens are active in China including Information and Communications, Automation and Control, Power, Transportation, Medical, Lighting as well as Household Appliances.

To date Siemens established more than 70 operating companies and 55 regional offices in China. These offices form the backbone of Siemens' regional marketing strategy and ensure that the company is close to its customers to be able to respond quickly and efficiently to their needs. With a workforce of over 36,000 people, Siemens is one of the largest foreign-invested employers in the country.

3 China Railway Sixth Group Co., Ltd.
As a large-scale construction enterprise registered by State Administration for Industry & Commerce on December 18, 2003 and formally established on January 6, 2004, China Railway Sixth Group Co., Ltd. is formed on the basis of former Beijing Railway Construction Group, Taiyuan Railway Construction Group, Hohehot Railway Construction Group and Fengtai Bridge Plant. With a registered capital of 536.28 million Yuan, it is presently manned with 16447 employees and 4081 professional personnel, among them 1667 intermediate and senior technical management personnel, and 666 qualified project managers. The Group, with its head office in Beijing, is subordinate to China Railway Engineering Corporation. After mergers the Group consists of Beijing, Taiyuan, Hohehot ,Tianjin, Shijiazhuang Railway Construction Company and Electric Engineering Company, Fengtai Bridge Plant.

4 Tyco International Ltd.
Tyco was founded in 1960 when Arthur J. Rosenburg, Ph.D., opened a research laboratory to do experimental work for the government. He incorporated the business as Tyco Laboratories in 1962, and changed its focus to high-tech materials science and energy conversion products for the commercial sector. In September 1964, the Company went public, and in 1965 it began to acquire other companies to fill gaps in its development and distribution network. As a result, Tyco's thrust changed to manufacturing industrial products. Today, Tyco International Ltd. operates in all 50 U.S. states and over 100 countries throughout the world. Tyco is a model of sophisticated and innovative manufacturing and service employing 260,000 employees worldwide. Each of Tyco's core businesses holds a leadership position in its specific market.

In 2006, Tyco announced that its Board of Directors approved a plan to separate the company's current portfolio of diverse businesses into three separate, publicly traded companies – Tyco Healthcare, one of the world's leading diversified healthcare companies; Tyco Electronics, the world's largest passive electronic components manufacturer, and the combination of Tyco Fire & Security and Engineered Products & Services (TFS/TEPS), a global business with leading positions in residential and commercial security, fire protection and industrial products and services.

5 China Machine Press (CMP)
China Machine Press (CMP), a leading publisher of science, technology and education in China, has been attaching much importance to the development and usage of foreign publishing resources while extensively conducting international cooperation and exchanges with its foreign counterparts. With China's access to the Bern Convention and the UCC in 1992, CMP has dramatically developed its international trading in copyrights, just by taking the advantages of industry and its human resources.

Since introducing foreign titles to the Chinese audience, CMP has been collaborating closely with multinational publishers in the Chinese translation and publication of their professional and trade books in the Chinese mainland, covering a wide variety of subjects or disciplines. Not only with a focus on translating foreign titles, CMP has also shown great concern to the sales of rights in its own titles to foreign publishers. CMP has won prizes, among others 'A National Preeminent Unit for Trading in Copyrights' and 'One of China's Top Ten Units for Trading in Copyrights' respectively awarded by the State Administrations for Press and Publication of China and Beijing Copyright Administration Bureau, while being highly appraised by the general public.

6 Times Bright China
Times Bright China is a private-owned company established in 2000. At the beginning of its establishment, Times Bright China was mainly engaged in the cultural industry. Since the year of 2002, Times Bright China has concentrated its energy in the adult education, especially the training industry focusing on management. There are over one thousand employees in Times Bright China who provide projects in management training and management promotion for their clients. Nowadays, the primary business is formed by the product of courses, services to management training, books and teaching materials, management consulting and market operation.

The product of the courses is mainly in the field of management, including enterprise management, public management, personnel management. The main forms of these courses are multimedia courseware, audio products, and the college of commerce in network. Services to management training mainly include the local training, training inside enterprises, satellite training, network training, and training in the form of consultation. Books and teaching materials focus on the training of enterprise management, in the total of near five hundred titles. Management consulting helps enterprises resolve problems and provide projects to improve enterprises' management. Market operation is responsible for the market distribution of all kinds of business in Times Bright China, including all products and services mentioned above. After several years' development, Times Bright China has already developed from a small company with a single business to a powerful group in the education and training industry.

4.2.3 Data collection

The questionnaires were sent out at the beginning of June 2006. Of the 789 questionnaires sent out, 650 were returned at the end of July 2006. Two questionnaires were removed from the dataset, because there was too much data missing. At last 648 questionnaires were used for further analysis.

From Transfar Group Co., Ltd., private-owned, 106 questionnaires were collected from the department of operational management, the department of information management, financial department and human resource department.

From Tyco International Ltd., foreign-invested, 96 questionnaires were obtained from the department of production, marketing, human resource and finance in Shanghai Tyco electronics.

From Siemens electrical and electronic company, foreign-invested, 110 questionnaires were acquired from the production department and the technology department of Changchun Siemens.

From Times Bright China, private-owned, 101 questionnaires were got from the human resource department, the department of research and development, the department of marketing and the consulting department.

From China Railway Sixth Group Co., Ltd., state-owned, 120 questionnaires were acquired from the human resource department, the department of engineering management, the department of security and quality, and the department of organizational development in Beijing.

From China Machine Press (CMP), state-owned, 115 questionnaires were collected from the information department, research department and the compilation department.

Table 4.1 presents the response and response rate from the six participating organizations.

Table 4.1 The response and response rate from six participating organizations

Name of organizations	The response	The response rate
Transfar Group Co., Ltd.	106	82% (106/130)
Tyco International Ltd.	96	81% (96/119)
Siemens electrical and electronic company	110	82% (110/134)
Times Bright China	101	81% (101/124)
China Railway Sixth Group Co., Ltd.	120	84% (120/143)
China Machine Press	115	83% (115/139)

4.2.4 Basic characteristics of respondents

The final dataset (See Table 4.2) consists of 335 men (51.7%) and 313 women (48.3%). The majority of the respondents are between 20 to 30 years old (60.8%); one-third of the respondents are between 31 to 40 years old (33.2%). Over two-thirds of the respondents have from 1 to 10 years' work experience (73.3%); and the others of the respondents have more than 10 years' work experience (26.7%). Less than two-thirds of the respondents hold a Bachelor degree (70.4%). Two-thirds of the respondents come from staff (66.4%), 21.9% and 10.8% of the respondents are from basic level leader and middle level leader.

4.3 Instrumentation

This section describes the design of the questionnaire. Section 4.3.1 describes how 74 items of the questionnaire were constructed according to the literature study and theoretical framework of Lifelong Learning. Section 4.3.2, informs how the data from 648 respondents were used to measure the reliability of the instrument.

Table 4.2 Basic characteristics of respondents who returned questionnaires

		Frequency	Percent (%)
Gender	Male	335	51.7
	Female	313	48.3
Age	20-30 years	394	60.8
	31-40 years	215	33.2
	41-50 years	33	00.1
	51-60 years	5	00.0
	Above 60 years	1	00.0
Education	Senior high school	1	00.0
	Junior college	38	00.1
	Bachelor	456	70.4
	Master	152	23.5
	Doctor	1	00.0
Employment	1-10 years	475	73.3
	11-20 years	133	20.5
	21-30 years	34	00.1
	More than 30 years	6	00.0
Position	Staff	430	66.4
	Basic level leader	142	21.9
	Middle level leader	70	10.8
	Senior level leader	6	00.0

4.3.1 The questionnaire design

In this section, the author will introduce the process of the questionnaire design on the basis of the literature study (Chapter 2) and the conceptual framework of Lifelong Learning (Chapter 3).

4.3.1.1 Quality of Lifelong Learning

Chapter 2 offered the literature review of Lifelong Learning. The author introduced the historical background of Lifelong Learning, the definitions of Lifelong Learning, characteristics of Lifelong Learning, the reasons why we are talking about Lifelong Learning, prerequisites for Lifelong Learning, the relationship between Lifelong Learning, the learning organization and the learning society. In the last section of that chapter, the author concluded the literature on Lifelong Learning, and put forward her own opinions about Lifelong Learning. On the basis of Lifelong Learning characteristics and qualities that the author identified, the following statements on quality of Lifelong Learning were designed:

- I realize that learning should cover all life, developing my own potential at all levels and a prerequisite to long-term career success.
- Such learning is also important for the survival and development at the levels of the organization and society.
- My learning is intended and planned learning that goes on more or less continuously over the lifespan and it has a definite and specific goal.
- I actively participate in learning teams and communities learning from each other.
- My learning has the widest possible boundaries including formal learning, non-formal learning and informal learning.
- My learning is fun and perceived wisdom.
- I learn by doing.
- My learning is based on understanding, skills and values.
- My learning is competency driven and emphasizes on how to think creatively.
- My learning is life-based applying knowledge and skills to resolve all problems in real life.
- In my learning, I learn according to my own learning needs and styles having ownership of my own learning.

- In my learning, teachers and trainers are guides to sources of knowledge serving as facilitators rather than transmitters of knowledge.
- In my learning, examinations are as failure-free personal learning opportunities confirming progress and encouraging future learning.
- I have access to learning opportunities over the whole lifespan and on a widespread basis.

4.3.1.2 The educational system level

1. Initial education
Learning attitudes and skills built up during the early learning process will have a profound effect on total human development. A certain curriculum that finds priority time for young learners to develop Lifelong Learning skills and enthusiasm carried through an individual's life should be provided during the early learning process. The enjoyment and skills of learning may be a matter of personal survival. So I included the following statement:

- A specific curriculum that helps students to develop essential Lifelong Learning skills and enthusiasm during the initial education is helpful for personal learning.

2. Private education
The private sector of Lifelong Learning, which disappeared between the 1960s and the 1970s, emerged and developed since the late 1970s in the context of economic reform and the development of the market economy. Schools run by social forces can be seen as the private sector of Lifelong Learning in China, and provide education for people of all ages. There have been four phases in their evolution since 1978: first, from 1978 to 1982, a launching stage; second, from 1982 to 1986, a developing stage; third, from 1986 to 1991, a stage of setting up regulations, strengthening administration and readjustment; fourth, starting from 1992, a stage of new development. The corresponding statements are:

- The private education system provides some support for my learning activity.
- The private education system is available for my personal learning if necessary.

3. Higher education
China's higher education was destroyed during the Cultural Revolution from 1966 to 1976, and was rebuilt in the late 1970s. Since the late 1970s, enrolments in higher education have grown rapidly and will continue to do so in response to student demand. The corresponding statements are:

- The higher education system provides some support for my learning activity.
- The higher education system is available for my personal learning if necessary.

4. Adult education
In 1981 by the formation of the Association for Adult Education, the term Adult Education was used for the first time publicly. In 1987, the 'Decision on the Reform and Development of Adult Education' was implemented after ratification by the PRC State Council. This decision laid the basis for today's adult education system, and emphasized the importance of adult education as a national policy. Since then adult education in China has shown rapid changes in its scale and content. The trends in Chinese adult education since the mid-1980s might be summarized as a development toward a key system supporting a lifelong education system and a shift to higher levels of adult education. The corresponding statements are:

- The adult education system provides some support for my learning activity.
- The adult education system is available for my personal learning if necessary.

5. Education for the aged
Consideration for the welfare of older people is a concern of Chinese people. In China, the majority of older people long to learn new things. Learning opportunities and appropriate programs are provided by special universities for the aged. The aged people renew their knowledge, enhance the quality of their lives, and find certain things to do. The corresponding statements are:
- The universities for the aged provide opportunities for old people's learning.
- The education for the aged is available for any old people who want it.

Summarily, the education needs the strong support from the government:

- The government supports all kinds of education in a sufficient way.

At the end, the author summarized the educational system level from the education support and education availability viewpoint:

Education support:
- A specific curriculum that helps students to develop essential Lifelong Learning skills and enthusiasm during the initial education is helpful for personal learning.
- The private education system provides some support for my learning activity.
- The higher education system provides some support for my learning activity.
- The adult education system provides some support for my learning activity.
- The universities for the aged provide opportunities for old people's learning.
- The government supports all kinds of education in a sufficient way.

Education availability:
- The private education system is available for my personal learning if necessary.
- The higher education system is available for my personal learning if necessary.
- The adult education system is available for my personal learning if necessary.
- The education for the aged is available for any old people who want it.

4.3.1.3 The organizational level

In Chapter 3, the author chose Systems Thinking & Shared Vision, Leadership, Team Learning, Communication, Learning Culture, Reward System and Information System as the most important elements of a learning organisation. In this section, the items under each scale are designed as follows:

1. System Thinking & Shared Vision
Organizations have certain number of working systems that need to be linked as a whole and work efficiently and consistently. It is important how employees think the whole working system. And it is more important how employees' behaviors are integrated with the whole working system. This leads to the following statements:

- People have a broad understanding on the structure, system and interrelation of their organization.
- People take into account their organization's long-term goals and strategies when they plan and do their work.
- People realize when they do their work their responsibility is not only for their own department but also for the other departments and external systems.
- Individuals' performance goals are clearly aligned with the organization's strategic goals.

Shared vision is that to what extent the employees contribute their values and knowledge to the organization and whether all members share the business goal with the management team. This leads to the following statements:

- Employees share the business goal with the management team.

2. Leadership
Leaders for so long have been perceived as those who not only hold the authority to make decisions, but also to be responsible for the consequences of their decision. The organization requires more than the leaders to do such things. The leaders should have a clear vision for the development of their organization. For the organizational level, this leads to the following statement:

- The leader has a clear vision for the organizational development.

For the employees' level:

- The leader stimulates employees to come up with ideas to improve the work.
- The leader instructs employees responsible for their own learning and career performance.
- The leader not only instructs employees to study but also create learning opportunities for them.
- The leader guarantees that employees have equal learning opportunities.
- The leader encourages employees to make decisions and to be responsible on their decisions.

3. Team Learning
Modern organizations operate on the basis of teamwork, and organizations cannot learn if team members do not come together and learn. This leads to the following statements:

- The work team has a specific learning agenda.
- Tools such as inquiry and dialogue are more widely used in the organization.
- Team members help each other to learn.
- Team members openly discuss mistakes in order to learn from each other.
- The communication among team members is efficient.

4. Communication
One of the most important characteristics of a learning organization is the open communication throughout the organization. In order to share the information related with the job performance and the learning results of the individual member or team work, employees should listen to others' views before speaking, and ask what others think when speak. This leads to the following statements:

- Employees listen to others' opinions before speaking and ask what others think whenever they state their viewpoints.

There shouldn't be fear or worries for the members to speak up their mind, to express their objections, to ask questions for improving their performance. This leads to the following statements:

- Employees are not afraid to share their opinions and speak openly about what is in their minds.
- Employees give open and honest feedback to each other.
- Employees are encouraged to ask questions regardless of rank.

Other element of this process is the person. The members treat each other as equal partner who can work together with them and share the responsibilities. This leads to the following statements:

- Employees treat each other with respect.

5. Learning Culture
The learning organization believes that there is always a better way to do the job. Learning new ways to do the job will indeed bring the possibility to make mistakes. But employees will not face punishment. This way will encourage the members to be active learners while doing their jobs. This leads to the following statements:

- Mistakes and problems made by employees in their work are not punished but regarded as an opportunity to learn.

The encouragement for employees to apply their knowledge and try out new ideas is essential to achieve their competitive advantages in the organization, and the learning culture enables them to get the opportunity from their managers and teams.

- Managers encourage employees to pursue personal development as part of their jobs and to learn by doing.
- Employees are encouraged to try out new ideas and new approaches to their work.
- Opportunities are provided for employees to apply what they learn into practice.

In the learning organization, one of the advantages is the application and dissemination of learning results, and to make it accessible for every member in the need of such experiences. This leads to the following statements:

- Employees identify a best practice in one part of the organization and share it so that it can be used by another part of the organization.

It is necessary for employees to know the significance of learning, and on the other hand, employees need the training for improving learning methods. This leads to the following statements:

- The training for improving methods of learning is provided for employees.
- Employees support and comprehend the importance of learning.
- Employees take the process of working as the process of learning.

6. Reward System
Employees need appreciation from their surroundings. Especially at the time they think that they have done or contributed something good and extraordinary for their workplace. Appreciation from people around them will motivate us to perform better and better. First of all, employees should know the measurement system used to measure their performance at work.

- People know the measurement system that is used to measure their performance at work.

Every effort to find better ways to do the job is recognized. Different levels in the organization, such as employees, teams, and managers, will be rewarded for their achievements. This leads to the following statements:

- There is always recognition for every initiative or effort to find new knowledge or ways to do the job in a better way.
- Employees are rewarded for personal growth.
- Teams are rewarded for their achievements as a team.
- Managers are rewarded for supporting the development of their employees.

7. Information System
Information technology has made the development of organization easier by offering an efficient channel through which information can flow instantly within the organization Information system is a key element of organizational development through supporting its learning activities. Employees have free access to the Internet, and their learning activities are supported by the computer information system. The electronic and multi-media facilities for learning are equipped, and the high-tech learning system, training and actual work are combined together to make the learning process complete. The information system improves employees' performance and efficiency that will lead to their organization's development. It is so important that guarantees the development of individual and organization. This leads to the following statements:

- Learning activities are supported by the valid computer information system.
- Employees can use the Internet freely.
- The electronic and multi-media facilities for learning are equipped, and the learning environment is the perfect combination of art, color, music and vision.
- The high-tech learning system, training and actual work are combined together to make the learning process complete and valid.
- The electronic information system can improve our work performance and efficiency.

4.3.1.4 Lifelong Learning attitude and Lifelong Learning behavior

Longworth (2003) introduced that a Personal Learning Requirements Audit aims to improve self-understanding and to generate the desire to get back into learning, and a Personal Learning Action Plan aims to remove barriers to learning and to initiate learning activity. Both are to encourage the habit of learning and improve performance at the workplace, and cover a much wider spectrum of personal activity. On the basis of the literature study on Personal Learning Requirements Audits and Personal Learning Action Plans in Chapter 3, the author developed the Lifelong Learning attitude and Lifelong Learning behavior items as follows:

1. Lifelong Learning attitude

- I am aware of the significance of learning.
- I have a positive attitude to learning.

2. Lifelong Learning behavior

Needs assessment
- I frequently reflect on my past learning experiences in all aspects of my life.
- I reflect on my present participation in learning, the personal attitude and interest to learning.
- Listing all the things that are interesting and necessary to learn if the money, time and motivation are available helps to analyze my learning needs.

Learning plan
- I set personal learning objectives in a realistic way and devise learning strategies for achieving them.
- I turn the formulation of learning objectives and strategies into a written, realistic and formal plan to be carried out.
- I add to or change my learning plans frequently in the light of new information.
- Using a learning adviser or mentor who can give good suggestions to me is a good way to promote my own learning.

Learning evaluation
- I regularly assess my learning progress and the extent to which my learning goals have been accomplished
- On the basis of the assessment, I design better learning strategies to promote the achievement of learning goals.

The main purpose of using this instrument is to explore the kind of learning arrangements that contribute to the Lifelong Learning of employees in Chinese organizations. This questionnaire itself consists of 74 items. For each item, the respondents answered on a Likert scale that range from 1 to 5, which represents their opinion towards the statement of the item.

1 means strongly disagree
2 means disagree
3 means neutral
4 means agree
5 means strongly agree

4.3.2 Reliability

The first analysis is to measure the reliability of the instrument. Data from 648 respondents were used for this purpose. There are some respondents who did not give answers for some items. These missing values are replaced by the mean score of the data on that item and used for the statistical analysis. The reliability of all scales was examined by computing a Cronbach's alpha. Table 4.3 is the result of the reliability test for each scale:

Table 4.3 The reliability scores for the total score of each scale

Scale	Reliability: Cronbach's alpha
Lifelong Learning attitude	0.551
Lifelong Learning behavior	0.769
Education support	0.562
Education availability	0.762
Systems Thinking & Shared Vision	0.844
Leadership	0.784
Team Learning	0.766
Communication	0.808
Learning Culture	0.844
Reward System	0.690
Information System	0.771
Quality of lifelong learning	0.716

Even though the reliability score of the scale for Lifelong Learning attitudeis not high, it still is an important dependent variable to keep. The author stated important reasons in Section 4.3.2.4. The education support also got a relative low reliability score. Likewise the author gave an important reason to keep it in Section 4.3.2.1.

4.3.2.1 The educational system level

Table 4.4 presents the reliability result of the education support and education availability from the educational system level. The specific reliability analysis of the education support and education availability will be stated in the Table 4.5, Table 4.6 and Table 4.7.

Table 4.4 Reliability test result for the educational system level

Scale	Reliability
Education support	.562
Education availability I	.654
Education availability II	.762

As can be seen from Table 4.5, the items that explain education support give a relatively high reliability score when they are counted all together. The reliability score for this scale is 0.562, which is higher than the scores when any of the items is deleted. For example, if we deleted item Qes1, we will get a lower reliability score 0.531. We will get an even lower score 0.468 if we deleted item Qes6. It means that measuring the education support scale will be best when those six items were used all together.

Table 4.5 Reliability test result for the education support

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Cronbach's	Correlation Alpha if Item Deleted
Qes1	A specific curriculum that helps students to develop essential Lifelong Learning skills and enthusiasm during the initial education is helpful for personal learning.	.273	.531
Qes2	The private education system provides some support for my learning activity.	.249	.539
Qes3	The higher education system provides some support for my learning activity.	.265	.544
Qes4	The adult education system provides some support for my learning activity.	.354	.495
Qes5	The universities for the aged provide opportunities for old people's learning.	.290	.522
Qes6	The government supports all kinds of education in a sufficient way.	.411	.468

Even though the reliability score of the scale for education support is relatively low, it still is an important variable to keep. Important reasons are: Lifelong Learning is not a kind of simple personal behavior but a kind of social behavior. According to Husen (1974), education whatever formal education or informal education is as a prerequisite for the learning society. The learning society can provide a good social environment from the macro level to make Lifelong Learning come true. As a result, in the construction of conceptual framework of Lifelong Learning, the author defines the educational system level. At the educational system level, attention is focused on the macrostructure of education to foster Lifelong Learning. In the question designing process in Section 4.3.1.2, the author summarized the educational system level from the education support and education availability viewpoint. The education support mainly comes from the government. The government is the main provider and controller of education and it has made a great advance in expanding access to education (Dahlman, Zeng & Wang, 2007). On the other hand, Longworth (2001) presented that government plays an important the role in Lifelong Learning: through its economic and political power, government is the chief enabler of Lifelong Learning programmes, values, and attitudes; government has the ability to define targets, to support worthwhile initiatives, to change systems, to influence developments, and to turn ideas into action. Because of above statement, the education support variable was decided to keep.

There is one item from the education availability scale that gives a higher reliability score if it was deleted. As can be seen in the Table 4.6, if we deleted item Qea1 from the education availability scale, we will get reliability score 0.764, which is higher than the score 0.654 when this item is included.

Table 4.6 Reliability test result for the education availability I

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Cronbach's	Correlation Alpha if Item Deleted
Qea1	The private education system is available for my personal learning if necessary.	.188	.764
Qea2	The higher education system is available for my personal learning if necessary.	.453	.573
Qea3	The adult education system is available for my personal learning if necessary.	.626	.448
Qea4	The education for the aged is available for any old people who want it.	.544	.517

As Table 4.6 presents, if we deleted item Qea1 from the education availability scale, we will get 0.764, higher than 0.654. So the item Qea1 was decided to be deleted. After its deletion, the reliability result of education availability scale was improved from 0.654 to 0.764 that is higher than the scores when any of the items is deleted (See Table 4.7). We will have a more reliability instrument to measure when Qea2, Qea3 and Qea4 are counted all together.

Table 4.7 Reliability test result for the education availability II

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Cronbach's	Correlation Alpha if Item Deleted
Qea2	The higher education system is available for my personal learning if necessary.	.556	.725
Qea3	The adult education system is available for my personal learning if necessary.	.607	.665
Qea4	The education for the aged is available for any old people who want it.	.621	.653

4.3.2.2 Quality of Lifelong Learning

Table 4.8 presents the reliability result for the quality of Lifelong Learning. The specific reliability analysis of the quality of Lifelong Learning will be stated in Table 4.9 and Table 4.10.

Table 4.8 Reliability test result for the quality of Lifelong Learning

Scale	Reliability
Quality of lifelong learning I	.679
Quality of lifelong learning II	.716

There is one item from the quality of Lifelong Learning scale that gives a higher reliability score if it was deleted. As can be seen in Table 4.9, if we deleted item Qlllq14 from the quality of Lifelong Learning I scale, we will get reliability score 0.716, which is higher than the score 0.679 when this item is included.

Table 4.9 Reliability test result for the quality of Lifelong Learning I

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Qlllq1	I realize that learning should cover all life, developing my own potential at all levels and a prerequisite to long-term career success.	.319	.660
Qlllq2	Such learning is also important for the survival and development at the levels of the organization and society.	.407	.656
Qlllq3	My learning is intended and planned learning that goes on more or less continuously over the lifespan and it has a definite and specific goal.	.368	.653
Qlllq4	I actively participate in learning teams and communities learning from each other.	.441	.641
Qlllq5	My learning has the widest possible boundaries including formal learning, non-formal learning and informal learning.	.470	.634
Qlllq6	My learning is fun and perceived wisdom.	.435	.649
Qlllq7	I learn by doing.	.418	.654
Qlllq8	My learning is based on understanding, skills and values.	.221	.673
Qlllq9	My learning is competency driven and emphasizes on how to think creatively.	.247	.670
Qlllq10	My learning is life-based applying knowledge and skills to resolve all problems in real life.	.267	.668
Qlllq11	In my learning, I learn according to my own learning needs and styles having ownership of my own learning.	.203	.676
Qlllq12	In my learning, teachers and trainers are guides to sources of knowledge serving as facilitators rather than transmitters of knowledge.	.284	.664
Qlllq13	In my learning, examinations are as failure-free personal learning opportunities confirming progress and encouraging future learning.	.331	.658
Qlllq14	I have access to learning opportunities over the whole lifespan and on a widespread basis.	-.033	.716

As Table 4.9 presents, if we deleted item Qlllq14 from the quality of Lifelong Learning scale, we will get 0.716, higher than 0.679. So the item Qlllq14 was decided to delete. After its deletion, the reliability result of Lifelong Learning quality scale was improved from 0.679 to 0.716 that is higher than the scores when any of the items is deleted (See Table 4.10). We will have a more reliability instrument to measure when Qlllq1 to Qlllq13 are counted all together.

Table 4.10 Reliability test result for the Lifelong Learning quality II

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Qlllq1	I realize that learning should cover all life, developing my own potential at all levels and a prerequisite to long-term career success.	.345	.699
Qlllq2	Such learning is also important for the survival and development at the levels of the organization and society.	.402	.697

Continuing Table 4.10 Reliability test result for the Lifelong Learning quality II

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Qlllq3	My learning is intended and planned learning that goes on more or less continuously over the lifespan and it has a definite and specific goal.	.378	.694
Qlllq4	I actively participate in learning teams and communities learning from each other.	.498	.676
Qlllq5	My learning has the widest possible boundaries including formal learning, non-formal learning and informal learning.	.487	.676
Qlllq6	My learning is fun and perceived wisdom.	.431	.691
Qlllq7	I learn by doing.	.409	.696
Qlllq8	My learning is based on understanding, skills and values.	.221	.714
Qlllq9	My learning is competency driven and emphasizes on how to think creatively.	.242	.712
Qlllq10	My learning is life-based applying knowledge and skills to resolve all problems in real life.	.253	.712
Qlllq11	In my learning, I learn according to my own learning needs and styles having ownership of my own learning.	.229	.713
Qlllq12	In my learning, teachers and trainers are guides to sources of knowledge serving as facilitators rather than transmitters of knowledge.	.298	.704
Qlllq13	In my learning, examinations are as failure-free personal learning opportunities confirming progress and encouraging future learning.	.319	.702

4.3.2.3 The organizational level

Table 4.11 presents the reliability result of system thinking and shared vision, leadership, team learning, communication, learning culture, reward system and information system from the organizational level. The specific reliability analysis of team learning, learning culture and reward system will be stated in Table 4.12, Table 4.13, Table 4.14 and Table 4.15. Please see the separate reliability results of shared vision and system thinking, leadership, communication and information system from Appendix C to Appendix F.

Table 4.11 Reliability test result for the organizational level

Scale	Reliability
System Thinking & Shared Vision	.844
Leadership	.784
Team learning	.766
Communication	.808
Learning culture	.844
Reward system I	.649
Reward system II	.690
Information system	.771

In Table 4.12 and 4.13 if we deleted item Qo15 and Qo29 from the team learning and learning culture scale, we will get 0.773 and 0.846, slightly higher than 0.766 and 0.844. But since the reliability score of team learning

and learning culture scale is above 0.6, even if we decided not to delete the item Qo15 and Qo29, we will still have a reliable instrument.

Table 4.12 Reliability test result for the team learning scale

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Qo12	The work team has a specific learning agenda.	.591	.705
Qo13	Tools such as inquiry and dialogue are more widely used in the organization.	.655	.681
Qo14	Team members help each other to learn.	.549	.721
Qo15	Team members openly discuss mistakes in order to learn from each other.	.385	.773
Qo16	The communication among team members is efficient.	.515	.731

Table 4.13 Reliability test result for the learning culture scale

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Qo22	Managers encourage employees to pursue personal development as part of their jobs and to learn by doing.	.498	.835
Qo23	Employees identify a best practice in one part of the organization and share it so that it can be used by another part of the organization.	.496	.836
Qo24	Mistakes and problems made by employees in their work are not punished but regarded as an opportunity to learn.	.709	.808
Qo25	Opportunities are provided for employees to apply what they learn into practice.	.550	.830
Qo26	Employees are encouraged to try out new ideas and new approaches to their work.	.580	.827
Qo27	The training for improving methods of learning is provided for employees.	.660	.815
Qo28	Employees support and comprehend the importance of learning.	.732	.805
Qo29	Employees take the process of working as the process of learning.	.418	.846

There is one item from the reward system scale that gives a higher reliability score if it was deleted. As can be seen in the Table 4.14, if we deleted item Qo34 from the reward system scale, we will get reliability score 0.690, which is higher than the score 0.649 when this item is included.

Table 4.14 Reliability test result for the reward system scale I

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Qo30	Managers are rewarded for supporting the development of their empl.	.369	.613
Qo31	People know the measurement system that is used to measure their performance at work.	.538	.520
Qo32	Teams are rewarded for their achievements as a team.	.646	.453
Qo33	Employees are rewarded for personal growth.	.300	.639
Qo34	There is always recognition for every initiative or effort to find new knowledge or ways to do the job in a better way.	.200	.690

In Table 4.15, if we deleted item Qo34 from the reward system scale, we will get 0.690, higher than 0.649. So the item Qo34 was decided to be deleted. Even though we get 0.699 and 0.700 of Qo30 and Qo33 which is slightly higher than 0.690 (See Table 4.16), the reliability score of reward system scale is above 0.6 and we still have a more reliability instrument to measure when Qo30, Qo31, Qo32 and Qo33 are counted all together.

Table 4.15 Reliability test result for the reward system scale II

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Qo30	Managers are rewarded for supporting the development of their employees.	.337	.699
Qo31	We know the measurement system that is used to measure our performance at work.	.567	.560
Qo32	Teams are rewarded for their achievements as a team.	.698	.449
Qo33	Employees are rewarded for personal growth.	.335	.700

4.3.2.4 Lifelong Learning attitude and Lifelong Learning behavior

Table 4.16 presents the reliability result of the Lifelong Learning attitude and Lifelong Learning behavior. The specific reliability analysis of the Lifelong Learning attitude and behavior will be stated in the Table 4.17, Table 4.18 and Table 4.19.

Table 4.16 Reliability test result for the Lifelong Learning attitude and Lifelong Learning behavior

Scale	Reliability
Lifelong Learning behavior I	.732
Lifelong Learning behavior II	.769
Lifelong Learning attitude	.551

As can be seen from Table 4.17, the items that explain Lifelong Learning attitude give a reliability score of 0.551 when they are counted all together and it is higher than the scores when any of the items is deleted. It means that measuring the Lifelong Learning attitude scale will be best when item Qla1 and Qla2 were used all together. Even the reliability score of Lifelong Learning attitude is not high, but it is an important variable to keep.

Table 4.17 Reliability test result for the Lifelong Learning attitude

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Qla1	I am aware of the significance of learning.	.381	.549
Qla2	I have a positive attitude to learning.	.381	.538

Even though the reliability score of the scale for Lifelong Learning attitude is not high, it still is an important dependent variable to keep. Important reasons are: Firstly, the mean of Lifelong Learning attitude in Case I is 4.09, Case II 4.02, Case III 4.10, Case IV 4.18, Case V 4.17 and Case VI 4.19. The respondents' reactions in these six cases are homogeneous in this scale: respondents realize the significance of learning and have a positive attitude to it. It may form part of the reason why this scale shows a low Cronbach's Alpha: this question is designed with undistinguished answers. Another plausible reason to maintain this variable has a theoretical background. The relationship between attitude and behavior is one of the topics that are investigated most in the field of Social Psychology (Zeng, 2007). Social Psychologists attempt to explain how and why attitude impacts behavior (Taylor, 2001). Ajzen and Fishbein created the Theory of Reasoned Action in 1967. In basic terms, the Theory of Reasoned Action includes that a person's behavior is determined by the attitude towards the outcome of that behavior and by the opinions of the person's social environment (Taylor, 2001). When Lifelong Learning behavior needs to be encouraged, first of all a positive Lifelong Learning attitude should be developed. A positive attitude is a prerequisite for active Lifelong Learning behavior. This crucial relationship between attitude and behavior is an important reason to keep this central dependent variable.

There is one item from the learning behavior scale that gives a higher reliability score if it was deleted. As can be seen in the Table 4.18, if we deleted item Qlb7 from the Lifelong Learning behavior scale, we will get reliability score 0.769, which is higher than the score 0.732 when this item is included.

Table 4.18 Reliability test result for the Lifelong Learning behavior I

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Qlb1	I frequently reflect on my past learning experiences in all aspects of my life.	.296	.729
Qlb2	I reflect on my present participation in learning, the personal attitude and interest to learning.	.515	.687
Qlb3	Listing all the things that are interesting and necessary to learn if the money, time and motivation are available helps to analyze my learning needs.	.500	. 692
Qlb4	I set personal learning objectives in a realistic way and devise learning strategies for achieving them.	.485	.694
Qlb5	I turn the formulation of learning objectives and strategies into a written, realistic and formal plan to be carried out.	.560	.682
Qlb6	I add to or change my learning plans frequently in the light of new information.	.389	.712
Qlb7	Using a learning adviser or mentor who can give good suggestions to me is a good way to promote my own learning.	.014	.769
Qlb8	I regularly assess my learning progress and the extent to which my learning goals have been accomplished.	.408	.710
Qlb9	On the basis of the assessment, I design better learning strategies to promote the achievement of learning goals.	.560	.686

If we deleted item Qlb7 from the Lifelong Learning behavior scale in Table 4.19, we will get 0.769, higher than 0.732. So the item Qlb7 was decided to delete. After its deletion, the reliability result of education availability scale was improved from 0.732 to 0.769. Even though we get 0.779 of Qlb1 which is slightly higher than 0.769 (See Table 4.19), the reliability score of Lifelong Learning behavior scale is above 0.6 and we still have a more reliability instrument to measure when all the items except Qlb7 are counted all together.

Table 4.19 Reliability test result for the Lifelong Learning behavior II

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Qlb1	I frequently reflect on my past learning experiences in all aspects of my life.	.280	.779
Qlb2	I reflect on my present participation in learning, the personal attitude and interest to learning.	.480	.744
Qlb3	Listing all the things that are interesting and necessary to learn if the money, time and motivation are available helps to analyze my learning needs.	.507	. 738
Qlb4	I set personal learning objectives in a realistic way and devise learning strategies for achieving them.	.568	.726
Qlb5	I turn the formulation of learning objectives and strategies into a written, realistic and formal plan to be carried out.	.655	.712
Qlb6	I add to or change my learning plans frequently in the light of new information.	.420	.753
Qlb8	I regularly assess my learning progress and the extent to which my learning goals have been accomplished.	.344	.764
Qlb9	On the basis of the assessment, I design better learning strategies to promote the achievement of learning goals.	.542	.735

4.4 Conclusions

This chapter describes the instrumentation of the variables. The interpretation of the analysis leading to answering the research question: how can we measure the reliability of the instrument based on the Lifelong Learning conceptual framework? has been discussed in Section 4.3 (Instrumentation). Table 4.3 presented the result of the reliability test for each scale. Among them, the reliability score of the scale for Lifelong Learning attitude and education support is relatively low, but they are still important variables to keep. The author offered important reasons, statiscal as well as theoretical, to keep them separately in Section 4.3.2.4 and Section 4.3.2.1.

Summarily, we have obtained a more reliable instrument to measure the variables after the deletion of four items from their scale. In this way we attempted to answer the research question about measuring the reliability of the research instrument.

Chapter 5
Analysis of characteristics of respondents in six organizations: A One-Way ANOVA analysis

5.1 Introduction

Chapter 5 organizes a one-way ANOVA analysis in age groups, male and female, position groups, education groups, employment groups, and six organizations to test if the respondents have distinctive discrepancy to the variables of the instrument. In this chapter, the research question will be answered: Do the different age groups, male and female, position groups, education groups, employment groups, and six organizations have distinctive discrepancy in the variables of the instrument?

5.2 One-Way ANOVA analysis in age groups

At first we should use an analysis named test of homogeneity of variances to verify if it is suitable for one-way ANOVA analysis. Table 5.1 presents the test result of homogeneity of variances in age groups. As shown in the Levene statistic list, all the Levene statistic values are large enough. Meanwhile, the column of Sig. displays that the probability of homogeneity of variances are all greater than 0.05 (> 0.05). So the variances are homogeneous to continue the following analysis.

Table 5.1 Test of Homogeneity of Variances in age groups

	Levene Statistic	Sig.
Quality of Lifelong Learning average	1.938	.145
System thinking & shared vision average	.320	.726
Leadership average	.311	.733
Team learning average	.274	.760
Communication average	.597	.551
Learning culture average	.424	.654
Reward system average	.190	.827
Information system average	1.892	.152
Education support average	.200	.910
Education availability average	1.347	.261
Lifelong Learning attitude average	.573	.564
Lifelong Learning behavior average	1.212	.298

The following analysis is an ANOVA test. Table 5.2 displays the ANOVA result in age groups. We take the quality of Lifelong Learning dimension for example. The df value between groups is 2. The df value within groups is 637. The total value is 639. The probability of homogeneity Sig=0.998>0.05, which shows indistinctive discrepancy in quality of Lifelong Learning dimension among age groups. The analysis of the other items is the

same for the quality of Lifelong Learning. The results all show an indistinctive discrepancy in their corresponding items among age groups.

Table 5.2 ANOVA result in age groups

		Df	Sig.
Quality of Lifelong Learning average	Between Groups	2	.998
	Within Groups	637	
	Total	639	
System thinking & shared vision average	Between Groups	2	.109
	Within Groups	636	
	Total	638	
Leadership average	Between Groups	2	.411
	Within Groups	601	
	Total	603	
Team learning average	Between Groups	2	.510
	Within Groups	630	
	Total	632	
Communication average	Between Groups	2	.271
	Within Groups	637	
	Total	639	
Learning culture average	Between Groups	2	.148
	Within Groups	615	
	Total	617	
Reward system average	Between Groups	2	.743
	Within Groups	640	
	Total	642	
Information system average	Between Groups	2	.576
	Within Groups	637	
	Total	639	
Education support average	Between Groups	2	.922
	Within Groups	624	
	Total	626	
Education availability average	Between Groups	2	.834
	Within Groups	629	
	Total	631	
Lifelong Learning attitude average	Between Groups	2	.298
	Within Groups	645	
	Total	647	
Lifelong Learning behavior average	Between Groups	2	.344
	Within Groups	645	
	Total	647	

Note: Age group No.1 = 20~25; Group No.2 = 26~30; Group No.3=31~ 80

5.3 One-Way ANOVA analysis in gender

At first we should use an analysis named test of homogeneity of variances to verify if it is suitable for one-way ANOVA analysis. Table 5.3 presents the test result of homogeneity of variances in gender. As shown in the Levene statistic list, all the Levene statistic values are large enough. Meanwhile, the column of Sig. displays that the probability of homogeneity of variances are all greater than 0.05 (> 0.05). So the variances are homogeneous to continue the following analysis.

Table 5.3 Test of Homogeneity of Variances in gender

	Levene Statistic	Sig.
Quality of Lifelong Learning average	.010	.920
System thinking & shared vision average	.751	.386
Leadership average	.549	.459
Team learning average	1.024	.312
Communication average	1.616	.204
Learning culture average	.008	.928
Reward system average	.329	.567
Information system average	.026	.872
Education support average	3.864	.050
Education availability average	.534	.465
Lifelong Learning attitude average	1.536	.216
Lifelong Learning behavior average	1.735	.188

The following analysis is the ANOVA test. Table 5.4 displays the ANOVA result in gender. We take the quality of Lifelong Learning dimension for example. The sum of squares between groups is .725. The mean square between groups is .725. The sum of squares within groups is 113.194, and the mean square within groups is .177. The total sum of squares is 113.919, and F=4.088. The probability of homogeneity Sig=0.044<0.05, which shows distinctive discrepancy in quality of Lifelong Learning dimension between female and male. The probability of homogeneity in reward system Sig=0.023<0.05, which also shows distinctive discrepancy in reward system item between female and male. The analysis of the other items is the same as for the quality of Lifelong Learning. The results all show the indistinctive discrepancy in their corresponding items in gender.

Table 5.4 ANOVA result in gender

		Sum of Squares	Df	Mean Square	F	Sig.
Quality of Lifelong Learning average	Between Groups	.725	1	.725	4.088	.044
	Within Groups	113.194	638	.177		
	Total	113.919	639			
System thinking & shared vision average	Between Groups	.187	1	.187	.261	.609
	Within Groups	456.469	637	.717		
	Total	456.656	638			
Leadership average	Between Groups	.181	1	.181	.401	.527
	Within Groups	271.463	602	.451		
	Total	271.643	603			
Team learning average	Between Groups	.145	1	.145	.284	.594
	Within Groups	322.540	631	.511		
	Total	322.685	632			
Communication average	Between Groups	.001	1	.001	.002	.960
	Within Groups	379.773	638	.595		
	Total	379.774	639			
Learning culture average	Between Groups	.056	1	.056	.125	.724
	Within Groups	276.149	616	.448		
	Total	276.205	617			
Reward system average	Between Groups	2.151	1	2.151	5.164	.023
	Within Groups	266.980	641	.417		
	Total	269.131	642			
Information system average	Between Groups	.283	1	.283	.771	.380
	Within Groups	234.532	638	.368		
	Total	234.815	639			

Continuing Table 5.4 ANOVA result in gender

		Sum of Squares	Df	Mean Square	F	Sig.
Education support average	Between Groups	.000	1	.000	.000	.987
	Within Groups	228.883	625	.366		
	Total	228.883	626			
Education availability average	Between Groups	.119	1	.119	.169	.681
	Within Groups	444.405	630	.705		
	Total	444.524	631			
Lifelong Learning attitude average	Between Groups	1.259	1	1.259	2.914	.088
	Within Groups	279.060	646	.432		
	Total	280.319	647			
Lifelong Learning behavior average	Between Groups	.152	1	.152	.420	.517
	Within Groups	233.650	646	.362		
	Total	233.802	647			

5.4 One-Way ANOVA analysis in position groups

At first we should use an analysis named test of homogeneity of variances to verify if it is suitable for one-way ANOVA analysis. Table 5.5 presents the test result of homogeneity of variances in position groups. As shown in the Levene statistic list, all the Levene statistic values are large enough. Meanwhile, the column of Sig. displays that the probability of homogeneity of variances are all greater than 0.05 (> 0.05). So the variances are homogeneous to continue the following analysis.

Table 5.5 Test of Homogeneity of Variances in position groups

	Levene Statistic	Sig.
Quality of Lifelong Learning average	2.766	.064
System thinking & shared vision average	.133	.875
Leadership average	.352	.704
Team learning average	1.020	.361
Communication average	.937	.392
Learning culture average	.712	.491
Reward system average	.764	.466
Information system average	.487	.615
Education support average	.428	.652
Education availability average	.553	.575
Lifelong Learning attitude average	1.138	.321
Lifelong Learning behavior average	1.814	.164

The following analysis is the ANOVA test. Table 5.6 presents the ANOVA result in position groups. We take the quality of Lifelong Learning dimension for example. The sum of squares between groups is .152. The mean square between groups is .076. The sum of squares within groups is 113.767, and the mean square within groups is .179. The total sum of squares is 113.919, and F=.426. The probability of homogeneity Sig=0.653>0.05, which shows indistinctive discrepancy in quality of Lifelong Learning dimension among position groups. The analysis of the other items is the same with the quality of Lifelong Learning. The results except system thinking and shared vision all show the indistinctive discrepancy in their corresponding items among position groups. The probability of homogeneity in system thinking and shared vision Sig=0.010<0.05, which shows distinctive discrepancy in system thinking and shared vision item among position groups.

Table 5.6 ANOVA result in position groups

		Sum of Squares	Df	Mean Square	F	Sig.
Quality of Lifelong Learning average	Between Groups	.152	2	.076	.426	.653
	Within Groups	113.767	637	.179		
	Total	113.919	639			
System thinking & shared vision average	Between Groups	6.623	2	3.311	4.680	.010
	Within Groups	450.033	636	.708		
	Total	456.656	638			
Leadership average	Between Groups	1.791	2	.895	1.994	.137
	Within Groups	269.853	601	.449		
	Total	271.643	603			
Team learning averag	Between Groups	1.866	2	.933	1.833	.161
	Within Groups	320.818	630	.509		
	Total	322.685	632			
Communication averag	Between Groups	2.539	2	1.270	2.144	.118
	Within Groups	377.235	637	.592		
	Total	379.774	639			
Learning culture averag	Between Groups	2.114	2	1.057	2.371	.094
	Within Groups	274.091	615	.446		
	Total	276.205	617			
Reward system averag	Between Groups	.054	2	.027	.064	.938
	Within Groups	269.076	640	.420		
	Total	269.131	642			
Information system averag	Between Groups	.648	2	.324	.881	.415
	Within Groups	234.167	637	.368		
	Total	234.815	639			
Education support averag	Between Groups	1.311	2	.655	1.797	.167
	Within Groups	227.572	624	.365		
	Total	228.883	626			
Education availability averag	Between Groups	1.149	2	.574	.815	.443
	Within Groups	443.376	629	.705		
	Total	444.524	631			
Lifelong Learning attitude average	Between Groups	1.289	2	.644	1.490	.226
	Within Groups	279.031	645	.433		
	Total	280.319	647			
Lifelong Learning behavior average	Between Groups	.621	2	.310	.859	.424
	Within Groups	233.181	645	.362		
	Total	233.802	647			

In Table 5.7, the result of multiple comparisons in position groups shows, at the level of significance 0.05, only the position group 1 (staff) and position group 3 (middle level and senior level leader) have distinctive discrepancy in system thinking and shared vision variable (p=0.012<0.05). While, position group 1 (staff) and position group 2 (basic level leader) have not distinctive discrepancy. Position group 2 (basic level leader) and position group 3 (middle level and senior level leader) have not distinctive discrepancy either.

Table 5.7 Multiple Comparisons in position groups

Dependent Variable	(I) Position group	(J) Position group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
System thinking & shared vision average	1.00	2.00	.10173	.08202	.464	-.0995	.3030
		3.00	.31278(*)	.10480	.012	.0556	.5699
	2.00	1.00	-.10173	.08202	.464	-.3030	.0995
		3.00	.21105	.11985	.213	-.0830	.5051
	3.00	1.00	-.31278(*)	.10480	.012	-.5699	-.0556
		2.00	-.21105	.11985	.213	-.5051	.0830

* The mean difference is significant at the .05 level.
Note: Position group N1 = Staff; N2 = Basic level leader; N3 = Middle and Senior level leader

5.5 One-Way ANOVA analysis in education groups

Table 5.8 Test of Homogeneity of Variances in education groups

	Levene Statistic	Sig.
Quality of Lifelong Learning average	2.298	.064
System thinking & shared vision average	.392	.676
Leadership average	.171	.843
Team learning average	.778	.460
Communication average	.028	.973
Learning culture average	.225	.799
Reward system average	.485	.616
Information system average	2.414	.090
Education support average	.036	.965
Education availability average	.239	.787
Lifelong Learning attitude average	.072	.931
Lifelong Learning behavior average	2.035	.131

At first we should use an analysis named test of homogeneity of variances to verify if it is suitable for one-way ANOVA analysis. Table 5.8 presents the test result of homogeneity of variances in education groups. As shown in the Levene statistic list, all the Levene statistic values are large enough. Meanwhile, the column of Sig. displays that the probability of homogeneity of variances are all greater than 0.05 (> 0.05). So the variances are homogeneous to continue the following analysis.

The following analysis is the ANOVA test. Table 5.9 presents the ANOVA result in education groups. We take the quality of Lifelong Learning dimension for example. The sum of squares between groups is .571. The mean square between groups is .286. The sum of squares within groups is 113.348, and the mean square within groups is .178. The total sum of squares is 113.919, and F=1.605. The probability of homogeneity Sig=0.202>0.05, which shows indistinctive discrepancy in quality of Lifelong Learning dimension among education groups. The analysis of the other items is the same with the quality of Lifelong Learning. The results except system thinking and shared vision all show the indistinctive discrepancy in their corresponding items among education groups. The probability of homogeneity in system thinking and shared vision Sig=0.040<0.05, which shows distinctive discrepancy in system thinking and shared vision item among education groups.

Table 5.9 ANOVA result in education groups

		Sum of Squares	Df	Mean Square	F	Sig.
Quality of Lifelong Learning average	Between Groups	.571	2	.286	1.605	.202
	Within Groups	113.348	637	.178		
	Total	113.919	639			
System thinking & shared vision average	Between Groups	4.603	2	2.301	3.238	.040
	Within Groups	452.053	636	.711		
	Total	456.656	638			
Leadership average	Between Groups	1.131	2	.566	1.257	.285
	Within Groups	270.512	601	.450		
	Total	271.643	603			
Team learning average	Between Groups	.634	2	.317	.621	.538
	Within Groups	322.050	630	.511		
	Total	322.685	632			
Communication average	Between Groups	3.161	2	1.580	2.673	.070
	Within Groups	376.613	637	.591		
	Total	379.774	639			
Learning culture average	Between Groups	.809	2	.405	.904	.406
	Within Groups	275.396	615	.448		
	Total	276.205	617			
Reward system average	Between Groups	.066	2	.033	.078	.925
	Within Groups	269.065	640	.420		
	Total	269.131	642			
Information system average	Between Groups	1.945	2	.973	2.661	.071
	Within Groups	232.870	637	.366		
	Total	234.815	639			
Education support average	Between Groups	.468	2	.234	.639	.528
	Within Groups	228.415	624	.366		
	Total	228.883	626			
Education availability average	Between Groups	1.805	2	.903	1.283	.278
	Within Groups	442.719	629	.704		
	Total	444.524	631			
Lifelong Learning attitude average	Between Groups	.322	2	.161	.370	.691
	Within Groups	279.998	645	.434		
	Total	280.319	647			
Lifelong Learning behavior average	Between Groups	.249	2	.124	.344	.709
	Within Groups	233.553	645	.362		
	Total	233.802	647			

Table 5.10 presents the result of multiple comparisons in education groups shows, at the level of significance 0.05, only the education group 1 (Senior high school and Junior college) and education group 3 (Master and Doctor) have distinctive discrepancy in system thinking and shared vision variable (p=0.044<0.05). While, education group 1 (Senior high school and Junior college) and education group 2 (Bachelor) have not distinctive discrepancy. Education group 2 (Bachelor) and education group 3 (Master and Doctor) have not distinctive discrepancy either.

Table 5.10 Multiple Comparisons in education groups

Dependent Variable	(I) Position group	(J) Position group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
System thinking & shared vision average	1.00	2.00	-.33444	.14072	.060	-.6797	.0108
		3.00	-.37956(*)	.15164	.044	-.7516	-.0075
	2.00	1.00	.33444	.14072	.060	-.0108	.6797
		3.00	-.04512	.07966	.852	-.2406	.1503
	3.00	1.00	.37956(*)	.15164	.044	.0075	.7516
		2.00	.04512	.07966	.852	-.1503	.2406

* The mean difference is significant at the .05 level.
Note: Education group N1 = Senior high school and Junior college; N2 = Bachelor; N3=Master and Doctor

5.6 One-Way ANOVA analysis in employment groups

At first we should use an analysis named test of homogeneity of variances to verify if it is suitable for one-way ANOVA analysis. Table 5.11 presents the test result of homogeneity of variances in employment groups. As shown in the Levene statistic list, all the Levene statistic values are large enough. Meanwhile, the column of Sig. displays the probability of homogeneity of variances are all greater than 0.05 (> 0.05). So the variances are homogeneous to continue the following analysis.

Table 5.11 Test of Homogeneity of Variances in employment groups

	Levene Statistic	Sig.
Quality of Lifelong Learning average	2.631	.067
System thinking & shared vision average	1.795	.167
Leadership average	.302	.739
Team learning average	.062	.940
Communication average	.653	.521
Learning culture average	.740	.477
Reward system average	.306	.736
Information system average	1.839	.160
Education support average	.051	.951
Education availability average	1.303	.272
Lifelong Learning attitude average	1.026	.359
Lifelong Learning behavior average	2.816	.061

The following analysis is the ANOVA test. Table 5.12 presents the ANOVA result in employment groups. We take the quality of Lifelong Learning dimension for example. The sum of squares between groups is .353. The mean square between groups is .176. The sum of squares within groups is 113.566, and the mean square within groups is .178. The total sum of squares is 113.919, and F=.989. The probability of homogeneity Sig=0.372>0.05, which shows indistinctive discrepancy in quality of Lifelong Learning dimension among employment groups. The analysis of the other items is the same with the quality of Lifelong Learning. The results except system thinking & shared vision and education support all show the indistinctive discrepancy in their corresponding items among employment groups. The probability of homogeneity in system thinking and shared vision Sig=0.009<0.05, which shows distinctive discrepancy in system thinking and shared vision item among employment groups. The probability of homogeneity in education support Sig=0.014<0.05, also shows distinctive discrepancy in education support item among employment groups.

Table 5.12 ANOVA result in employment groups

		Sum of Squares	Df	Mean Square	F	Sig.
Quality of Lifelong Learning average	Between Groups	.353	2	.176	.989	.372
	Within Groups	113.566	637	.178		
	Total	113.919	639			
System thinking & shared vision average	Between Groups	6.671	2	3.335	4.714	.009
	Within Groups	449.985	636	.708		
	Total	456.656	638			
Leadership average	Between Groups	.466	2	.233	.516	.597
	Within Groups	271.178	601	.451		
	Total	271.643	603			
Team learning average	Between Groups	.888	2	.444	.869	.420
	Within Groups	321.797	630	.511		
	Total	322.685	632			
Communication average	Between Groups	1.881	2	.940	1.585	.206
	Within Groups	377.894	637	.593		
	Total	379.774	639			
Learning culture average	Between Groups	1.746	2	.873	1.956	.142
	Within Groups	274.459	615	.446		
	Total	276.205	617			
Reward system average	Between Groups	.051	2	.026	.061	.941
	Within Groups	269.079	640	.420		
	Total	269.131	642			
Information system average	Between Groups	1.054	2	.527	1.436	.239
	Within Groups	233.761	637	.367		
	Total	234.815	639			
Education support average	Between Groups	3.132	2	1.566	4.329	.014
	Within Groups	225.751	624	.362		
	Total	228.883	626			
Education availability average	Between Groups	.579	2	.289	.410	.664
	Within Groups	443.946	629	.706		
	Total	444.524	631			
Lifelong Learning attitude average	Between Groups	.656	2	.328	.756	.470
	Within Groups	279.664	645	.434		
	Total	280.319	647			
Lifelong Learning behavior average	Between Groups	.092	2	.046	.126	.881
	Within Groups	233.711	645	.362		
	Total	233.802	647			

Please see Table 5.13 for the result of multiple comparisons in employment groups shows, at the level of significance 0.05, the employment group 1 (total work experience 1 year to 5 years) and employment group 3 (total work experience 11 years to 60 years) have distinctive discrepancy in system thinking and shared vision variable (p=0.041<0.05). Employment group 2 (total work experience 6 years to 10 years) and employment group 3 (total work experience 11 years to 60 years) also have distinctive discrepancy in system thinking and shared vision variable (p=0.019<0.05). While, employment group 1 (total work experience 1 year to 5 years) and employment group 2 (total work experience 6 years to 10 years) have not distinctive discrepancy.

Meanwhile, employment group 2 (total work experience 6 years to 10 years) and employment group 3 (total work experience 11 years to 60 years) have distinctive discrepancy in education support variable (p=0.014<0.05). Employment group 1 (total work experience 1 year to 5 years) and employment group 2 (total work experience 6 years to 10 years) have not distinctive discrepancy. Employment group 1 (total work experience 1 year to 5 years) and employment group 3 (total work experience 11 years to 60 years) have not distinctive discrepancy either.

Table 5.13 Multiple Comparisons in employment groups

Dependent Variable	(I) Position group	(J) Position group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
System thinking & shared vision average	1.00	2.00	-.07574	.08681	.684	-.2887	.1372
		3.00	.20024(*)	.07894	.041	.0066	.3939
	2.00	1.00	.07574	.08681	.684	-.1372	.2887
		3.00	.27598(*)	.09788	.019	.0358	.5161
	3.00	1.00	-.20024(*)	.07894	.041	-.3939	-.0066
		2.00	-.27598(*)	.09788	.019	-.5161	-.0358
Education support average	1.00	2.00	-.12121	.06304	.158	-.2759	.0335
		3.00	.08810	.05698	.303	-.0517	.2279
	2.00	1.00	.12121	.06304	.158	-.0335	.2759
		3.00	.20931(*)	.07114	.014	.0348	.3839
	3.00	1.00	-.08810	.05698	.303	-.2279	.0517
		2.00	-.20931(*)	.07114	.014	-.3839	-.0348

* The mean difference is significant at the .05 level.
Note: Employment group N1 = 1~ 5; N2 = 6~ 10; N3=11~ 60

5.7 One-Way ANOVA analysis in six organizations

At first we should use an analysis named test of homogeneity of variances to verify if it is suitable for one-way ANOVA analysis. Table 5.14 presents the test result of homogeneity of variances in six organizations. As shown in the Levene statistic list, all the Levene statistic values are large enough. Meanwhile, the column of Sig. displays that the probability of Homogeneity of variances are all greater than 0.05 (> 0.05). So the variances are homogeneous to continue the following analysis.

Table 5.14 Test of Homogeneity of Variances in six organizations

	Levene Statistic	Sig.
Quality of Lifelong Learning average	.048	.999
System thinking & shared vision average	.188	.967
Leadership average	.706	.619
Team learning average	.081	.995
Communication average	.318	.902
Learning culture average	.167	.975
Reward system average	.693	.629
Information system average	1.347	.243
Education support average	.427	.830
Education availability average	1.136	.340
Lifelong Learning attitude average	.653	.659
Lifelong Learning behavior average	1.433	.210

The following analysis is the ANOVA test. Table 5.15 presents the ANOVA result in six organizations. We take the quality of Lifelong Learning dimension for example. The df value between groups is 5. The df value within groups is 634, and the total value is 639. The probability of homogeneity Sig=0.854>0.05, which shows indistinctive discrepancy in quality of Lifelong Learning dimension among six organizations. The analysis of the other items is the same with the quality of Lifelong Learning. The results all show an indistinctive discrepancy in their corresponding items among six organizations.

Table 5.15 ANOVA result in six organizations

		Df	Sig.
Quality of Lifelong Learning average	Between Groups	5	.854
	Within Groups	634	
	Total	639	
System thinking & shared vision average	Between Groups	5	.951
	Within Groups	633	
	Total	638	
Leadership average	Between Groups	5	.998
	Within Groups	598	
	Total	603	
Team learning average	Between Groups	5	.968
	Within Groups	627	
	Total	632	
Communication average	Between Groups	5	.972
	Within Groups	634	
	Total	639	
Learning culture average	Between Groups	5	.982
	Within Groups	612	
	Total	617	
Reward system average	Between Groups	5	.663
	Within Groups	637	
	Total	642	
Information system average	Between Groups	5	.839
	Within Groups	634	
	Total	639	
Education support average	Between Groups	5	.707
	Within Groups	621	
	Total	626	
Education availability average	Between Groups	5	.292
	Within Groups	626	
	Total	631	
Lifelong Learning attitude average	Between Groups	5	.802
	Within Groups	642	
	Total	647	
Lifelong Learning behavior average	Between Groups	5	.928
	Within Groups	642	
	Total	647	

5.8 Conclusions

In this Chapter 5, the research question is: Do the different age groups, male and female, position groups, education groups, employment groups, and six organizations have distinctive discrepancy in the variables of the instrument? Therefor the chapter organizes the one-way ANOVA analysis to perform the test. The conclusions for the answer are as follows:

- The results of One-Way ANOVA analysis in *age groups and six organizations* did not show any distinctive discrepancy among age groups and different organizations to the variables of the instrument. In the results of One-Way ANOVA analysis in gender, the probability of homogeneity (Sig=0.044<0.05) shows distinctive discrepancy in quality of Lifelong Learning dimension between female and male.

The probability of homogeneity in reward system dimension (Sig=0.023<0.05) also shows distinctive discrepancy between female and male. Female comparing to male probably pay more attention to the details of reward that the organization should pay for their contribution. But male may express their opinions on the reward system of their organization or ask for their rights much more strongly than female who subconsciously might consider they are in an inferior position.

- The results of One-Way ANOVA analysis in *position groups* displayed that only the position group 1 (staff) and position group 3 (middle level and senior level leader) have distinctive discrepancy in system thinking and shared vision variable (p =0.012<0.05). While, position group 1 (staff) and position group 2 (basic level leader) have not distinctive discrepancy. Position group 2 (basic level leader) and position group 3 (middle level and senior level leader) do not have distinctive discrepancy either. System thinking and shared vision is mainly decided by the position that staff and middle level and senior level leader are in. And the position that they are in decides their focused level. Staff at the basic level does their own work only focusing on the micro level, which might narrow their vision on their organization. But the leaders seem to pay attention to the development of the whole organization focusing on the macro level, and show a broader vision on their organization.

- The results of One-Way ANOVA analysis in *education groups* revealed that only the education group 1 (Senior high school and Junior college) and education group 3 (Master and Doctor) have distinctive discrepancy in system thinking and the shared vision variable (p=0.044<0.05). While, education group 1 (Senior high school and Junior college) and education group 2 (Bachelor) do not have distinctive discrepancy. Education group 2 (Bachelor) and education group 3 (Master and Doctor) do not have distinctive discrepancy either. This might indicate that persons get better thinking methods and broader vision, benefiting from their educational experience, more than those with a lower educational degree. On the other hand, staff with a higher educational degree is easy to find a higher position in their organization than persons with a lower one, and as mentioned above, the position in the organization also influences their vision and system thinking.

- The results of One-Way ANOVA analysis in *employment groups* showed that the employment group 1 (total work experience 1 year to 5 years) and employment group 3 (total work experience 11 years to 60 years) have distinctive discrepancy in system thinking and the shared vision variable (p=0.041<0.05). Employment group 2 (total work experience 6 years to 10 years) and employment group 3 (total work experience 11 years to 60 years) also have distinctive discrepancy in system thinking and the shared vision variable (p=0.019<0.05). While, employment group 1 (total work experience 1 year to 5 years) and employment group 2 (total work experience 6 years to 10 years) do not have distinctive discrepancy. Meanwhile, employment group 2 (total work experience 6 years to 10 years) and employment group 3 (total work experience 11 years to 60 years) have distinctive discrepancy in education support variable (p=0.014<0.05). Employment group 1 (total work experience 1 year to 5 years) and employment group 2 (total work experience 6 years to 10 years) have not distinctive discrepancy. Employment group 1 (total work experience 1 year to 5 years) and employment group 3 (total work experience 11 years to 60 years) do not have distinctive discrepancy either. Staff with working experience above 10 years have experienced many working roles in which they encountered and resolved many problems which might offer them a broader and shared vision, a deeper and system thinking.

Chapter 6
Conditions for Lifelong Learning in six organizations

6.1 Introduction

In this chapter the second part of the data collection, consisting of a series of additional in terviews in the six participating organisations will be discussed. The interviews will offer a background for the findings of the questionnaires in the survey of the Chapters 4 and 5. Firstly, the methodology of the interview analysis is described in Section 6.2. From Section 6.3 to Section 6.8, the specific conditions for Lifelong Learning of the six cases are presented. On the basis of these additional findings, the author will draw a conclusion and provide the overall findings in six companies in the last Section 6.9. The leading research question of this chapter is: What are the conditions for Lifelong Learning in the six organizations under investigation?

6.2 Analysis of additional personal interviews

1. The methodology of analyzing the interviews.
The interviews were developed to reveal the background of the research results obtained form the questionnaires in the survey. Each of the six participating organization has three respondents taking part in these interviews. The first interview to be conducted per case was with a manager concerned with personnel. This manager selected two employees who were willing to take part in the interviews. The interviews aim to give more explanation for the data from the questionnaire. So the interviews were conducted on the basis of the questions and data collection information of the questionnaire case by case. This questionnaire itself consists of 74 items. The inverview questions were asked according to those 74 questions in the questionnaire combined with each question's mean score and standard deviation score. These 74 questions, which form the interview guideline, are been included in the appendix. The interviewees answered each question in the context of their own company's situation. The researcher put emphasis on the items with a relatively low and high mean score and standard deviation score, thus probing the reasons offered by the interviewees. The answers from the respondents were collected on paper at the interview spot.

The interview findings on the conditions for Lifelong Learning of these six participating organizations cannot be shown with their specific company names. The reason is that these organizations did not give permission to the researcher to do so. That is why the organizations are treated anonymously here, and indicated by the name of Case I to Case VI. From Section 6.3 to Section 6.8, each case will be introduced in each section. Per case the Mean and Std. Deviation of Educational System Level, Organizational Level, Quality of Lifelong Learning and Lifelong Learning Attitude and Behavior scales are presented in one table at the beginning of each section. Then, each case's specific characteristics for Lifelong Learning will be introduced from the educational system level, organizational level, quality of Lifelong Learning and Lifelong Learning attitude and behavior aspects. The

description of the specific items in their corresponding scales is replaced by their codes. The full items can be found in the appendices. On the basis of the specific interview analysis from Section 6.3 to Section 6.8, the author will draw a conclusion and provide the overall findings in six companies in Section 6.9.

2. The role of the interviews and the relationship with the results from the survey.
On the one hand, the interviews will reveal the background of the research results of each case and give a more in depth explanation for the data from the questionnaires. On the other hand, this chapter presents the specific conditions for Lifelong Learning of the six participating organizations. On the basis of the interview analyses of these conditions for Lifelong Learning the author will provide reflections and recommendations for the development of Lifelong Learning in Chinese organizations in the future, in Chapter 8.

6.3 Conditions for Lifelong Learning of Case I

Table 6.1 Descriptive Statistics of Educational System Level, Organizational Level, Quality of Lifelong Learning and Lifelong Learning Attitude and Behavior scales at Case I

	Mean	Std. Deviation
Educational System Level	29.7647	6.48584
Organizational Level	141.6875	27.64952
Quality of Lifelong Learning	50.6667	8.21763
Lifelong Learning Attitude and Behavior	37.0000	4.73756

1. The educational system level at Case I
The mean score of item Qes1, "A specific curriculum that helps students to develop essential Lifelong Learning skills and enthusiasm during the initial education is helpful for personal learning", is 3.95. Respondents regard the curriculum for cultivating Lifelong Learning skills and enthusiasm as helpful. For item Qes2, respondents know the private education and someone has experiences in it. But they said that the fees of private education are a little bit high which are not available for the poor. On item Qes5 and Qea4, respondents agree that universities for the aged are useful for old people's learning activity. The standard deviation of item Qea4 is 1.004. It suggested that some people disagree that this type of university is available for the old people who want to study. The mean score of Qes6 is quite low, 2.95 that suggest that more effort to provide support for education from the government should be made.

2. The organizational level at Case I
The mean score of item Qo2, "People have a broad understanding on the structure, system and interrelation of their organization", is relatively low, 2.89 with standard deviation 0.994. The interviewees said that leaders set goals for the organization and employees will perform according to this goal. When employees do their work according to the goal of their organization, they usually ignore the organization's structure and relationship. Because their salary is decided by their job performance, they put more emphasis on how to finish their own job in a perfect way. So they seem not to have a clear idea about the structure of the organization.
The mean score of item Qo6, "The leader has a clear vision for the organizational development", is 3.89 with standard deviation 1.049. Some respondents regard that leaders have not a clear vision on the development of their organization. The reason is that some departments are so big that the communication between leaders and employees is not very frequent. It leads to employees who do not have a clear understanding on their leaders' vision.

The standard deviation of item Qo8 and Qo11, "The leader instructs employees responsible for their own learning and career performance" and "The leader encourages employees to make decisions and to be responsible on their decisions", is high (above 1.0). Some respondents have different experiences. Leaders give certain freedom to their employees on the basis of individual ability and the importance of their task. That means that if the work is important leaders tend to give limited freedom, and if the employee has a high competence level the leader will give plenty of freedom.

For item Qo10, "The leader guarantees that employees have equal learning opportunities", the mean score is 3.63, and the standard deviation is so high 1.300. It indicates that some respondents did not think that they have equal learning opportunities. Interviewees said that learning opportunities is given first and foremost to excellent employees who have high competence, and sometimes to those people who have good relationships with their leaders.

The mean score of item Qo13 and Qo14 is high, 4.00 and 4.06. This suggests a promising situation that respondents confirm the presence that team members help each other for learning and the tools to communicate are used appropriately and widely. Item Qo15 gets the lowest mean score and high standard deviation. It indicated that team members still have some difficulties in discussing mistakes openly.

For item Qo17 and Qo18, "Employees are not afraid to share their opinions and speak their minds" and "Employees listen to others' views before speaking and ask what others think whenever they state their viewpoints", the standard deviation is high. Though employees can listen to others' opinions and share their own opinions with others, they sometimes should be in a more polite and indirect way to state different opinions. The standard deviation of item Qo20 is high. It suggests that some respondents have different experiences. In a big department, employees have fewer chances to communicate with their leaders than in a small department. Employees working in big departments have more fear for rank to ask questions to their leaders.

Item Qo22 and Qo26 get relatively high mean score and low standard deviation. Leaders encourage employees' development and creativity as part of the job, because they realize their employees' creativity and development can bring profit to their organization. For item Qo24, the answers are ranging from 1 to 5 and the mean score is lowest. But we can also see that for this item, the standard deviation is high among the other items. This suggests that for this item, "Mistakes and problems made by employees in their work are not punished but regarded as an opportunity to learn" the respondents have different experiences.

The standard deviation of item Qo30 is high, 1.124. Some respondents said that leaders did not have a definite reward for supporting their employees' development. For item Qo31, "People know the measurement system that is used to measure their performance at work", descriptive statistics for this scale shows that this item gets the highest standard deviation 1.305. In fact, some respondents said that there is not a clear measurement system in their organization to measure their performance at work. But often teams and individuals are rewarded because of their general good performance.

Item Qo36 and Qo39 have the same high mean score 4.21. It suggested that respondents could use the Internet freely and realize the importance of electronic information system for work and study. The standard deviation of item Qo37 is high, 1.264. It indicated that respondents have different ideas on the learning facilities and learning environment.

3. Quality of Lifelong Learning at Case I
The mean score of item Qllq3, Qllq4, "My learning is intended and planned learning that goes on more or less continuously over the lifespan and it has a definite and specific goal" and "I actively participate in learning teams and communities learning from each other", is relatively low in this group. Respondents said that they recognized the significance of Lifelong Learning, and that they really learn as they experience every day's work and life. But they have not a specific goal and clear plan for it. Most of the time they learn by themselves and do not participate in learning teams and communities.

The respondents in this case confirm the significant meaning of Lifelong Learning in a modern society, especially for individual improvement. Employees confirm that from the objective viewpoint the opportunities provided for Lifelong Learning are important for them. Respondents indicated that Lifelong Learning not only includes formal learning. Informal learning is also an important kind of learning activity.

4. The Lifelong Learning attitude and behavior at Case I
Where respondents confirm that learning is a planned process and that a learning plan is useful. Respondents in this case reflect on their present participation in learning, and they regard that listing to all the things necessary to learn is useful to improve their self-understanding for personal learning activity. It helps persons to find their learning scope and make persons more focusing on a specific learning scope.

Respondents confirm that changing the study plan on the basis of a new situation is necessary. On the other hand, employees do not agree that a learning mentor is helpful for learning activities. The interviews with respondents indicated that they have their own idea on what they need to learn. Even if the learning mentors give their suggestions, they only see these suggestions as references. They will act mainly according to their own ideas. Because they think they understand themselves what is best and what they should study.

6.4 Conditions for Lifelong Learning of Case II

Table 6.2 Descriptive Statistics of Educational System Level, Organizational Level, Quality of Lifelong Learning and Lifelong Learning Attitude and Behavior scales at Case II

	Mean	Std. Deviation
Educational System Level	29.9524	5.48157
Organizational Level	129.0556	22.89997
Quality of Lifelong Learning	51.5000	4.76279
Lifelong Learning Attitude and Behavior	36.3636	4.44592

1. The educational system level at Case II
For item Qes1, the score ranges from 3 to 5. It suggested that respondents regard the curriculum for cultivating lifelong skill and enthusiasm during initial education as helpful. For item Qes2, the mean score is low, 2.84. The interview with employees shows that they know little about private education and few of them have a private education experience.

For the item Qes5 and Qea4, though employees regard that universities for the aged are helpful for old people's learning activities, in developing areas the old people do not have a chance to enter such kind of university. The mean score of item Qes6 is the lowest one 2.76. It suggested the support for education from government is not enough.

2. The organizational level at Case II
The mean score of item Qo3 gets the lowest, 2.92 with low standard deviation. Interviewees said that in their company, usually there is a meeting to discuss the organizational development and the business goal between leaders and employees. After leaders decide on the business goals for organizational development, employees will perform their task on the basis of that business goal. But employees only focus on their own current task, and rarely take into account the organization's long-term goals and strategies when they plan and do their work.

In the leadership scale, item Qo7 gets the highest mean score, 3.68 with relatively low standard deviation. Interviewees said that leaders permit their employees to take advantage of all resources existing in their organization for their learning. Employees can attend to the training courses without pay that customers should pay. Books that employees buy for their study can be reimbursed. Leaders encourage ideas on how to improve job performance.

Some respondents said that though leaders do provide the existing resources for employees' learning activities but rarely instruct employees' learning activities and create any chance actively for them. That is the reason why item Qo9 gets high standard deviation. For item Qo10, the mean score is low, 2.96. Respondents said that in most cases learning opportunity is given first to the excellent employees who have high competence.

In the team learning scale, item Qo15 gets high standard deviation, 1.129. Respondents said that there is usually a learning-result sharing meeting. But some persons would not like to share their own mistakes with others because of the personal character, time limitation and other reasons.

For item Qo17, the range of the score is not so large (3 to 5). It reaches the highest mean score and the smallest standard deviation as well. For this we can expect that the situation, "Employees are not afraid to share their opinions and speak openly about what is in their minds" is experienced by a large number of employees. The

respondents are homogenous in their opinion about this item.

The standard deviation of item Qo19 and Qo20 is high, 1.030 and 1.115. Some respondents said that the feedback to each other is not always sincere and honest. There is still some fear of "rank" in their mind. In fact, this score confirms so many silent complains among the employees that their promotion depends on the preference of their bosses who hold the authority and responsibility to promote them. So some employees still fear their leaders.

The mean score of item Qo24 is lowest, 2.96. Respondents confirm that in this organization employees need to be responsible for the results of their mistakes. Employees would be punished if they made mistakes. In the learning culture scale, item Qo25 and Qo26 get high mean scores, 3.67 and 3.68 with low standard deviation. Employees are encouraged to apply into practice what they learn so that it will bring profits for the organization. Item Qo22 gets a high standard deviation, 1.046. Some respondents said that some middle level leaders are afraid of their employees' development as it will threaten their position.

In the reward system scale, item Qo31 gets the lowest mean score, 2.92 with low standard deviation. And further with the interviews, respondents said that in their company they have not a clear reward system to measure their performance at work, and their low salary cannot encourage employees. For item Qo30, it is not obvious that leaders were rewarded for their employee's development.

Item Qo35 gets the lowest mean score, 2.80. Respondents said that they do not have any learning activity on their computer. On the other hand, item Qo36 gets the highest mean score, 4.12 and the score range from 3 to 5. It confirmed that employees could use computer and Internet freely. For item Qo39, respondents agree that the electronic information system is helpful for a good performance in the job.

3. Quality of Lifelong Learning at Case II
For item Qllq3, the mean score is low, 3.36. Some employees said that sometimes their learning does not have a specific goal but they are just learning. Employees hope that the learning opportunity from the society and their organizations become accessible more easily for their learning activities.

4. The Lifelong Learning attitude and behavior at Case II
The mean score of Qlb4, Qlb5 and Qlb6 is high and has relatively low standard deviation. Respondents in this case set learning goals, devise learning plans and change their learning plans in the light of new information. Respondents disagree that a tutor for individual Lifelong Learning will be helpful. Employees regard that they did not experience the help of a learning tutor before, so they are doubtful about the role of the learning tutors and their competence.

6.5 Conditions for Lifelong Learning of Case III

Table 6.3 Descriptive Statistics of Educational System Level, Organizational Level, Quality of Lifelong Learning and Lifelong Learning Attitude and Behavior scales at Case III

	Mean	Std. Deviation
Educational System Level	30.8125	7.03533
Organizational Level	140.5385	22.11566
Quality of Lifelong Learning	52.7059	6.31234
Lifelong Learning Attitude and Behavior	35.3000	4.44972

1. The educational system level at Case III
The mean score of item Qes2 is low and standard deviation is relatively low. With the interview, respondents said that the government did not give strong support to private education, although persons now have good understanding of private education opportunities. Especially for the private higher education, students graduating from Min Ban universities have difficulties to find a job, because diplomas of private higher education have relatively low value compared to public higher education. That is because support from the government to private education is scarce.

2. The organizational level at Case III
The mean score of item Qo3 is the lowest in this scale, 3.04, with high standard deviation, 1.201. Some respondents said that the management level could take into account the long-term goal and strategies as they plan and do their work. But employees seldom do this, because they pay more attention to their own salary and tasks.

The item Qo6 gets the highest mean score 4.04 with relatively low standard deviation 0.838. It confirmed that leaders have a clear vision on the organizational development. For the item Qo10, the mean score is lowest in this group, 3.18 with high standard deviation. Some respondents said that the management levels enjoy more learning opportunities than employees, and learning opportunities in this organization are ranked by status.

The mean score of item Qo11 is 3.29 and the standard deviation is high, 1.213. Interviewees said that employees' freedom depends on the leaders. If leaders emphasize on the result of work, they will give more space and encourage their employees to make decisions and to be responsible for that decision. If leaders emphasize on the process of work, they will not.

In this group, the mean score of item Qo15 is low, 3.36 with high standard deviation. Interviewees said that some departments have a culture of discussing mistakes openly and some departments do not.

Item Qo20 gets the lowest mean score, 2.96. Respondents said that they have some fear for their leader who is dominating and seldom hears suggestions from his employees. So employees have to think some time before they communication with their leaders.

The mean score of item Qo23 and Qo24 is lowest, 3.25 with high standard deviation in this group. Interviewees said that their organization does not have a sharing culture. If someone identifies a best practice in one part of the organization, he did not share it with others. Especially the communication between the same levels is limited. For item Qo24, employees say that they are afraid of making mistakes in their jobs because their leaders will criticize them.

The mean score of item Qo31 is lowest, 2.82. Respondents said that they did not have a clear measurement system to measure their performance at work, and even there is no measurement system existing in their organization. Normally, in their organization, employees' promotion depends on the preferences of their bosses who hold the authority. Leaders judge who is excellent, and that is it.

The mean score of item Qo37 is 3.57 with high standard deviation, 1.230. Some respondents said that their organization attaches more importance to production than to training, because production can bring the direct profit for the organization. But training needs an investment. Besides the profit brought by training is expected in the long term and is intangible. Their organization does not invest into training.

3. Quality of Lifelong Learning at Case III
Item Qllq4 gets the lowest mean score 3.04. Respondents confirmed that their learning is not a very participative way of learning. They learn independently. Employees are not satisfied with those learning opportunities that should be provided by their organization and from outside, but actually did not happen.

4. The Lifelong Learning attitude and behavior at Case III
In this group, the mean score of Qlb4, Qlb5, Qlb6 and Ql9 is relatively high with low standard deviation. Respondents set individual learning goals, devise learning plans which are changed frequently in the light of new information, and design better learning strategies to promote the achievement of their learning goals on the basis of learning evaluation. Respondents confirmed that they do not need a learning tutor, because they know what and how to study. Even though learning tutors provide suggestions for them, they only see this service as a reference.

6.6 Conditions for Lifelong Learning of Case IV

Table 6.4 Descriptive Statistics of Educational System Level, Organizational Level, Quality of Lifelong Learning and Lifelong Learning Attitude and Behavior scales at Case IV

	Mean	Std. Deviation
Educational System Level	27.1000	3.91891
Organizational Level	126.2353	12.96403
Quality of Lifelong Learning	51.0000	5.39005
Lifelong Learning Attitude and Behavior	37.2857	5.20714

1. The educational system level at Case IV
Item Oes2 got the low mean score 2.33. Respondents said that they suspect the quality of private education. It does not have good teachers, learning environment, good students, etc. Private education is only seen as a supplementary element for education, not the dominant component.

The mean score of item Qea4 and Qes6 is low, 2.33 and 2.40. Interviewees confirm that support on the education for the aged people in the country is scarce. And the support from the government for all kinds of education should be strengthened. They also provided some good suggestions on the education for the aged people. First, give more publicity to the education for the aged, and attracting more old people to participate in it. Second, the education for the aged people should emphasize on pleasure, amusement, multiplicity, and individual needs.

2. The organizational level at Case IV
The mean score of item Qo2, Qo3 and Qo4 is low in this group, 2.53, 2.36 and 2.47. For item Qo2, employees only have a low understanding of their organization's structure, but deep to the function, process and system of each department and the interrelation between these. However, they did not have a clear overall view. For item Qo3, people seldom take into account their organization's long-term goals and strategies as they plan and do their work, especially at the employee level. But the management level may do this better than their employees. For item Qo4, respondents confirm that the management level in their organization's meeting often emphasizes the collaboration between departments, and that employees' responsibility is not only for their own department but also for other departments and external systems. However, this appears not to be effective.

The mean score of item Qo9 is low, 2.80 with high standard deviation. Respondents said that their leaders would provide learning opportunities for them within the existing resources in their organization. But their leaders will not create the learning opportunities for them.

The item Qo10 got the same mean score and standard deviation as item Qo9. Interviewees said that for people who are within the same level, the learning opportunity is equal. But for the same learning opportunity, the management level is superior to their employees.

The item Qo11 got the lowest mean score, 2.53. Whether employees are encouraged to make decisions and to be responsible for that decision, is dependend on their leaders' character. If leaders are open, they will give more space to their employees. Interviewees said that in their organization the open leaders are scarce.

Item Qo15, team members openly discuss mistakes in order to learn from each other, got the lowest mean score 3.13. Respondents confirm that they seldom openly discuss mistakes. Even if they do, it might not deliberately be done.

The mean score of item Qo20 is low, 2.67. Employees usually would think of their own ways how to express their questions to their leaders. Respondents confirm that in their organization the phenomenon of rank fear exists.

The mean score of item Qo23 is 3.53. Most of the employees are open and would like to share their best practice with others, especially the young. The item Qo24 got the mean score 3.80.

Respondents confirm that mistakes and problems made by employees in their work are not punished but seen as an opportunity to learn, and that their organization has a good tolerance for mistakes. The lowest mean score is of item Qo27: 2.60. Their organization seldom provides training for improving their learning methods. Employees should explore this themselves.

The mean score of item Qo31 is highest 3.93, ranging from 2 to 5 with the lowest standard deviation. Respondents confirm that the measurement system used to measure their performance at work is clear, and they have a good understanding on how this measurement system operates.

The item Qo36 got the highest mean score, 4.13 with the lowest standard deviation. It confirmed that employees could use the Internet freely. The item Qo38 got the lowest mean score, 2.33. Respondents said that their training activities are not directly related to their actual work. Mostly, their training is indirect and widens their thinking, but cannot be applied to their job immediately.

3. Quality of Lifelong Learning at Case IV
Item Qllq3 got the lowest mean score in this group, 3.27 with a high standard deviation. Respondents said that they do not have a specific and clear goal for Lifelong Learning, because the environment is changing continuously.

4. The Lifelong Learning attitude and behavior at Case IV
The mean score of item Qla1 and Qla2 is high, 4.33 and 4.03. Respondents confirm that they realize the significance of learning and have a positive attitude to learning. But they suspect the quality of a learning tutor, who they do not need. Even if the learning tutor is very professional and excellent, they only see the advice from the learning tutor as suggestions. They have their own ideas on their individual learning.

6.7 Conditions for Lifelong Learning of Case V

Table 6.5 Descriptive Statistics of Educational System Level, Organizational Level, Quality of Lifelong Learning and Lifelong Learning Attitude and Behavior scales at Case V

	Mean	Std. Deviation
Educational System Level	29.7000	4.58946
Organizational Level	140.9444	18.34144
Quality of Lifelong Learning	50.3529	4.15243
Lifelong Learning Attitude and Behavior	35.9000	5.71148

1. The educational system level at Case V
The mean score of item Qes2 is low 2.63. The quality of private education is regarded as low. People have low trust in private education. They seldom choose private education for their own learning activities. The mean score of item Qes6 is low 2.55. Interviewees said that supports from the government to education should be strengthened.

2. The organizational level at Case V
The mean score of item Qo2 is lowest, 2.85. The score ranges from 1 to 4. It indicated that employees do not have a broad understanding of their organization's structure, processes and systems, and how they interrelate.

Item Qo6 shows a high standard deviation, 1.040. Interviewees said that some leaders did not have a very clear vision on the organizational development. If we look at the descriptive statistics for the items of this scale, for the item Qo10 that states "the leaders guarantee that employees have equal learning opportunities" that the mean score is found to be relatively high, 4.05. Interviewees indicated that in their organization learning opportunities are distributed to employees equally.

In which item Qo15 states "Team members openly discuss mistakes in order to learn from each other", the mean score is found to be relatively low, 3.20 with a quite high standard deviation, 0.951.

Interviewees said that in their organization they did not have such kind of culture to discuss mistakes openly. Even though they discussed mistakes, they did not have the intention to share the lessons and experiences. Some even said that they have the inclination to hide their mistakes.

The standard deviation of item Qo19 is high, 1.137. Interviewees said that sometimes they hesitate to give honest feedback to each other. Item Qo20 gets high standard deviation, 1.020. Some respondents indicated that when they communicated with their leaders, they usually think of ways of how to express their ideas, because they want to leave a good impression on their leaders. On the other hand, much depends on the perceived characters of their leaders. If leaders are serious and difficult to communicate with, employees will feel greater hesitation to ask questions.

The mean score of item Qo22 is high 4.00, with a high standard deviation. Interviewees said that leaders who have experience of studying or working abroad encourage their employees to pursue personal development as part of their jobs more than those who do not have such experience.

Item Qo27 shows the highest standard deviation, 1.219. Interviewees said that their organizations emphasize more investments that can bring direct profit. Training for improving the learning methods is an investment for long-term profit and that is still not put on the agendas of their organizations.

Item Qo31, "People know the measurement system that is used to measure their performance at work" has a relatively high mean score, 3.90. The mean score ranges from 2 to 5. It indicated that this organization has a clear reward system to evaluate their employees' performance at work. The interviews confirm this. For item Qo32, the range of the score is not so large from 3 to 5. It reaches the highest mean score and the smallest standard deviation as well. For this we can expect that the situation, "teams are rewarded for their achievements as a team" is experienced by a large number of employees. The respondents are quite homogenous in their opinion about this item.

Item Qo38 shows a relatively high mean score, 3.70. Interviewees said that the training their organization organizes is effective and closely related to their job. Their training courses are supported by a computer information system. Their learning environment and equipment is good.

3. Quality of Lifelong Learning at Case V
The mean score of item Qllq3, "My learning is intended and planned learning that goes on more or less continuously over the lifespan and it has a definite and specific goal" is lowest, 3.15 with high standard deviation. Respondents confirmed that within the short-term period, the learning goal is clear, but from a long-term viewpoint, the goal is not very clear, because of the changing environment.

4. The Lifelong Learning attitude and behavior at Case V
The highest mean score in this group is Qla1 and Qla2, 4.23 and 4.10. Respondents are aware of the significance of learning and have a positive attitude towards learning. Except these two items, the mean score of item Qlb5 is also high 4.00. Respondents said that with the learning plan, their learning activities will be more systematic, sustainable and focused. The learning plan will help to evaluate their individual learning constantly. Interviewees said that they suspect competences and abilities of such kind of learning tutors. Interviewees also said that the individual learning plan is helpful to their learning activities.

6.8 Conditions for Lifelong Learning of Case VI

Table 6.6 Descriptive Statistics of Educational System Level, Organizational Level, Quality of Lifelong Learning and Lifelong Learning Attitude and Behavior scales at Case VI

	Mean	Std. Deviation
Educational System Level	32.0000	4.96991
Organizational Level	141.0000	21.80596
Quality of Lifelong Learning	52.0000	5.39981
Lifelong Learning Attitude and Behavior	36.5238	5.66232

1. The educational system level at Case VI
The mean score of item Qes2 is relatively low, 3.00. Employees suspect the teaching quality of private education and usually regard private education as second-rate education. Item Qes6, shows the lowest mean score, 2.50. Respondents said that government should strengthen its support to education, especially to education in the rural area.

2. The organizational level at Case VI
Item Qo1 and item Qo5 show the same mean score, 3.38 with the same standard deviation, and the scores range from 2 to 5. Basically, in their organization, employees share the business goal with management level. The management level aligned their individual's performance goals with the organization's strategic goals better than employees. Employees focus more on their own gains and losses.

Item Qo10 get the highest mean score, 4.23 with the lowest standard deviation, and the score ranges from 3 to 5. It confirmed that the learning opportunities in their organization are equally distributed, because the learning opportunities are assigned according to the requirements of positions. Item Qo9 and Item Qo11 get relatively high mean scores, 3.95 and 4.00. Respondents said that leaders create learning opportunities for them, for example by providing training according to employees' individual needs and situation. Employees said that their organization is just like a big university, providing a good learning environment and any learning materials they want. Employees have the freedom to make decisions by themselves and be responsible for their own decisions.

The mean score of item Qo15 is low, 3.13. Respondents said that they seldom openly discuss mistakes in order to learn from each other, because their organization has not such kind of culture. Item Qo16 get the highest mean score, 4.20. The respondents confirm that the communication among team members is efficient.

Item Qo17 "Employees are not afraid to share their opinions and speak openly about what is in their minds" shows the highest mean score and the smallest standard deviation. It conveys that this organization tries to foster an open communication among the employees and the management as well. Usually there are meetings in this company, where employees sit together and talk, whether to evaluate the job, share the latest information about the company, etc. At these occasions, there is also an opportunity for the members, who attend the meeting, to speak up their mind. For Item Qo20, employees still have some hesitation and fear before they ask questions to their leaders, especially when they want to express adverse opinions.

The mean score of item Qo23 is high, 4.08. It confirmed that employees share their best practices between each other. For item Qo24, their organization has a good tolerance on their employees' mistakes. Mistakes and problems made by employees in their work are not punished but regarded as an opportunity to learn. The scores of item Qo22 and Qo25 range from 3 to 5. They confirm that managers encourage employees to pursue personal development as part of their jobs and provide opportunities for employees to apply what they have learned into practice.

The mean score of item Qo31 is 3.90. Respondents said that their organization has a clear measurement system to measure their performance at work, and employees understand it very well. Teams and employees are both rewarded for their achievements.

The mean scores of item Qo35 and 36 are high. Interviewees confirmed that in their organization learning activities are supported by a suitable computer information system, and employees can use the Internet freely. For Item Qo38, respondents said that they could combine the training provided by their organization with their actual work that makes their learning process meaningful and complete.

3. Quality of Lifelong Learning at Case VI
Item Qllq3 shows a relatively low mean score, 3.63. Respondents said that they do realize the need for learning throughout their lifetime in order to strengthen their employability, but that they do not have a clear plan and specific goal for it. Item Qllq13 got the lowest mean score, 3.50. Respondents confirmed that examinations would bring frustration, if they failed. For them this is not a failure-free experience. Interviewees confirmed that they could get all the learning opportunities they need from their organization and from outside.

4. The Lifelong Learning attitude and behavior at Case VI
The scores of items Qla1 and Qla2 range from 3 to 5 with a relatively high mean score. The respondents said that at the beginning of every year, they write their personal development plan, which supports a positive attitude to learning. Respondents confirmed that communication with a professional learning tutor would be helpful for their learning activities.

6.9 Conclusions

On the basis of the additional interviews in the six cases, this section provides the overall findings in six companies and offers a conclusion. This section is the sum-up of 3 types of companies: the foreign-invested, the state-owned and the provate-owned. The following research question will be answered: What are the conditions for Lifelong Learning in the six organizations under investigation?

1. Conclusions on the educational system level
In the foreign-invested cases, employees suspect the quality of private education and usually regard private education as second-rate education. People show low trust in private education. They seldom choose private education for their own learning activities. Respondents said that government should strengthen its support to education, especially to the provision of education in the rural areas.

In the state-owned cases, respondents regard the curriculum for cultivating Lifelong Learning skills and enthusiasm as helpful. Respondents know the private education and someone has experienced it. But they said that the fees of private education are high which are not available for the poor. In the interview, respondents said that the government did not give strong support to private education, although persons now have a better understanding of private education. Especially for the private higher education, students graduating from Min Ban universities have difficulties to find a job, because the diplomas of private higher education have relatively low esteem in comparison to public higher education. That is because the support from the government to private education is scarce. The government should make more effort to provide support for education.

In the private-owned cases, respondents regard the curriculum for cultivating Lifelong Learning skill and enthusiasm during initial education as helpful. In the interviews employees acknowledge that they know little about private education and few of them have experiences with private education. They suspect the quality of private education. It does not have not good teachers, learning environment, good students, etc. Private education is only a supplementary element for education, not the dominant component. Though employees regard that a university for the aged is helpful for old people's learning activities, in the developing areas elder people do not have chances to enter such kind of university. Interviewees confirm that support for education for the aged people in the country is scarce. And the support from the government for all kinds of education should be strengthened.

2. Conclusions on the organizational level
(1) System thinking & shared vision
It is clearly stated, collectively understood, but hardly implemented. Whatever foreign-invested, private-owned or state-owned enterprises, they experience the similar difficulty.

In the foreign-invested cases, the management level aligned their individual performance goals with the organization's strategic goals better than employees, and employees focus more on their own gains and losses. Employees do not have a broad understanding of their organization's structure, process and systems, and how they interrelate.

In the state-owned cases, employees put more emphasis on how to finish their own job perfectly. So they do not have a clear idea about the structure of the organization. The management level takes into account the long-term goals and strategies as they plan and do their work. But employees seldom do this, because they pay more attention to their own salary and tasks.

In the private-owned cases, employees only have a low understanding of their organization's structure, but do see the function, processes and systems of each department and the interrelations between these; they did not recognize the system thinking. Respondents confirm that the management level in their organization often

emphasizes the collaboration between departments, and that employees' responsibility is not only for their own department but also for other departments and external systems. But this is not always effective. People seldom take into account their organization's long-term goals and strategies when they plan and do their work. This applies especially to the employee level, which only focuses on its own current tasks. But apparently the management level does better on this than their employees.

(2) Leadership
In the foreign-invested cases, respondents said that leaders create learning opportunities for them, and providing training courses according to the employees' individual needs and situation. Employees said that their organization is just like a big university, offering a good learning environment and providing all the learning materials they need. Employees have the freedom to make decisions by themselves and are responsible for their own decisions. The learning opportunities are equally distributed, because the learning opportunities are assigned according to the requirements of positions.

In one of the state-owned cases, interviewees said that learning opportunities are given first and foremost to excellent employees who achieve high competence, and sometimes to those people who have good relationships with their leaders. Respondents in another case said that the management levels have more learning opportunities than their employees, and that learning opportunities in this organization are ranked by status. Leaders give certain freedom to their employees on the basis of individual abilities and the importance of their tasks. Employees' freedom also depends on their leaders. If leaders emphasize on the result of the work, they will give more space and encourage their employees to make decisions and to be responsible for those decisions. If leaders emphasize on the process of work, they will not.

In the private-owned cases, respondents said that their leaders would provide learning opportunities for them within the existing resources of their organization. But their leaders will not create new learning opportunities for them. Respondents said that in most cases learning opportunities are preferential for excellent employees who show high competence. Whether employees are encouraged to make decisions and to be responsible for their decisions, is often dependent on their leaders' character. If leaders are open, they will give more space to their employees. Interviewees said that in their organization open leaders are rare.

(3) Team learning
In the foreign-invested cases, respondents said that they seldom openly discuss mistakes in order to learn from each other, because their organization has not such kind of a culture. Even though they sometimes mentioned mistakes casually, they did not have the intention to share the lessons and experiences. Some even said that they are inclined to hide their mistakes. Respondents confirm that the communication among team members is efficient.

In the state-owned cases, respondents confirm that team members help each other for learning, and the tools for communication are widely used in an appropriate way. The respondents confirm the promising situation that team learning is efficient. Team members still experience some difficulties in discussing mistakes openly. Some departments have a culture of discussing mistakes openly while others do not.

In the private-owned cases, respondents said that there is usually a learning-result sharing meeting. But some persons would not like to share their own mistakes with others because of the personal character, time limitation and other reasons.

(4) Communication
The foreign-invested organizations have an open communication among the employees and the management as well. Employees freely share their opinions and speak up their minds. But some respondents indicated that when they communicated with their leaders, they usually think of ways of how to express their ideas, because they want to leave a good impression on their leaders. On the other hand, it is still depends on the perceived characters of the leaders. If leaders are serious and difficult to communicate with, employees will feel a greater hesitation to ask questions.

In the state-owned cases, though employees can listen to others' opinions and share their own opinions with others, they sometimes need to do efforts to be more polite and state different opinions in an indirect way. Respondents said that they have some fear for their leaders who are dominating and seldom listen to

suggestions from their employees. So employees have to think it over for some time before they communicate with their leaders.

In the private-owned cases, employees usually would carefully think of their ways of how to express their questions to their leaders. There is still some fear for "rank" in their mind. In fact, there are many silent complains among the employees that their promotion depends on the preferences of their bosses who hold the authority and responsibility to promote them.

(5) Learning culture
In the foreign-invested cases, employees share their best practice between each other. Mistakes and problems made by employees in their work are not punished but seen as opportunities to learn. Their organization has a good tolerance for their employees' mistakes. Managers encourage employees to pursue personal development as part of their jobs and provide opportunities for employees to apply what they learn into practice.

In the state-owned cases, respondents said that their organization does not have a sharing culture. If someone identifies a best practice in one part of the organization, he did not share this with others. Especially the communication between the same levels is poor. Employees are afraid of making mistakes in their jobs because their leaders will criticize them. Leaders encourage employees' development and creativity as part of their job, because they realize that their employees' creativity and development can bring profit for their organization. Although learning is desired and supported, it is not of prime interest. Getting the job done and reaching the business goals are the main objectives, while learning is just a by-product of the business activities.

In one private-owned case, most employees are open and would like to share their best practices with others, especially the young. Respondents confirm that mistakes and problems made by employees in their work are not punished but regarded as an opportunity to learn, and that their organization has a good tolerance for mistakes. But in another case, respondents confirm that in their organization employees are held responsible for the results of their mistakes. Employees would be punished if they made mistakes. Employees are encouraged to apply what they learn into practice as it brings profits for the organization. Some respondents even said that some middle level leaders are afraid of their employees' development as it might threaten their position.

(6) Reward system
In the foreign-invested cases, respondents said that their organization has a clear measurement system to measure their performance at work, and employees understand it very well. Teams and employees are both rewarded for their achievements.

On the other hand, in the state-owned cases, respondents confirmed that there is not a clear measurement system in their organization to measure their performance at work. And even there is not a measurement system existing in their organization. Normally in their organization, employees' promotion depends on the preferences of their bosses who hold the authority. Leaders judge who is excellent, and that is it.

In one of the private-owned cases, respondents confirm that the measurement system that is used to measure their performance at work is clear, and they have a good understanding of how this measurement system operates. Respondents in another case said that in their company they have not a clear reward system to measure their performance at work.

(7) Information system
In the foreign-invested companies, the interviews confirmed that in their organization learning activities are supported by a useful computer information system, and employees can use the Internet freely. The training provided by their organization can be combined with their actual work, which makes their learning process meaningful and complete. Interviewees said that the training their organization organizes is effective and closely related to their job. Their learning environment and equipment is good.

In the state-owned cases, respondents said that their organization attaches more importance to production than to training, because production can bring direct profits for the organization. Training needs a long-term investment and the profit brought by training is intangible. Their organization does little investments in training.

In the private-owned cases, employees confirmed that they could use the Internet freely. Respondents said that their training courses are not directly related to their actual work. Mostly, their training is indirect and widens their thinking, but cannot be applied to their job immediately. Learning activities are not supported by a suitable computer information system.

3. Conclusions on the quality of Lifelong Learning
In the foreign-invested cases, most of the time, employees do realize that they need learning throughout their life time to strengthen their employability, but they have not a clear plan and specific goal for it. Respondents confirmed that within a short-term period, their learning goal is clear, but from a long-term perspective the goal is not very clear because of the changing environment. Examinations would bring frustration, if they failed. Employees do not have a failure-free experience. Respondents said that they could get all the learning opportunities they need from their organization and the outside.

In the state-owned cases, respondents said that they recognized the significance of Lifelong Learning, and realize that they learn from their experience of every day's work and life. But they do not have a specific goal and clear plan for it. Most of the time they learn by themselves and do not participate in learning teams and communities. In their learning experiences, teachers and trainers mainly serve as transmitters of knowledge rather than facilitators. Examinations are standard to prove failure or success in their learning results. Respondents said that in most cases, they couldn't get the learning opportunities they wanted.

In the private-owned cases, respondents said that they have not a specific and clear goal for Lifelong Learning, because of the continuously changing environment. Some employees said that although their learning does not has a specific goal, they are learning. Employees hope that the learning opportunities provided by the society and their organizations become more accessible.

4. Conclusions on the Lifelong Learning attitude and behavior
In the foreign-invested cases, the respondents said that at the beginning of every year, they write their personal development plan, which supports a positive attitude to learning. Respondents in one case confirmed that communication with a professional learning tutor would be helpful for their learning activities. Interviewees in another case said that they doubt the competences and abilities of such learning tutors. Interviewees also said that the individual learning plan is helpful to their learning activities. With a learning plan, their learning activities will be more systematic, sustainable and focused. The learning plan will be helpful in evaluating their individual learning constantly.

In the state-owned cases, the interviews indicated that employees do not agree that a learning mentor is helpful for learning activities. They have their own idea of what they need to learn. Even if the learning mentors give their suggestions, they only see these suggestions as references. They will mainly act according to their own ideas, as they think that they understand themselves and know what they should study. Respondents confirm that learning is a planned process and that a learning plan is useful. It helps them to find their learning scope and make them more focused. Respondents acknowledge it is necessary to change the study plan on the basis of new circumstances.

In the private-owned cases, respondents said that they did not experience a learning tutor before, so they doubt the role of a learning tutor and their competence. They do not need a learning tutor. Even if the learning tutor is very professional and competent, they will only see the opinions of the learning tutor as a reference. They have their own ideas on their individual learning needs.

In this chapter, the conditions for Lifelong Learning of the six participating organizations have been presented. On the basis of the interview analyses of the conditions for Lifelong Learning in the six participating organizations, in Chapter 8 the author provides reflections and recommendations for the development of Lifelong Learning in the Chinese Organizations in the future. The main research question that will be answered in Chapter 8 is: on the basis of the interview analysis of the conditions for Lifelong Learning of six participating organizations, what are the author's recommendations and reflection for the future of Lifelong Learning in Chinese organizations?

Chapter 7
Combination of multi-level analysis and multiple regression analysis

7.1 Introduction

In this chapter, the following research question will be addressed: What factors, as specified in the conceptual framework (Chapter 3), influence the Lifelong Learning attitude and behavior?

To answer this research question, in Section 7.2 the author firstly checked whether or not observations are clustered by performing a multi-level analysis. The multi-level analysis shows clearly that all variation in the dependent variables is at the individual level and none at the organizational level. In other words, observations within organizations are not correlated at all. On the basis of this analysis, the conclusion is permitted that the observations were not affected by organizational membership and truly independent. Therefore the author decided to use a regular regression analysis.

In Section 7.3, the multiple regression analysis is used. We try to find an answer to the research question: What factors, as specified in the conceptual framework, influence the Lifelong Learning attitude and behavior? Section 7.3 discusses the effects of education support, organizational level, personal characteristics and descriptive variables on Lifelong Learning attitude and behavior.

7.2 Multi-level analysis

The mixed model analysis is used aiming at determining the relevance of the many independent variables. The whole conceptual model is about fixed effects. There are two levels: individual and organizational. However, we should treat each variable at the individual level. This means that the organizational level remains 'empty' (no variables). Although we do not enter organizational variables in the model, in this way we do control for the fact participants are belonging to the same organization.

Table 7.1 Summary of model specification in Lifelong Learning attitude

		Number of Levels	Covariance Structure	Number of Parameters	Subject Variables
Fixed Effects	Intercept	1		1	
	Gender	1		1	
	Age	1		1	
	Education	1		1	
	Employment	1		1	
	Position	1		1	
	System thinking & shared vision	1		1	
	Leadership	1		1	
	Team learning	1		1	
	Communication	1		1	
	Learning culture	1		1	
	Reward system	1		1	
	Information system	1		1	
	Education support	1		1	
	Quality of Lifelong Learning	1		1	
Random Effects	Intercept (a)	1	Variance Components	1	Organization Number
Residual				1	
Total		16		17	

a Dependent Variable: Lifelong Learning attitude.

Table 7.1 is the summary of the model specified, as Lifelong Learning attitude is the dependent variable. In this table, intercept (a) is the single random effect and intercept, gender, age, education, employment, position, system thinking & shared vision, leadership, team learning, communication, learning culture, reward system, information system, education support and quality of Lifelong Learning are fixed effects. Intercept (a) has one level, since it is a single parameter and the same with all fixed effects. The covariance structure for the random effect is designated as variance components. Seventeen parameters are estimated: the intercept (a), the organizational level, education support, personal characteristics, quality of Lifelong Learning and the residual variance.

Table 7.2 gives the test result in various variables of fixed effects and it shows they have statistical meaning, as the Lifelong Learning attitude is the dependent variable.

Table 7.2 Tests of Fixed Effects in Lifelong Learning attitude

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	513	1.686	.195
Gender	1	513	1.532	.216
Age	1	513	.852	.356
Education	1	513	.957	.328
Employment	1	513	.208	.649
Position	1	513	4.022	.045
System thinking & shared vision	1	513	18.913	.000
Leadership	1	513	26.480	.000
Team learning	1	513	14.094	.000
Communication	1	513	33.872	.000
Learning culture	1	513	.060	.806
Reward system	1	513	41.964	.000
Information system	1	513	42.318	.000
Education support	1	513	7.783	.005
Quality of Lifelong Learning	1	513	15.320	.000

Estimates for fixed effects are shown in Table 7.3, for example, the estimated intercept, 0.97. It presents that within organizations observations are not correlated and therefore independent.

Table 7.3 Estimates of Fixed Effects in Lifelong Learning attitude

Parameter	Estimate	Std. Error	df	t	Sig.
Intercept	.9734689	.7497366	513	1.298	.195
Gender	.1153455	.0931876	513	1.238	.216
Age	.0237848	.0257617	513	.923	.356
Education	-.1038888	.1062121	513	-.978	.328
Employment	-.0106433	.0233504	513	-.456	.649
Position	-.2444753	.1219012	513	-2.006	.045
System thinking & shared vision	-.0854483	.0196484	513	-4.349	.000
Leadership	.0958879	.0186338	513	5.146	.000
Team learning	.0826592	.0220175	513	3.754	.000
Communication	-.1326412	.0227906	513	-5.820	.000
Learning culture	-.0032939	.0133993	513	-.246	.806
Reward system	.1174041	.0181237	513	6.478	.000
Information system	.1173362	.0180373	513	6.505	.000
Education support	.0537614	.0192706	513	2.790	.005
Quality of Lifelong Learning	.0388269	.0099198	513	3.914	.000

Table 7.4 is the summary of the model specified, as Lifelong Learning behavior is the dependent variable. In this table, intercept (a) is the single random effect and intercept, gender, age, education, employment, position, system thinking & shared vision, leadership, team learning, communication, learning culture, reward system, information system, education support and quality of Lifelong Learning are fixed effects. Intercept (a) has one level, since it is a single parameter and the same with all fixed effects. The covariance structure for the random effect is designated as variance components. Seventeen parameters are estimated: the intercept (a), the organizational level, education support, personal characteristics, quality of Lifelong Learning and the residual variance.

Table 7.4 Summary of model specification in Lifelong Learning behavior

		Number of Levels	Covariance Structure	Number of Parameters	Subject Variables
Fixed Effects	Intercept	1		1	
	Gender	1		1	
	Age	1		1	
	Education	1		1	
	Employment	1		1	
	Position	1		1	
	System thinking & shared vision	1		1	
	Leadership	1		1	
	Team learning	1		1	
	Communication	1		1	
	Learning culture	1		1	
	Reward system	1		1	
	Information system	1		1	
	Education support	1		1	
	Quality of Lifelong Learning	1		1	
Random Effects	Intercept (a)	1	Variance Components	1	Organization Number
Residual				1	
Total		16		17	

a Dependent Variable: Lifelong Learning behavior.

Table 7.5 gives the test result in various variables of fixed effects and it shows they have statistical meaning, as the Lifelong Learning behavior is the dependent variable.

Table 7.5 Tests of Fixed Effects in Lifelong Learning behavior

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	513.000	131.506	.000
Gender	1	513	.007	.933
Age	1	513	.047	.829
Education	1	513	.196	.658
Employment	1	513	1.039	.309
Position	1	513	1.231	.268
System thinking & shared vision	1	513	1.144	.285
Leadership	1	513	4.528	.034
Team learning	1	513	.205	.651
Communication	1	513	.341	.560
Learning culture	1	513	.058	.809
Reward system	1	513	1.407	.236
Information system	1	513	.356	.551
Education support	1	513	.172	.679
Quality of Lifelong Learning	1	513	.817	.366

Estimates for fixed effects are shown in Table 7.6, for example, the estimated intercept, 39.87. It presents that within organizations observations are not correlated and therefore independent.

Table 7.6 Estimates of Fixed Effects in Lifelong Learning behavior

Parameter	Estimate	Std. Error	df	t	Sig.
Intercept	39.8735122	3.4770582	513.000	11.468	.000
Gender	-.0364803	.4321767	513	-.084	.933
Age	.0257985	.1194754	513	.216	.829
Education	.2181197	.4925804	513	.443	.658
Employment	-.1103759	.1082922	513	-1.019	.309
Position	.6271631	.5653420	513	1.109	.268
System thinking & shared vision	-.0974685	.0911233	513	-1.070	.285
Leadership	.1838911	.0864181	513	2.128	.034
Team learning	-.0462148	.1021105	513	-.453	.651
Communication	.0616866	.1056962	513	.584	.560
Learning culture	.0150195	.0621421	513	.242	.809
Reward system	-.0996919	.0840524	513	-1.186	.236
Information system	-.0498899	.0836516	513	-.596	.551
Education support	.0370129	.0893712	513	.414	.679
Quality of Lifelong Learning	-.0415920	.0460053	513	-.904	.366

The multi-level analysis in this section implies that within organizations the answers are not correlated and therefore independent. Therefore, in the following section the multiple regression analysis will be used.

7.3 Multiple regression analysis

Multiple regression analysis is used to determine the influence of several independent variables on one dependent variable. Our analysis aimed at selecting variables from the conceptual model that have a significant impact on Lifelong Learning attitude and behavior. We select the following descriptive variables as independent variables: gender (man=1, woman=0), age (in years), level of education (Senior high school=1, Junior college=2, Bachelor=3, Master=4, Doctor=5), employment (number of years' total work experience), position (1=staff,

2=basic level leader, 3=middle level leader, 4=senior level leader). To find out whether educational support, organizational level, quality of Lifelong Learning, and personal characteristics variables influence Lifelong Learning attitude and behavior, we carried out a multiple regression analysis with educational support, organizational level, quality of Lifelong Learning, and personal characteristics as the independent variables, and the construct of Lifelong Learning attitude and behavior as the dependent variables.

Table 7.7 presents the results of the regression analysis with education support, organizational level, quality of Lifelong Learning, and personal characteristics as the independent variables, and Lifelong Learning attitude and behavior as the dependent variables. For each dependent variable, the standardized beta-coefficients of significant predictors are listed in order of importance, followed by the total explained variance (adjusted R-square). The standardized beta-coefficients indicate the relative importance of each independent variable. The adjusted R-square indicates the total percentage of explained variance in the dependent variable by the independent variables. R-square is adjusted for the number of cases and the number of independent variables.

Table 7.7 Regression results with Lifelong Learning attitude and behavior as dependent variables, and education support, organizational level, quality of Lifelong Learning and personal characteristics as independent variables.

Dependent variable	Adjusted R-square	Predictor	Beta
Lifelong Learning attitude	.394	System thinking & shared vision	-.260
		Leadership	.284
		Team learning	.220
		Communication	-.372
		Reward system	.276
		Information system	.262
		Education support	.135
		Position	-.129
		Lifelong Learning quality	.158
Lifelong Learning behavior	.022	Communication	.162
		Reward system	-.159

It appears that we can explain a fairly reasonable part of the variance in the construct Lifelong Learning attitude by the variables in the conceptual model (39%). Communication, leadership and reward system appear to be the important predictor variables. Among the descriptive variables, gender, level of education, age, employment and position, only position had a slightly effect on Lifelong Learning attitude. Further, system thinking & shared vision, communication and position have a negative effect on Lifelong Learning attitude. The explanation for the negative effect of system thinking & shared vision and position on Lifelong Learning attitude might be that staff try their best to learn new knowledge, develop themselves and get promotion, comparing with leaders who have already been in the higher level position and therefore might become a bit easeful. And as mentioned in Chapter 5, system thinking & shared vision is mainly related to the position that staff and middle level and senior level leader are in. That might explain why system thinking & shared vision show a negative effect on Lifelong Learning attitude. We can explain a fairly reasonable part of the variance in the construct Lifelong Learning behavior by the variables in the conceptual model (2%). Communication and reward system appear to be the most important predictor variables.

Figure 7.1 Revised model of factors influencing Lifelong Learning attitude and Lifelong Learning behavior.

The Lifelong Learning behavior seems hardly to be influenced by the descriptive variables, gender, level of education, age, employment and position.
As a result, we can conclude that communication and reward system appear to be the most important predictor variables for both Lifelong Learning attitude and Lifelong Learning behavior. Thus, this chapter is concluded with a revised conceptual model (see Figure 7.1). In this model, Lifelong Learning attitude and behavior are directly influenced by communication and reward system. The revised model is followed by explanations supported by relevant literature and theoretical notions.

According to the literature study in Chapter 2, learning organizations can provide a supportive learning environment to cultivate Lifelong Learning of employees at the organizational level. The establishment of a learning organization is an important development for enabling Lifelong Learning. On the basis of the literature study on learning organizations in Chapter 2, the author identified seven elements of the learning organization contributing to Lifelong Learning attitude and behavior: Systems Thinking & Shared Vision, Leadership, Team Learning, Communication, Learning Culture, Reward System, and Information System. Combined with the multiple regression analysis of this chapter, communication and reward system appear to be the most important predictor variables at the organizational level for both Lifelong Learning attitude and Lifelong Learning behavior.

A special observation is that Lifelong Learning attitude and communication are related negatively, but has a positive relation with reward system. However, when it comes to Lifelong Learning behavior the relationships are exactly opposite: communication positive and reward system negative. Even though people realize the significance of learning and have a positive attitude towards learning, this does not automatically lead to similar behavior. Thinking or attitude to some extent is only the anticipating variable of behavior. Behavior is also influenced by the environment around people. So, even for the same variable communication and reward system, they may operate in opposite direction for Lifelong Learning attitude and behavior. The specific explanations may be as follows.

One of the most important characteristics of a learning organization, which contributes to Lifelong Learning attitude and behavior at the organizational level, is the open communication throughout the organization. Organizations are totally reliant on communication; through communication, people exchange and share information with one another and influence one another's attitudes, behaviors, and understandings; without communication, organizations would not function (CliffsNotes.com, 2007). There shouldn't be fear or worries for the members to speak up their mind, to express their objectives, to discuss questions one with another to improve their performance. This kind of communication line will enable information sharing among the members and crossing the departments. The positive effect of communication on Lifelong Learning behavior can be explained by the fact that when people share their opinions and minds, give feedback to each other, and learn from others to supplement their own shortcomings, that will have a significant positive influence on Lifelong Learning behavior. The explanation for the negative effect of communication on Lifelong Learning attitude might be that when the communication between people is not harmonious and people cannot get good suggestions and information from their colleagues, people will find it easier to think that learning as a good way to gain new information and improve their own positions. This will form a positive influence on people's attitude to learning.

Reward system is another important characteristic that contributes to Lifelong Learning attitude and behavior at the organizational level. You can never get employees to adopt new hehaviors if you continue to measure and reward them on the basis of the old behaviors (Tobin, 1998). For further improvement, employees need appreciation and recognition for the work they are currently performing, especially when employees contributed something good and extraordinary to their workplace. Appreciation and positive recognition from their surroundings will motivate them to perform better and better. The positive effect of the reward system on Lifelong Learning attitude can be explained by the fact that if the reward for persons, teams and leaders is logical and attractive enough this will form the most invigorative factor to Lifelong Learning attitude. However, the reward system has a negative effect on Lifelong Learning behavior. The explanation for this might be that when the reward is not attractive enough and people are not satisfied with it, people will feel frustrated and still enjoy their current easy life, without investing in further learning.

Six organizations participated in this research. Further elaboration is possible on the differences between these

six organizations, two private-owned, two state-owned and two foreign-invested as the representative of the current three main kinds of companies in China.

- In State-owned enterprises (SOEs) all property of the enterprise belongs to the state. SOEs are subject to the State Owned Asset Supervision Administration Commission of the State Council and supervised by local State Owned Asset Supervision Administration Commissions. SOE institutions are State Backed by the national economy, which takes ascendancy in national significant industries and key areas. As this time, China is integrating SOEs into the market economy, through science and technology innovation, strategic framework adjustments, and contemporary enterprises system construction to lead national economy development.

- Private-owned enterprises are owned and operated by private individuals or companies for profit, instead of by or for any government or its agencies. The management and financing of this industry is done by private individuals or companies, not by the state. It is privately owned business and their business activities are not regulated by state ownership or control.

- Foreign-invested enterprises (FIEs), as defined in the "Regulation on the Administration of Foreign Enterprising Investment Enterprises", refer to the foreign invested enterprises registered in China by foreign investors and companies, enterprises or other economic organizations registered and established according to Chinese law. Their major business is to invest in high-tech enterprises that have not been listed and provide enterprising administration. They make their profits with the increment of their capital. FIEs play an extraordinary and growing role in global business and provide a strong impetus to economic development.

As stated in Chapter 4, 648 samples were collected from those six organizations. The multiple regression analysis in those 648 samples showed that the communication and reward system have a significant effect on Lifelong Learning attitude and behavior at the organizational level. However, Lifelong Learning attitude and behavior have a weaker relationship with the variables team learning and learning culture than expected. Here are some plausible explanations:

- In general team learning is a good form for learning. But it still is not put into use effectively, since China has a long tradition of separate, individual learning. Respondents indicated that the contents of team learning couldn't reflect their personal learning needs well. Respondents also said that the instructors and leaders who organize their team learning are not qualified and not always accepted by employees.
- Employees communicate with each other at their own initiative when they meet concrete difficulties in their work. Communication also takes place when employees find some topics they are really interested in. First of all, communication originates from employees' own desire to communicate. So mentally they are more willing to accept it. Secondly, through communication, employees can solve their difficulties in their concrete jobs. The kind of learning that originates from direct communication is very important to learners. They feel that they really learn. Their communication is mostly focused on some concrete occurrences in their jobs. That might turn communication so effective for learning. Another important point might be that people usually communicate with someone whom they regard to offer useful suggestions for their questions. Through direct communication, they can get inspirations and put them into work. Reward system may appear to be an important factor contributing to Lifelong Learning attitude and behaviour as employees are not likely to adopt new behaviors as the department continues to measure and reward them on the basis of old behaviors (Tobin, 1998). For further improvement, employees need appreciation. The positive recognition from their surroundings will motivate them to perform better in a new way.

When we return to the first conceptual framework of Lifelong Learning arrangements in Chapter 3, we see a number of discrepancies. The author constructed a framework of Lifelong Learning attitude and behavior from the educational system level, the organizational level, personal characteristics, and quality of Lifelong Learning (see Figure 3.3). Why do the education support, personal characteristics, and quality of Lifelong Learning not have the expected effects as expected in the first conceptual framework? The explanations are as follows.

Lifelong Learning attitude and behavior seem hardly to be influenced by personal characteristics that include the level of education, gender, employment and age. They seem to be unimportant. Only the position had a slightly negative effect on Lifelong Learning attitude. In fact, as to the attitude and behavior for Lifelong Learning, whoever old or young, female or male, whatever people hold a low level of education or high level,

or how many years of work experience, they can realize the meaning of learning and try to learn in the modern society. There may be differences in their learning needs and contents but not in their attitude and behavior toward learning. Learning will renew each person's knowledge, bring them career success, enhance the quality of their lives, etc. Learning tends to be related with generally good feelings for most, and it makes no difference, whether female or male, old or young, low level or high level of education, the years of work experience. So here, the level of education, gender, employment and age do not appear to have the effects as expected in the first conceptual framework.

Lifelong Learning quality and education support had a slight effect on Lifelong Learning attitude and no effect on Lifelong Learning behavior. Through formal education – in general - people might realize the importance of learning and construct a positive attitude to learning. But formal education focuses more on transmitting knowledge and theory building, instead of developing practical competences. However, learning elements in organizations are often deliberately designed to help employees improve their performance at work directly and to develop professional behavior. The organizational learning elements seem to be more directly related to Lifelong Learning attitude and behavior than general education support. Although the quality of Lifelong Learning is from a theoretical point of view an important variable to influence Lifelong Learning attitude and Lifelong Learning behavior, the multiple regression analysis tested that quality of Lifelong Learning did not contribute to the Lifelong Learning behavior strongly. The quality of Lifelong Learning and education support had some effect on Lifelong Learning attitude but comparing with the elements at the organizational level, this effect is weak.

7.4 Conclusions

This chapter describes the statistical testing of the conceptual model by means of multiple regression analysis. The following research question has been answered: what factors, as specified in the conceptual model influence Lifelong Learning attitude and behavior?

On the basis of the multiple regression analysis of the effects of education support, organizational level, quality of Lifelong Learning, personal characteristics and descriptive variables on Lifelong Learning attitude and behavior, it appears that we can explain a fairly reasonable part of the variance in the construct Lifelong Learning attitude by the variables in the conceptual model (39%). Communication, leadership and reward system appear to be the important predictor variables. Communication has a negative effect on Lifelong Learning attitude and reward system has a positive effect on it. And we can explain a fairly reasonable part of the variance in the construct Lifelong Learning behavior by the variables in the conceptual model (2%). Communication and reward system appear to be the most important predictor variables. However, communication has a positive effect on Lifelong Learning behavior and reward system has a negative effect on it. As a result, communication and reward system appears to be the most important predictor variables for both Lifelong Learning attitude and Lifelong Learning behavior (see Figure 7.1). The explanation why communication and reward system operate in opposite direction for Lifelong Learning attitude and behavior were stated in Section 7.3.

Thus, this chapter is concluded with a revised conceptual model (see Figure 7.1). In this model, Lifelong Learning attitude and behavior are directly influenced by communication and reward system. Section 7.3 offers explanations that support the revised conceptual framework with feedback from the relevant literature study and some theoretical notions and reasons why a number of elements in the first conceptual framework do not have the effects as expected. In Chapter 8, the author will give a conclusion of the separate chapters and offer reflections and recommendations for the future of Lifelong Learning in Chinese organizations.

Chapter 8
Conclusions and Reflection

8.1 Introduction

This last chapter of the thesis first offers a conclusion of the separate chapters in Section 8.2. On the basis of the analysis of the conditions for Lifelong Learning of six participating organizations in Chapter 6, the author offers recommendations for the future of Lifelong Learning in Chinese organizations in Section 8.3. In Section 8.4, the author reflects on the research critically, including some weak and strong points in the research methods and literature study, the scientific probing of the conceptual model on the basis of the empirical findings and the contribution of this project to science and society. The main research question that is answered in this chapter is: On the basis of the empirical findings, the interview analysis of the conditions for Lifelong Learning of six participating organizations and a critical reflection from a theoretical point of view, what are recommendations for the future of Lifelong Learning in Chinese organizations?

8.2 Conclusions

The main objective of this research project is to explore the kind of learning arrangements that contribute to the Lifelong Learning of employees in Chinese organizations. For this purpose, Chapter 1 introduced the Lifelong Learning situation in China. It started with the description of socio-economic context of China and the socio-economic factors that influenced the education and Lifelong Learning of China. Section 1.3 and 1.4 answered the following research question: What is the current situation on Lifelong Learning in China? Section 1.3 reflected on the educational system for Lifelong Learning in China. Section 1.4 discussed the training problems in practice from an organizational level.

In order to construct a new conceptual model for Lifelong Learning arrangements, Chapter 2 described relevant literature on Lifelong Learning. The author introduced the historical background of Lifelong Learning, collected definitions of Lifelong Learning, characteristics of Lifelong Learning, the reasons why Lifelong Learning matters and what prerequisites for Lifelong Learning play a role. Then the relationship between Lifelong Learning, the learning organization and the learning society was discussed. On the basis of the literature study, the author put forward her own opinions about Lifelong Learning as a foundation for constructing a conceptual model that forms the basis for further empirical research. In Chapter 2, the following research questions have been answered in the last section:
1) What is Lifelong Learning and how is it defined by the author?
2) What are characteristics and qualities of Lifelong Learning?

Building on Chapter 2, Chapter 3 provided the conceptual framework of Lifelong Learning arrangements which is constructed from the following aspects: the educational system level, the organizational level, personal characteristics, quality of Lifelong Learning and Lifelong Learning attitude and Lifelong Learning behavior. The educational system level is composed of initial education, private education, higher education, adult education and education for the aged as factors to be included in the conceptual model. The organizational level comprises the main elements of a learning organization such as systems thinking & shared vision, leadership, team learning, communication, learning culture, reward system and information system. Personal characteristics are related with age, gender, position, work experience and education level. The quality of Lifelong Learning is formed by thirteen characteristics of Lifelong Learning. The author developed concepts for Lifelong Learning attitude and Lifelong Learning behavior that include needs assessment, learning plan and learning evaluation as dependent variables.

To test this conceptual framework Chapter 4 described how the conceptual model will lead to a specific research design, the needed data collection instruments and how to translate the conceptual model into an operational questionnaire. This chapter described how the empirical study has been carried out in order to test the reliability of the instrumentation of the conceptual model. The research question the author answered in Chapter 4 is: How can we measure the reliability of the research instrument based on the conceptual framework of Lifelong Learning? The reliability of the instrument improved after the deletion of four items from the various scales.

Chapter 5 organized one-way ANOVA analyses to test wether the respondents with different age, male and female, different year's work experience, different position at the workplace, different education background in different organizations have distinctive discrepancy to the variables of the instrument, in age groups, male and female, position groups, education groups, employment groups, and six organizations.
Chapter 5 gave an answer to the following research question: Do the different age groups, male and female, position groups, education groups, employment groups, and six organizations have distinctive discrepancy in the variables of the instrument?

Chapter 6 outlined the analysis processes and offered an overview of the second empirical part consisting of additional interview results on the basis of the designed questions and the obtained data from Chapter 4. The interviews were developed to reveal the background of certain results of the questionnaires.. From each of the six participating organization three respondents took part in these interviews. The interviews offered extra explanation for the data from the questionnaires. The main research question of Chapter 6 was: What are the conditions for Lifelong Learning in six organizations on the basis of the interview analysis?

Chapter 7 described the statistical testing of the conceptual model. The leading research question here was: What factors, as specified in the conceptual framework, influence Lifelong Learning attitude and behaviour? By performing a multi-level analysis, the author checked whether or not observations are clustered. The multi-level analysis showed that the observations within organizations are not correlated at all. On the basis of this analysis, the observations appeared not to be affected by organizational membership and thus truly independent. Therefore the author decided to use a regular regression analysis to investigate the effects of education support, organizational level, personal characteristics and descriptive variables on Lifelong Learning attitude and behavior. Communication and reward system appear to be the most important predictor variables. Chapter 7 concluded with a revised conceptual model (see Figure 7.1). In this model, Lifelong Learning attitude and behaviour are predominantly directly influenced by communication and the reward system. The probing of the conceptual model on the basis of the empirical findings will be given further in Section 8.4.

8.3 Recommendations

The main research question that will be answered in this Chapter 8 is: What are the recommendations and reflections for the future of Lifelong Learning in Chinese organizations on the basis of the interview analysis of the conditions for Lifelong Learning in six participating organizations?

1. Recommendations for the educational system level
Longworth (2003) mentioned that learning attitudes and skills built up during the early learning process would have a profound effect on total human development. A certain curriculum that finds priority time for young learners to develop Lifelong Learning skills and enthusiasm carried through an individual's life should be provided during the early learning process. In fact, respondents reflect that the curriculum for cultivating lifelong skill and enthusiasm during initial education is helpful, and the support from the government for all kinds of education should be strengthened. This is in line with the contention by Longworth (2001) that government plays an important the role in Lifelong Learning: through its economic and political power, government is the chief enabler of Lifelong Learning programmes, values, and attitudes; government has the ability to define targets, to support worthwhile initiatives, to change systems, to influence developments, and to turn ideas into action.

Respondents confirm that support for the education for the aged people in the country is scarce. In developing areas the old people do not have the chance to enter the university for the aged people. Respondents in all cases suspect the quality of private education. It does not have good teachers, a good learning environment nor good students. They regard private education only as a supplementary element for education and not as a dominant component. That is because support from the government to private education is scarce. More effort to provide support for education from the government should be made. Respondents said that government should strengthen its support to education, especially to the education in the rural area. But now, the author can add some more actual news. Liu (2004) presented that in 1986 China enacted the compulsory education law of the People's Republic of China. On June 29, 2006, China emended the compulsory education law of the People's Republic of China further, which was put in force on September 1, 2006 (Ministry of Education of the People's Republic of China, 2006). This compulsory educatin law stated that in order to guarantee the privilege of receiving the compulsory education for children and youngsters of the right age, the nation implements a nine-years compulsory education system. The tuition fee and incidental expenses are free. The government is now adopting policies to support education step by step. The interviews in this research project were held in August and September 2006, it was just at the beginning of the implementation of the compulsory education system, and this might explain why respondents could not refer to this new development in Chinese educational policy.

Summarily, the government is the main provider and controller of education and it has made a great advance in expanding access to education (Dahlman, Zeng & Wang, 2007). But China is still facing large demands to increase access and quality of education. Therefore, the government should encourage the private sector to take on a greater share of the financing and delivery of education and training. Dahlman, Zeng and Wang (2007) presented that although China has passed the private education law, the current situation of private education is still constrained; to encourage provisions of private education, the government must provide better legal protection of private schools, fully enforce the private education law and regulations, and create a level playing field for private investors. As the respondents had already reflected that the education for the aged and rural areas and the private education still need more support from the government; a certain curriculum for cultivating lifelong learning skills and enthusiasm during initial education seems to be necessary to develop in the future.

2. Recommendations for the organizational level
(1) Set the confidence for organizational learning and don't give up hope

It takes a long period to try to make organizations learn new things, and there seems to be no effect and no improvement at all within a short term. For organizations, it is important to realize and remember this and to set the confidence in continuing and improving what it has done and not to give up hope when it comes to building a learning culture.

(2) Strengthening the roles of the leaders

Leadership is an important and solid foundation for the implementation of organizational learning. Senge (1990) argues that learning organizations require a new view of leadership. Leaders are responsible for building learning organizations. Learning organizations will remain a 'good idea' until people take a stand for building such organizations. Taking this stand is the first leadership act, the start of an inspiring vision of the learning organization. In a learning organization, leaders are designers, stewards and teachers (Senge, 1990): (1) *Designers*. The leaders' task is designing the learning processes whereby people throughout the organization can deal productively with the critical issues they face, and develop their mastery in the learning disciplines' (2) *Teachers*. "Leader as teacher" is not about "teaching" people how to achieve their vision. It is about fostering

learning for everyone. Such leaders help people throughout the organization develop systemic understandings. (3) *Stewards*. The leaders develop a unique relationship to their own personal vision. They become stewards of the vision, their task is to manage it for the benefit of others. Leaders have to learn to listen to other people's vision, allow others to be involved helping develop a vision that is both individual and shared and change their own where necessary.

(3) Recommendations for HRD professionals

Lifelong Learning has the widest possible boundaries. It includes formal learning, non-formal learning, and informal learning (World Bank, 2003). These appearances of Lifelong Learning have a profound impact on Human Resource Development (HRD) professionals. The working area of the HRD not only focuses on fostering formal learning (training), but also non-formal and informal learning in the workplace. The HRD department facilitates and supports the complex organizational learning process, instead of being limited to formal training. Various attempts are described to foster continuous learning through more effective planning for informal learning, learning how to learn, and just-in-time learning (Watkins & Marsick, 1993)

Thus, HRD professionals should perform a new role: a consultant to line managers with professional advice and assistance to assure the quality of HRD activities performed by the line managers. As DeSimone, Werner and Harris (2002) presented that the consultant advises line management on appropriate interventions desgined to improve individual and group performance. Employees are responsible for managing their own learning process and keeping themselves updated with the latest knowledge of their professions. Except for their own learning, managers are also responsible for facilitating their employees' learning process. HRD professionals are responsible to support the learning of employees and managers and to stimulate the knowledge transfer and sharing within the organization. Employee, line manager, and HRD department share the responsibility for learning, team learning and the establishment of a favorable learning climate. Here resides an organizational basis to Lifelong Learning.

(4) Recommendations to overcome negative results

Shared Vision & System Thinking is clearly stated, collectively understood, but hardly implemented. Employees seldom take into account their organization's long-term goals and strategies as they plan and do their work, mainly focusing on their own current task and their own gain and possible losses. Even if they do, they might not do this deliberately. Pearn, Roderick and Mulrooney (1995) presented one factor for building learning organizations as vision for the future; vision for the future is where the vision is shared, fully articulated, communicated and understood by all members of the organization who are committed to it. As stated in Chapter 3, it is important for employees to see how the whole working system and their behaviors are integrated. On the one hand, the author suggests a constant educational effort especially designed for system thinking and developing a shared vision, thus making system thinking part of the employees' thinking system. On the other hand, it is important to enhance the initiative of employees by external motivating factors such as financial and immaterial reward.

For the leadership scale, respondents from the state-owned and private-owned cases confirmed that learning opportunity is preferential for the excellent employees who have high competence, and sometimes to those workers who have a good relationship with their leaders. The management levels have more learning opportunities than their employees, and learning opportunities are ranked by status. Pedler, Burgoyne and Boydell (1991) identified one characteristic of the Learning Company as self-development opportunities for all: resources and facilities for self-development are made available to all members; people are encouraged to take responsibility for their own learning and development. In this aspect they should learn from the foreign-invested cases in which learning opportunities seem to be more equally distributed and assigned to their employees according to the requirements of their positions. Leaders should encourage their members to participate in all kinds of learning experiences. Supportive leaders actively facilitate and encourage their own and other persons' continuous learning (Pearn, Roderick & Mulrooney, 1995).

Watkins and Marsick (1993) lay out one action imperative for the creation of a learning organization as encouraging collaboration and team learning: teams, groups and networks can become the medium for moving new knowledge through the learning organization. Teams, not individuals, are the fundamental learning unit in modern organizations (Senge, 1990). Sharing mistakes is a good way between team members to learn from each other and avoid such kind of mistakes next time. For the team learning scale, all

respondents in the six cases recognized that they seldom openly discuss mistakes in order to learn from each other, because their organization has not such kind of culture. Even though they sometimes mentioned mistakes casually, they did not have the intention to share the lessons and experiences. So the author suggests organizing regularly mistakes-sharing meetings to cultivate a non-threatening mistakes-sharing culture.

Organizations are totally reliant on communication; through communication, people exchange and share information with one another and influence one another's attitudes, behaviors, and understandings; without communication, organizations would not function. If communication is diminished or hampered, the entire organization suffers; when communication is thorough, accurate, and timely, the organization tends to be vibrant and effective (CliffsNotes.com, 2007). For the communication scale, all respondents indicated that when they communicated with their leaders, they usually think of ways of how to express their ideas, because they want to leave a good impression on their leaders. They often feel some fear in front of their dominant leaders and therefore seldom hear suggestions from their employees; mostly employees' promotion depends on the preference of their bosses who hold the authority and responsibility to promote them. A explored in Chapter 3, communication throughout the organization should be open. There shouldn't be fears or worries for the members to speak up their minds and express their objectives. The members need to treat each other as equal partners with whom they can work together and share the responsibilities. It seems that this kind of situation will only change when the leaders are first willing to change themselves. Communication allows managers to establish and maintain interpersonal relationships, listen to others, and otherwise gain the information needed to create an inspirational workplace (CliffsNotes.com, 2007).

For the learning culture scale, respondents from the state-owned companies and one private-owned company are afraid of making mistakes in their jobs because employees are held responsible for the results of their mistakes and would be punished if they made mistakes. Here, learning is not at their prime interest. Getting the job done and reach the business goals are the main objectives while learning is just a by-product of the business activities. In this aspect they could learn from the foreign-invested and some good private-owned enterprises where mistakes and problems caused by employees in their work are not punished but regarded as an opportunity to learn. These organizations have a good tolerance for their employees' mistakes. Learning should be the central theme of all activities. As Pedler, Burgoyne and Boydell (1991) identified one of the characteristics of the Learning Compay is that in the Learning Company all managers see their primary task as facilitating company members' experimentation and learning from experience, through questioning, feedback and support.

For the reward system scale, respondents in the state-owned companies and in one private-owned company confirmed that there is not a clear measurement system in their organization to measure their performance at work. Normally, in their organization, employees' promotion depends on the preference of their bosses who hold the authority. A clear and flexible reward system will encourage employees to improve their performance, and is a basis for organizational development. Pedler, Burgoyne and Boydell (1991) promote reward flexibility which means that there are alternatives in both monetary and non-monetary rewards to cater for individual needs and performance. Employees are not likely to adopt new hehaviors if the reward system continues to measure and reward them on the basis of the old behaviors (Tobin, 1998). For further improvement employees need appreciation and recognition for the work they are currently performing. Appreciation and positive recognition from their surroundings will motivate them to perform better and better. Organizations should pay more attention to this aspect and may get help and good suggestions from human resource specialists.

For the information system scale, the state-owned companies attached much more importance to production than to training. In the private-owned companies training is not directly related with the actual work. Most time, their training is of a general nature, but cannot be applied to their job immediately. Training typically involves providing employees the knowledge and skills needed to do a particular task or job (DeSimone, Werner & Harris, 2002). The foreign-invested cases do better in this aspect. The training provided by these organizations can often be combined with the actual work, which makes the learning process meaningful, complete and effective. The state-owned and private-owned cases should assimilate some strongpoint from the foreign-invested cases, not only providing sufficient training for their staff but also putting their training in a more scientific system, carefully designing the training to make it more effective. DeSimone, Werner and Harris (2002) use a four-phase process to describe the Training and HRD Process Model: needs assessment, design, implementation, and evluation. This basic model can help training interventions to become more effective.

3. Recommendations in the quality of Lifelong Learning and Lifelong Learning attitude and behavior
In all cases, respondents reflected that they recognized the significance of Lifelong Learning, and do realize they need learning throughout their lifetime to strengthen their employability. They learn as they experience every day's work and life. But they do not have a specific goal nor a clear plan for their learning. Knapper and Cropley (2000) stressed that Lifelong Learning is not a matter of spontaneous day-to-day learning but deliberate learning: it is intentional. Learners are aware they are learning and it has a definite and specific goal. It is expressed through some form of personal plan for ongoing learning which is maintained and acted upon over time; the plan might be written down as an unfolding concept subject to reappraisal over time (Smith & Spurling, 1999). Assessment is used to guide learning strategies and identify pathways for future learning (World Bank, 2003). Actually, respondents confirm that learning is a planned process and that a learning plan is useful. With the learning plan, their learning activities will be more systematic and sustainable and directional, and the learning plan is helpful in evaluating their individual learning constantly. The respondents in one foreign-invested case said that at the beginning of every year they write their personal development plan that also includes their own study planning, and feel it is very useful for constant individual improvement. As a result, the author recommends the development of a personal learning plan at the beginning of every year, and that can be changed on the basis of new circumstances and evaluated constantly. Longworth (2003) presented examples of how such a Personal Learning Action Plan operates: stimulating the formulation of learning intentions into a written formal plan; the plan can cover one year or two but will be continuously assessed and extended over time. Personal Learning Action Plans could be used to activate the ownership of learning, to create learning communities and to overcome learning disabilities and reluctance.

Longworth (2003) also suggested that the learning plan is normally carried out with the help of a learning counselor or tutor. However, the respondents in only one case confirmed that communication with a professional learning tutor would be helpful for their learning activities. Others doubt the competences and abilities of such a learning tutor. Respondents have their own ideas about their learning needs. Even if the learning tutor is very professional and competent, they will only see the opinions of the learning tutor as a reference. They will mainly act according to their own ideas, and do not need a specific learning tutor. So, if the learning tutor is to be helpful for their employees' learning activity, he or she needs to build a relationship based on trust, preferably integrated in the wider HRD-system. .

In the state-owned companies and private-owned companies, respondents couldn't get the learning opportunities they wanted. They hope that the learning opportunities offered by the society and their organizations were better accessible for their learning needs. Making Lifelong Learning accessible to all would be essential for every one as we move into the 21st century (Hasan, 1999). Similarly, Tuijnman and Bostrom (2002) argued that the central tenet that learning opportunities, available over the whole life span and accessible on a widespread basis, should be key attributes of modern societies. The publication of A Memorandum on Lifelong Learning (CEC, 2000) identified that one of those six essential elements for Lifelong Learning strategies is facilitating access to learning opportunities by making them more visible, introducing new provision and removing obstacles to access. World Bank (2003) also stressed that people have access to learning opportunities over a lifetime. In this aspect, the stated-owned and private-owned enterprises could learn more from the foreign-invested companies, which do better in this aspect, when trying to create learning chances for their employees.

8.4 Reflection

I started my Master study in Human Resource Development at the University of Twente in August 2003. In my supervisor's elective course, I found my interest in the topic of Lifelong Learning. So, I decided to explore further the research in this domain. After I was granted the Master degree in Human Resource Development in 2004, I began to write a research proposal for continuing my PhD study. In that research proposal, I made a planning and time schedule for the PhD activities. Now arriving at the very last process of writing this dissertation, my research agenda and activities mainly developed on the basis of the planning in the research proposal in four phases: (1) From October 2004 to October 2005, laying the groundwork and beginning with the literature study. (2) From October 2005 to October 2006, focusing on the empirical research: designing a survey, contacting with participating organizations, collecting data, analyzing data, conducting a series of additional interviews and interpreting the results. (3) From October 2006 to now, preparing and revising the thesis as a whole.

Now arriving at the last phase of writing and revising this dissertation, the author will reflect on the research critically, including some weak and strong points. First of all, some reflections will be made on the applied research design and methods. Reflections on the literature study, the empirical probing of the conceptual model and the contribution of this project to science and society will then follow.

1. Reflections on the research design and methods

The research design consists of two parts: a survey with 648 respondents and a series of personal interviews in the participating companies. It uses the combination of questionnaires and interview as data collection instruments. The reliability of questionnaire improved after deleting four items from their scales. The reliability scores of the scale for education support (0.562) and Lifelong Learning attitude (0.551) are relatively low, but there are important reasons to keep them on the basis of the following arguments:

(1) The variable Education Support.
Lifelong Learning is not a kind of simple personal behavior but a kind of social behavior. According to Husen (1974), education whatever formal education or informal education is as a prerequisite for the learning society. The learning society can provide a good social environment from the macro level to make Lifelong Learning come true. As a result, in the construction of conceptual framework of Lifelong Learning, the author defines the educational system level. At the educational system level, attention is focused on the macrostructure of education to foster Lifelong Learning. In the question designing process in Section 4.3.1.2, the author summarized the educational system level from the education support and education availability viewpoint. The education support mainly comes from the government. The government is the main provider and controller of education and it has made a great advance in expanding access to education (Dahlman, Zeng & Wang, 2007). Also Longworth (2001) argued that government plays an important role in Lifelong Learning: through its economic and political power, government is the chief enabler of Lifelong Learning programmes, values and attitudes. Government has the ability to define targets, to support worthwhile initiatives, to change systems, to influence developments, and to turn ideas into action. On the basis of the above reasons, the education support variable was considered as very important and therefore decided to keep.

(2) The variable Lifelong Learning attitude.
Firstly, the mean of Lifelong Learning attitude in Case I is 4.09, Case II 4.02, Case III 4.10, Case IV 4.18, Case V 4.17 and Case VI 4.19. The respondents' reactions in these six cases are homogeneous in this scale: respondents realize the significance of learning and have a positive attitude to it. It may form part of the reason why this scale shows a low Cronbach's Alpha: this question is designed with undistinguished answers. Another plausible reason to maintain this variable is the relationship between attitude and behavior. The relationship between attitude and behavior is one of the topics that are investigated most in the field of Social Psychology (Zeng, 2007). Social Psychologists attempt to explain how and why attitude impacts behavior (Taylor, 2001). Ajzen and Fishbein created the Theory of Reasoned Action in 1967 (Ajzen & Fishbein, 1975; 1980) (See Figure 8.1). According to this theory, a person's behavioral intention is the best predictor of his or her eventual behavior. If someone intends to do one certain thing, he or she will be more than likely to do it; if he or she has no intention to do it, then they will be more than likely not to do it (Taylor, 2001). Ajzen and Fishbein (1975) argued that the best predictor of whether a person will perform a certain behavior is that person's behavioral intention. Every decision made by an individual depends on the person's intention to perform or not to perform the act. Furthermore, there are two major components that influence an individual's intention: "attitude component" and "subjective norms".

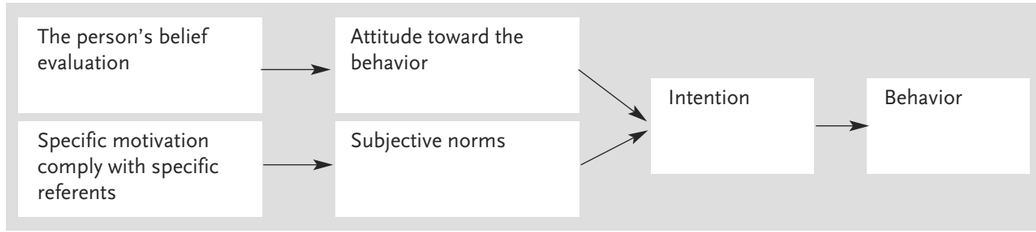

Figure 8.1 Ajzen and Fishbein's theory of reasoned action (Ajzen & Fishbein, 1980)

Ajzen and Fishbein (1980) identified that: attitudes are made up of the beliefs that a person accumulates over his lifetime; subjective norms are beliefs about what others will think about the behavior; intention(s) are the probability that he will perform the behavior; behavior is the transmission of intention into action.

In basic terms, the Theory of Reasoned Action says that a person's behavior is determined by the attitude towards the outcome of that behavior and by the opinions of the person's social environment (Taylor, 2001). Thinking and attitude to some extent is the anticipating variable of behavior. Even though people realize the significance of learning and have a positive attitude on it, this will not automatically lead to an active learning behavior. Behavior is also greatly influenced by the environment around people. In the additional interviews many respondents pointed at their willingness to participate in Lifelong Learning activities, but their day-to-day work environment, including their managers, did not support this need. As the literature above indicated, if we want Lifelong Learning behavior, first of all a positive Lifelong Learning attitude should be developed. A positive attitude is a prerequisite for active Lifelong Learning behavior. This important relationship between attitude and behavior made us decide to keep this important dependent variable.
This decision is supported by the following observation: facing a fierce competition in their work environment, respondents realize the significance of Lifelong Learning for their long-term career success, but they also admit that it very is difficult to implement concrete learning actions throughout their life. They list a number of main obstacles to participation in learning: (1) time-related obstacles such as "lack of time" and "too busy at work"; (2) lacking of incentives and personal indolence; (3) the mood of fickleness pursuing short-term return, especially when learning is associated with low and long-term returns; (4) learning to some extent needs some quiet environment, but day-to-day life-problems will distract their attention, such as taking care of babies and old parents. Interviewees mentioned these obstacles and they offered material for directing some conclusions. The most common factors that would be likely to help reduce these obstacles, as reported in the interviews were: (1) integrate learning activities into working which is more effective than separate training; (2) provide positive reward from the organization as a motivation for further learning; (3) the need of a Lifelong Learning leader who will be a learning example and inspires staff. Lifelong Learning leaders can share their learning experiences with their employees, and because they have their own Lifelong Learning experience, they are easier to find, understand and will establish effective ways for their team members' learning; (4) offer the possibility of flexible working hours; (5) provide opportunities for individualized study programs and personal choices of study methods; (6) provide access to good information and advice; (7) guarantee the time and conditions for the lifelong individual learning, for example, provide a sabbatical leave or dedicated time for study. This suggests that to increase participation in Lifelong Learning for adults, policies and practices must be designed to enable people to put learning activities into day-to-day practice.

The two private-owned, two state-owned and two foreign-invested organizations that participated in this research can be seen as representative of the current three main kinds of companies in China. But, the sample size might be a weak point. Using a larger sample the results would have increased validity and reliable. However, due to many practical constraints, it was difficult to increase the sample size. On the other hand, from the 789 questionnaires distributed to the respondents in these six organizations, we enjoyed a high response rate of 82% as 650 questionnaires were returned. Some respondents did not answer to all items. Those lacking data influenced the reliability of the results as well. At the same time, there are some factors in the external environment that can influence the reliability of the results. The perception of the individuals could be affected by their position in their organizations. For managers it may be difficult to admit that their efforts to create farouble conditions in the field of Lifelong Learning are a failure. This may have led to a too optimistic view on how the organization functions. On the other hand during the interviews, the researcher enjoyed the process very much. Respondents gave their opinions actively and sincerely, which formed a good and pleasurable cooperation with the researcher. In addition to the data from the questionnaires these interviews gave a good and valuable insight in the background of the results.

2. Reflections on the literature study.

As for the reflection on the literature review, the author would like to add an important viewpoint. Organizational and personal development are the fundamental unit of further social development. The national culture and history will exercise a significant influence on the organizational and personal behavior. When conducting the empirical part and analyzing the collected data, despite the individual perceptions of organizational learning and individual learning, these perceptions may reflect also a kind of organizational and personal behavior that closely relates to the overall Chinese social culture and personal psychology. So, when conducting further research, it is necessary to include more literature on eastern culture and social psychology in the literature review. This might lead to some new ways for approaching the empirical analysis, as Lifelong Learning attitude and Lifelong Learning behavior are the dependent variables in the conceptual model. The relationship between attitude and behavior is one of the topics that are investigated most in the field of social psychology (Zeng, 2007). Social psychologists attempt to explain how and why attitude impacts behavior (Taylor, 2001). If the social psychology literature on attitude and behavior can be studied further such as what kind of factors can be identified that influence the relationship between attitude and behavior as well as the attitude-behavior consistency, perhaps it will bring some new ideas to the empirical analysis of Lifelong Learning attitude and behavior. Therefore, specific questions on future research in this domain should include: How to apply the best of the knowledge and insights on Lifelong Learning that have been developed in western culture into eastern cultures, and vice versa. Especially in view of the ongoing globalization and further cooperation between Western and Chinese organizations this aspect will become a continuous point of interest.

3. The scientific probing of the conceptual model on the basis of the empirical findings.

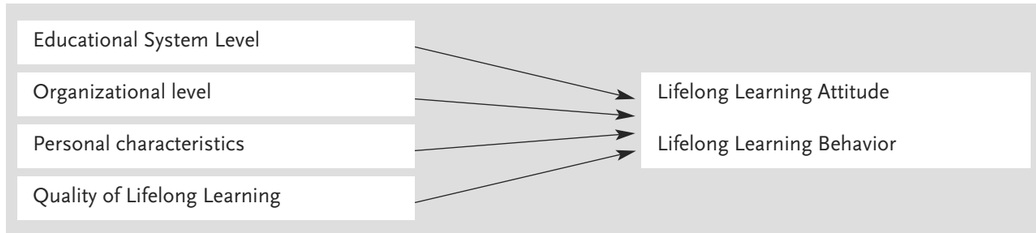

Figure 8.2 A concise conceptual framework of Lifelong Learning arrangements

The conceptual framework of Lifelong Learning in Chapter 3 is constructed on the basis of the literature review in Chapter 2 from the aspect of the educational system level, the organizational level, personal characteristics, quality of Lifelong Learning and Lifelong Learning attitude and Lifelong Learning behavior (See for a simplified version Figure 8.2).

Ormrod (2004) defined extrinsic motivation and intrinsic motivation as: extrinsic motivation exists when the source of motivation lies outside of the individual and the task being performed; in contrast, intrinsic motivation exists when the source of motivation lies within the individual and task, and the individual finds the task enjoyable or worthwhile in and of itself. Both education in the society and the learning organization provide a good learning environment to promote lifelong learning as extrinsic motivation. On the other hand, Lifelong Learning attitude and Lifelong Learning behavior of individuals themselves are the intrinsic motivation, because the human being has the need to learn (Jarvis, 2004). Only the extrinsic motivation plays a role through the intrinsic motivation. So the author chooses the Lifelong Learning attitude and behavior as dependent variables and the educational system level and organizational level as independent variables. The personal characteristics as well as the quality characteristics of Lifelong Learning will influence the individual's Lifelong Learning attitude and behavior.

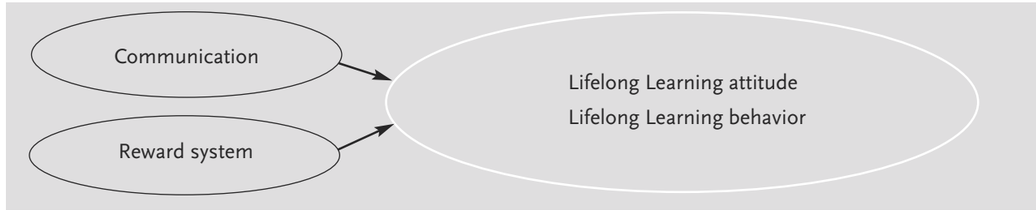

Figure 8.3 A concise revised model of Lifelong Learning arrangements

On the basis of these reasons, the author also chooses personal characteristics and quality of Lifelong Learning as independents variables.
To test what factors, as specified in the conceptual, are of influence on Lifelong Learning attitude and behavior, the author decided to use a regular regression analysis to investigate the effects of education support, organizational level, personal characteristics and quality of Lifelong Learning variables on Lifelong Learning attitude and behavior. In Chapter 7, the multiple regression analysis gave rise to the conclusion that communication and reward system appear to be the most important predictor variables for both Lifelong Learning attitude and Lifelong Learning behavior (see Figure 8.3).

Walker (2001) stated that learning organizations become closely interrelated with the idea of Lifelong Learning, and provide potentially some of the most supportive contexts and value systems for Lifelong Learning. It is plausible that learning organizations provide a supportive learning environment to cultivate Lifelong Learning of employees at the organizational level. Therefore, the development of learning organizations is considered as a trend enabling Lifelong Learning (Longworth & Davies, 1996). However, the regression analysis gave rise to an interpretation that learning elements in organizations are often deliberately designed to help employees improve their performance at work directly and to develop specific professional behavior. These organizational learning elements seem to be more directly related to Lifelong Learning attitude and behavior than general education support, personal characteristics and quality of Lifelong Learning. Formal education focuses more on transmitting knowledge and theory building, instead of developing practical competences. As to the attitude and behavior for Lifelong Learning, whoever old or young, female or male, whatever employees hold a low level of education or high level, or how many years of work experience, they can realize the meaning of learning and try to learn in the modern society. There may be differences in their learning needs and contents but not in their attitude and behavior toward learning.

The multiple regression analysis of the 648 samples confirmed that the communication and reward system (at the organizational level) have a significant effect on Lifelong Learning attitude and behavior. One of the most important characteristics of a learning organization, which contributes to Lifelong Learning attitude and behavior at the organizational level, is the open communication throughout the organization. Organizations are totally reliant on communication; through communication, people exchange and share information with one another and influence one another's attitudes, behaviors, and understandings. Without communication, organizations would not function (CliffsNotes.com, 2007). If communication is diminished or hampered, the entire organization suffers; when communication is thorough, accurate, and timely, the organization tends to be vibrant and effective (CliffsNotes.com, 2007). There shouldn't be fear or worries for the members to speak up their mind, to express their objectives, to discuss questions one with another to improve their performance. This kind of communication line will enable information sharing among the members and crossing the departments. Reward system is another important characteristic that contributes to Lifelong Learning attitude and behavior at the organizational level. You can never get employees to adopt new hehaviors if you continue to measure and reward them on the basis of the old behaviors (Tobin, 1998). For further improvement, employees need appreciation and recognition for the work they are currently performing, especially when employees contributed something good and extra ordinary for their workplace. Appreciation and positive recognition from their surroundings will motivate them to perform better. However, with greater participation also comes a need for more flexible and creative rewards (Burgoyne & Boydell, 1991).

4. The contribution of this project to science and society.

The main objective of this research project was to explore the kind of learning arrangements that contribute to the Lifelong Learning of employees in Chinese organizations. However, the framework and recommendations outlined here are only a starting point that forms a basis for related research on Lifelong Learning to follow. They could be studied from other viewpoints such as establishing a Lifelong Learning system at the societal level and mainly providing recommendations for the government or at the individual level to help individuals carrying out personal Lifelong Learning activities in more detail, adapted to Chinese realities. Another objective could be the improvement of the conceptual framework in this research. The general framework for Lifelong Learning arrangements in this research might provide a reference for such actions. Each organization should probe its own practical way related to the specific circumstances and learn successful experiences from other organizations and apply them in a flexible way.

Dahlman, Zeng and Wang (2007) stated that China is the world's most populous country with more than 1.3 billion people, and the average educational attainment is low. The education and training gap between the richer coastal provinces and poorer western provinces is wide. China is going through the transition from a centrally planned economy to a socialist market economy. All kinds of new market-related skills should be imparted both to the students in school and to employees in the labor force. China is also facing the tremendous competitive pressure of a global environment, the ongoing knowledge revolution and rapid economic development. All of this requires developing Lifelong Learning attitudes and skills. Lifelong Learning is the key to ensure the maintenance of competitive edge in a global economy as well as social cohesion and welfare. As Morgan (2000) presented that China's path is towards modernization with the need to build an infrastructure capable of sustaining a market economy, the development of education and training being seen as the key to this. Lifelong Learning is the key to sustain economic development and continuous employment. Lifelong Learning is the key to fulfill the increasing demand for skills and high-quality human capital. All these reasons point to Lifelong Learning as a fast growing necessity for the further development of China. This research project, its theoretical explorations, its empirical findings and its recommendations is a contribution to a society that prepares for establishing successful Lifelong Learning arrangements.

China is now trying to build itself into a learning society in which all people pursue Lifelong Learning (Dahlman, Zeng & Wang, 2007). The Chinese government energetically propagandizes the concept of a learning society, a learning organization, a learning family and individual Lifelong Learning by various public media to increase the awareness and disseminate the idea of Lifelong Learning, and probes how to facilitate these in an effective way. Dahlman, Zeng and Wang (2007) presented that the Lifelong Learning research and actions should be open enough to constantly absorb, adapt, and apply new and successful experiences globally and locally. Learning has no boundaries. Good practices and experiences can be shared globally. The Lifelong Learning framework in this research also needs constant adjustment and improvement responsive to the changing demands of the economy and society. China's Lifelong Learning system should be integrated with the evolving global system to keep itself updated (Dahlman, Zeng & Wang, 2007).

Summary

This dissertation intends to reflect a research process to understand Lifelong Learning, exploring the kind of learning arrangements that contribute to the Lifelong Learning of employees in Chinese organizations. This summary subsequently discusses the conclusions of each chapter.

1. Introduction to Lifelong Learning in China

This project is intended to explore the kind of learning arrangements that contribute to the Lifelong Learning of employees in Chinese organizations. For this purpose, Chapter 1 starts with the description of socio-economic context of China and the socio-economic factors that influenced the education and Lifelong Learning of China. Here, the development of a knowledge economy and its impact on Chinese society plays an important role. In this chapter the following research question is answered: what is the current situation of Lifelong Learning in China? The educational system for Lifelong Learning in China is discussed and at an organizational level the training problems in practice are further explored. Chapter 1 also described the outline of this dissertation.

2. Literature overview of Lifelong Learning

Chapter 2 describes relevant literature on Lifelong Learning in order to construct a conceptual model. The author introduces the historical background of Lifelong Learning, the definitions of what is Lifelong Learning, characteristics of Lifelong Learning, the reasons why we are talking about Lifelong Learning and prerequisites for Lifelong Learning. Then the relationship between Lifelong Learning, the learning organization and the learning society is discussed. On the basis of the literature study, the author puts forward her own opinions about Lifelong Learning as a basis to construct the conceptual model. In this chapter, the following research questions have been answered: 1) what is Lifelong Learning and how is it defined by the author? 2) What are characteristics and qualities of Lifelong Learning? These two questions were answered as follows:

Lifelong Learning has the following qualities: (1) Lifelong Learning relates to learning throughout the lifespan from cradle to grave, and starting at any age. (2) Lifelong Learning has the widest possible boundaries. It includes formal learning, non-formal learning, and informal learning. (3) Lifelong Learning is intended and planned learning. (4) Lifelong Learning is essentially a social activity involving interaction with others. (5) Lifelong Learning is about understanding, skills and values. More emphasis is placed on learning by doing and thinking creatively. It must be competency driven rather than age related. Learning is fun and perceived

wisdom. (6) Lifelong Learning is life based. (7) Lifelong Learning focuses on the needs and demands of the learner, giving ownership of learning to the learner, and giving learners the tools and techniques with which they can learn according to their own learning styles and needs. (8) In Lifelong Learning, educators are guides to sources of knowledge. Teachers and trainers serve as facilitators rather than transmitters of knowledge. Examinations as failure-free personal learning opportunities confirm progress and encourage further learning. (9) People have access to learning opportunities over a lifetime. (10) Lifelong Learning is expressed through some form of personal plan for ongoing learning. Such plan might be written down, and assessment is used to guide learning strategies and identify pathways for future learning.

According to the literature, the author concluded to the following definition of Lifelong Learning: 'Learning' is the noun and 'lifelong' is the adjective describing the type of learning occurring over the lifespan; Lifelong Learning embraces all learning activities from cradle to grave both formal education and learning activities that takes place in informal or non-formal settings. But according to the author's definition and the collected qualities for Lifelong Learning, what kind of conceptual framework do we need to construct for further examination of the characteristics and dynamics of Lifelong Learning? Chapter 3 will offer an answer to this new question.

3. Construction of a conceptual framework for researching Lifelong Learning

Chapter 3 provides a theoretical basis for building a conceptual framework, including the educational system level, the organizational level, personal characteristics, quality of Lifelong Learning and Lifelong Learning attitude and Lifelong Learning behavior (See Figure 3.3). The quality of Lifelong Learning is formed by thirteen characteristics of Lifelong Learning that were elaborated in the conclusions of Chapter 2. Personal characteristics are related with age, gender, position, education level and work experience of respondents. The specifications for the educational system level, the organizational level and Lifelong Learning attitude and Lifelong Learning behavior are as follows:
Lifelong Learning is not a kind of simple personal behavior but a kind of social behavior. From the educational system level, attention is focused on the macrostructure of education to foster Lifelong Learning. The initial education, the education for the aged, the private education, the higher education, and the adult education were identified as main factors. Lifelong Learning begins in childhood, and therefore schools are crucial organizations for shaping attitudes and values in Lifelong Learning (Longworth, 2003).

It has been widely acknowledged that many learning opportunities have to be provided by the non-educational sectors of society, such as the corporations (Jarvis, 2004). According to the literature study in Chapter 2, learning organizations can provide a good learning environment to cultivate Lifelong Learning of employees at the organizational level. The development of learning organizations is a trend enabling Lifelong Learning. At the organizational level several elements of the learning organization are regarded as promoting factors for Lifelong Learning: (1) Systems Thinking & Shared Vision (2) Leadership (3) Team Learning (4) Communication (5) Learning Culture (6) Reward System (7) Information System.

Longworth (2003) stated that Personal Learning Requirements Audits and Personal Learning Action Plans could be important in the development of positive Lifelong Learning attitudes and behavior. Personal Learning Requirements Audits aim to improve self-understanding and to generate the desire to get back into learning, and Personal Learning Action Plans aims to remove barriers to learning and to initiate learning activity. Both are to encourage the habit of learning and improve performance at the workplace, and cover a much wider spectrum of personal activity. Lifelong Learning attitude and Lifelong Learning behavior including needs assessment, learning plan and learning evaluation were proposed as dependent variables.

4. Research methodology and instruments

To test the reliability of the conceptual framework and its instrumentation an empirical study has been carried out. Six organizations participated in this research. The questionnaires were sent out at the beginning of June 2006. Of the 789 questionnaires sent out, 650 were returned at the end of July 2006. Two questionnaires were removed from the dataset, because there was too much data missing. At last 648 questionnaires were used for further analysis.

Six companies participated in the research project.

- Transfar Group Co., Ltd., is private-owned in Hangzhou city, and 106 questionnaires were collected from the department of operational management, the department of information management, financial department and human resource department.
- Tyco International Ltd., is foreign-invested. 96 questionnaires were got from the department of production, marketing, human resource and finance in Shanghai Tyco electronics.
- Siemens electrical and electronic company is foreign-invested. 110 questionnaires were acquired from the production department and the technology department of Changchun Siemens.
- Times Bright China is private-owned in Beijing city. 101 questionnaires were got from the human resource department, the department of research and development, the department of marketing and the consulting department.
- China Railway Sixth Group Co., Ltd., is state-owned. 120 questionnaires were acquired from the human resource department, the department of engineering management, the department of security and quality, and the department of organizational development in Beijing.
- China Machine Press (CMP) is state-owned in Beijing. 115 questionnaires were collected from the information department, research department and the compilation department.

The reliability of the scales of the datacollection instrument was examined by computing Cronbach's alpha. Data from 648 respondents were used for this purpose. The research question: How can we measure the reliability of the research instrument based on the conceptual framework of Lifelong Learning? has been discussed in Section 4.3 (Instrumentation). After deletion of four items from their scale, the data collection instrument appeared to offer acceptable reliability.

5. Analysis of characteristics of respondents in six organizations: A One-Way ANOVA analysis

Chapter 5 organizes the one-way ANOVA analysis to test if the respondents with different age, male and female, different year's work experience, different position at workplace, different education background in different organizations have distinctive discrepancy to the variables of the instrument. In this chapter, the research question is: Do the different age groups, male and female, position groups, education groups, employment groups, and six organizations have distinctive discrepancy in the variables of the instrument? The brief conclusion in answering this question is as follows: (1) The results of One-Way ANOVA analysis in age groups and six organizations did not show any distinctive discrepancy among age groups and different organizations to the variables of the instrument. (2) In the results of One-Way ANOVA analysis in gender, the probability of homogeneity ($Sig = 0.044 < 0.05$) shows distinctive discrepancy in quality of Lifelong Learning dimension between female and male. The probability of homogeneity in reward system dimension ($Sig = 0.023 < 0.05$) also shows distinctive discrepancy between female and male. (3) The results of One-Way ANOVA analysis in position groups displayed that only the position group 1 (staff) and position group 3 (middle level and senior level leader) have distinctive discrepancy in system thinking and shared vision variable ($p = 0.012 < 0.05$). (4) The results of One-Way ANOVA analysis in education groups revealed that only the education group 1 (Senior high school and Junior college) and education group 3 (Master and Doctor) have distinctive discrepancy in the system thinking and shared vision variable ($p = 0.044 < 0.05$). (5) The results of One-Way ANOVA analysis in employment groups showed that the employment group 1 (total work experience 1 year to 5 years) and employment group 3 (total work experience 11 years to 60 years) have distinctive discrepancy in system thinking and shared vision variable ($p = 0.041 < 0.05$). Employment group 2 (total work experience 6 years to 10 years) and employment group 3 (total work experience 11 years to 60 years) also have distinctive discrepancy in system thinking and shared vision variable ($p = 0.019 < 0.05$). Meanwhile, employment group 2 (total work experience 6 years to 10 years) and employment group 3 (total work experience 11 years to 60 years) have distinctive discrepancy in education support variable ($p = 0.014 < 0.05$).

6. Conditions for Lifelong Learning in six organizations

Chapter 6 outlines the analysis processes as well as the additional interview results on the basis of the designed questions and the obtained data in Chapter 4. The interviews were developed to reveal the background of the research findings.

The research question: What are the conditions for Lifelong Learning in six organizations on the basis of the analysis of additional interviews? has been answered in six sections.

1. Conclusions in the educational system level

In the foreign-invested cases, employees suspect the quality of private education and usually regard private education as less attractive. Respondents said that government should strengthen its support to education, especially to the education in the rural area. In the state-owned cases, respondents regard the curriculum for cultivating Lifelong Learning skills and enthusiasm as helpful. In the interviews, respondents said that the government did not give strong support to private education. More effort to provide support for education from the government should be made. In the private-owned cases, respondents regard that the curriculum for cultivating Lifelong Learning skill and enthusiasm during initial education is helpful. They suspect the quality of private education. Interviewees confirm that support for education for the aged people in the country is scarce. And the support from the government for all kinds of education should be strengthened.

2. Conclusions in the organizational level

(1) System thinking & shared vision
System thinking & shared vision is clearly stated, collectively understood, but hardly implemented. Whatever foreign-invested, private-owned or state-owned enterprises, they experience the similar difficulty. In the foreign-invested cases, the management level aligned their individual's performance goals with the organization's strategic goals better than employees, and employees focus more on their own gain and loss. Employees do not have a broad understanding of their organization's structure, process and systems, and how they are interrelated. In the state-owned companies, employees put more emphasis on how to finish their own job perfectly. They do not have a clear idea about the structure of the organization. In the private-owned companies, employees only have a low understanding of their organization's structure. They did not have a clear view of the function, process and system of each department and the interrelations between them. People seldom take into account their organization's long-term goals and strategies as they plan and do their work, especially the employees who only focus on their own current task. But the management level may do this better than their employees.

(2) Leadership
In the foreign-invested companies, respondents said that leaders create learning opportunities for them, providing training according to employees' individual needs and situation. Employees have freedom to make decisions by themselves and to be responsible on their own decision. The learning opportunities are equal, because the learning opportunities are assigned according to the requirements of positions. In the state-owned companies, interviewees in one case said that learning opportunities is given first and foremost to excellent employees who have high competence, and sometimes to those people who have a good relationship with their leaders. Respondents in another case said that the management levels have more learning opportunities than employees, and learning opportunities in this organization are ranked by status. Leaders give certain freedom to their employees on the basis of individual ability and the importance of their tasks. In the private-owned cases, respondents said that their leaders would provide learning opportunities for them within the existing resources in their organization. But their leaders will not create the learning opportunities for them. Respondents said that in most cases learning opportunity is preferential for the excellent employees who have high competence. Whether employees are encouraged to make decision and to be responsible for that decision, it is due to their leaders' character.

(3) Team learning
In the foreign-invested cases, respondents said that they seldom openly discuss mistakes in order to learn from each other, because their organization has not such kind of culture. Even though they sometimes mentioned mistakes casually, they did not have the intention to share the lessons and experiences. Respondents confirm that their communication among team members is efficient. In the state-owned cases, respondents confirm that team members help each other for learning, and the tools to communicate are used appropriately and widely. The respondents confirm that team learning is efficient. Team members still have some difficulties in discussing mistakes openly. Some departments have a culture of discussing mistakes openly but some departments do not. In the private-owned cases, respondents said that there is usually a learning-result sharing meeting. But some persons would not like to share their own mistakes with others because of the personal character, time-limitation and other reasons.

(4) Communication
The foreign-invested organizations have an open communication among the employees and the management as well. Employees freely share their opinions and speak up their minds. But some respondents indicated that when they communicated with their leaders, they usually think of ways of how to express their ideas, because they want to leave a good impression on their leaders. In the state-owned cases, though employees listen to others' opinions and share their own opinions with others, they sometimes should be in a more polite and indirect way to state deviant opinions. Respondents said that they have some fear for their leaders who are dominating and seldom listen to suggestions from their employees. So employees have to think some time before communicating with their leaders. In the private-owned cases, employees usually would think over their ways of how to express their questions to their leaders. There is still some "rank" fear in their mind. In fact, there many silent complains among the employees that their promotion depends on the preference of their bosses who hold the authority and responsibility to promote them.

(5) Learning culture
In the foreign-invested cases, employees share their best practice between each other. Mistakes and problems made by employees in their work are not punished but regarded as an opportunity to learn. Their organization has a good tolerance for their employees' mistakes. Managers encourage employees to pursue personal development as part of their jobs and provide opportunities for employees to apply into practice what they learn. In the state-owned cases, respondents said that their organization does not have a sharing culture. Especially the communication between the same levels is limited. Employees are afraid of making mistakes in their jobs because their leaders will criticize them. Learning is desired and supported, but does not hold a prime interest. Getting the job done and reach the business goals are the main goals while learning is just a by-product of the business activities. In one private-owned case, most employees are open and would like to share their best practice with others, especially the young. Respondents confirm that mistakes and problems made by employees in their work are not punished but regarded as an opportunity to learn, and that their organization has a good tolerance for mistakes. But in another case, respondents confirm that in their organization employees are held responsible for the results of their mistakes. Employees would be punished if they made mistakes.

(6) Reward system
In the foreign-invested cases, respondents said that their organization has a clear measurement system to measure their performance at work, and employees understand it very well. Teams and employees are both rewarded for their achievements. On the other hand, in the state-owned cases, respondents confirmed that there is not a clear measurement system in their organization to measure their performance at work. Normally in their organization, employees' promotion depends on the preference of their bosses who hold the authority. In the private-owned cases, respondents in one case confirm that the measurement system used to measure their performance at work is clear, and they have a good understanding of this measurement system. Respondents in another case said that in their company they have not a clear reward system to measure their performance. This ambiguous reward system discourages the employees to perform at their best.

(7) Information system
In the foreign-invested company learning activities are supported by an up to date computer information system, and employees can use the Internet freely. The training provided by their organization closely relates to their actual work, which makes their learning process valid and complete. Their learning environment and equipment is good. In the state-owned cases, respondents said that their organization attaches much more importance to production than to training, because production brings a direct profit for the organization. But training needs investment, of which the profit may only be visible in a long term and is intangible. In the private-owned cases employees could use the Internet freely. Respondents said that their training is not directly related to their actual work. Mostly, their training is indirect and of a general nature. Learning activities are not supported by an adequate computer information system.

3. Conclusions in the quality of Lifelong Learning

In the foreign-invested cases, employees mostly realize that they need learning throughout their lifetime to strengthen their employability, but they do not have a clear plan and specific goal. Respondents confirmed that for the short-term the learning goal is clear, but from a long-term perspective the goal is not very clear, as the environment is rapidly changing. Examinations would bring frustration, because employees run the risk to fail. Respondents said, if they need, they could get enough learning opportunities from their organization. In the state-owned cases, respondents said that they recognized the significance of Lifelong Learning, and that they learn as they experience every day's work and life. But they do not have a specific goal and clear plan for it. Mostly they learn by themselves and do not participate in learning teams and communities. In their learning experiences, teachers and trainers generally serve as transmitters of knowledge rather than facilitators. Examinations are seen as instruments to scale failure or success of their learning results. Respondents said that in most cases, they couldn't get the learning opportunities they want. In the private-owned cases, respondents said that they have no specific and clear goals for Lifelong Learning, because of a continuously changing environment. Some employees said that sometimes their learning may not have a specific goal but they still are learning. Employees hope that the learning opportunities from the society and their organizations should become accessible more easily.

4. Conclusions concerning Lifelong Learning attitude and behavior

In the foreign-invested cases, the respondents said that at the beginning of every year, they write their personal development plan, which creates have a positive attitude to learning. Respondents in one case confirmed that communication with a professional learning tutor would be helpful for their learning activities. Interviewees in another case said that they are doubtful about the competences and abilities of such learning tutors. Interviewees also said that an individual learning plan is helpful to their learning activities. With the learning plan, their learning activities will be more systematic, direcrted and sustainable. The learning plan will be helpful in evaluating their individual learning. In the state-owned cases, employees do not agree that a learning mentor could be helpful in planning learning activities. They have their own idea what they need to learn. Respondents confirm that learning is a planned process and that a learning plan is useful. They regard that listing all the things necessary to learn is a useful method to improve their self-direction of personal learning activities. It helps persons to focus on a specific learning scope. Respondents confirm that it is necessary to change their study plan on the basis of a new situation. In the private-owned cases, respondents had no experience with a learning tutor. They suspect the role of learning tutors and their competence. They do not feel the need of a learning tutor, as they have their own ideas on their individual learning.
7. Combination of multi-level analysis and multiple regression analysis

Chapter 7 describes the statistical testing of the conceptual model, and attempts to answer the following research question: What factors, as specified in the conceptual framework, influence the Lifelong Learning attitude and behavior? A multi-level analysis was performed to check whether or not observations are clustered. The multi-level analysis showed that observations within organizations are not correlated and not affected by organizational membership. Therefore the author decided to use a regular regression analysis. To find out which educational support, organizational level, quality of Lifelong Learning, and personal characteristics variables influence Lifelong Learning attitude and behavior, a multiple regression analysis was carried out with educational support, organizational level, quality of Lifelong Learning, and personal characteristics as the independent variables, and the construct of Lifelong Learning attitude and behavior as the dependent variables. The effects of education support, organizational level, quality of Lifelong Learning, personal characteristics and descriptive variables on Lifelong Learning attitude and behavior explain a fairly reasonable part of the variance in the construct Lifelong Learning attitude by the variables in the conceptual model (39%). Communication, leadership and reward system appear to be the important predictor variables. Communication has a negative effect on Lifelong Learning attitude and reward system has a positive effect on it. And we can explain a fairly reasonable part of the variance in the construct Lifelong Learning behavior by the variables in the conceptual model (2%). Communication and reward system appear to be the most important predictor variables. However, communication has a positive effect on Lifelong Learning behavior and reward system has a negative effect on it. As a result, communication and reward system appears to be the most important predictor variables for both Lifelong Learning attitude and Lifelong Learning behavior (see Figure 7.1).

The explanation why communication and reward system operate in opposite directions for Lifelong Learning attitude and behavior is offered in Section 7.3. This section also presents and explains a revised conceptual framework with theoretical notions and the reasons why a number of elements in the first conceptual framework may not have the expected effects.

8. Conclusions and reflection

Chapter 8 offers an answer to the last research question. It draws the conclusions, and provides a reflection on the research project, as well as recommendations for the further development of Lifelong Learning in Chinese organizations.

1. Recommendations for the educational system level

The government is the main provider and controller of education and it has made a great advance in expanding access to education (Dahlman, Zeng & Wang, 2007). But China is still facing large demands to increase access and quality of education. Therefore, the government should encourage the private sector to take on a greater share of the financing and delivery of education and training. Dahlman, Zeng and Wang (2007) argued that although China has passed the private education law, the current situation of private education is still constrained. To encourage provisions of private education, the government must provide better legal protection of private schools, fully enforce the private education law and regulations, and create a level playing field for private investors. As the respondents had already reflected that the education for the aged, the rural areas and the private education still need more support from the government; a certain curriculum for cultivating lifelong learning skill and enthusiasm during initial education seems to be necessary to develop in the future.

2. Recommendations for the organizational level

(1) Strengthening the roles of the leaders
Leadership is an important and solid foundation for the implementation of organizational learning. Senge (1990) argues that learning organizations require a new view of leadership. Leaders are responsible for building learning organizations. In a learning organization, leaders are designers, stewards and teachers (Senge, 1990): (a) *Designers*. The leaders' task is designing the learning processes whereby people throughout the organization can deal productively with the critical issues they face, and develop their mastery in the learning disciplines' (b) *Teachers*. "Leader as teacher" is not about "teaching" people how to achieve their vision. It is about fostering learning for everyone. Such leaders help people throughout the organization develop systemic understandings. (c) *Stewards*. The leaders develop a unique relationship to their own personal vision. They become stewards of the vision. Their task is to manage it for the benefit of others. Leaders have to learn to listen to other people's vision, allow others to be involved helping develop a vision that is both individual and shared, and change their own where necessary.

(2) Recommendations for HRD professionals
The working area of HRD not only focuses on fostering formal learning, but also non-formal and informal learning in the workplace. HRD facilitates and supports the complex organizational learning process, instead of being limited to formal training. Various attempts are described to foster continuous learning through more effective planning for informal learning, learning how to learn, and just-in-time learning (Watkins & Marsick, 1993) Thus, HRD professionals should adopt a new role of consultant to line managers with professional advice and assistance to assure the quality of HRD activities performed by the line managers. DeSimone, Werner and Harris (2002) proposed that the HRD consultant advises line management on appropriate interventions desgined to improve individual and group performance.

(3) Recommendations to overcome negative results
Shared Vision & System Thinking are clearly stated, collectively understood, but hardly implemented. On the one hand, the author suggests a constant educational effort especially designed for system thinking and developing a shared vision, thus making system thinking part of the employees' thinking system. On the other

hand, it is important to enhance the initiative of employees by extrinsic motivating factors such as financial and immaterial reward. For the leadership role, the state-owned and private-owned could learn from the foreign-invested firms in which learning opportunities seem to be more equally distributed and assigned to their employees according to the requirements of their positions. Leaders should encourage their members to participate in all kinds of learning experiences. For team learning, the author suggests to organize regularly mistakes-sharing meetings to cultivate a non-threatening knowledge sharing culture. For the communication scale, respondents indicated they often feel some fear in front of their dominating leader. Here, to change this kind of situation leaders should be prepared to first change themselves. When it comes to the learning culture, the state-owned cases could learn from the foreign-invested and some good private-owned enterprises where mistakes and problems caused by employees in their work are not punished but regarded as an opportunity to learn. These organizations have a good tolerance for their employees' mistakes. For the reward system scale, respondents in the state-owned companies and in one private-owned company confirmed that there is not a clear measurement system in their organization to measure their performance at work. A clear and flexible reward system will encourage employees to improve their performance, and is a basis for organizational development. Organizations should pay more attention to this aspect and may get help and good suggestions from human resource specialists. For the information system scale, the state-owned and private-owned cases should adopt some strong points from the foreign-invested firms, not only by providing sufficient training for their staff but also by preparing their learning activities in a more systematic way, including a careful design and evaluation approach which will turn training to become more effective.

(4). Recommendations for the quality of Lifelong Learning and the Lifelong Learning attitude and behavior
Actually, respondents confirm that learning is a planned process and that a learning plan is useful. With such learning plan, their learning activities will become more systematic, sustainable and directed. The learning plan is also helpful in evaluating their individual learning constantly. The respondents in one foreign-invested case said that at the beginning of every year they write their personal development plan, which is very useful for constant individual improvement. As to the role of the learning tutor, each organization shows a specific situation. As a whole, the stated-owned and private-owned enterprises could learn more from the foreign-invested companies, which do better when trying to create learning chances for their employees.

At the end of this chapter, the author also reflected critically on the research activities and offered some reflections on the research design and methods, the literature study, the probing of the conceptual model on the basis of the empirical findings and the contribution of this project to science and society. This project intended to explore the kind of learning arrangements that contribute to the Lifelong Learning of employees in Chinese organizations. However, the framework and recommendations outlined in this project are only a starting point that may form a basis for other Lifelong Learning related research to come. The general framework for Lifelong Learning arrangements in this research might provide a reference for such actions. Dahlman, Zeng and Wang (2007) argued that the Lifelong Learning research and actions should be open enough to constantly absorb, adapt, and apply new and successful experiences globally and locally. Learning has no boundaries. China's Lifelong Learning system should be integrated with the evolving global system to keep itself updated. The Lifelong Learning framework in this research also needs constant adjustment and improvement responsive to the changing demands of an emerging knowledge economy and society.

Een levenlang leren in Chinese organisaties in de context van een kenniseconomie

1. Introductie tot een Levenlang Leren in China

Er zijn tal van factoren in de sociaal economische context van China die van invloed zijn op het Levenlang Leren. In 1949 kwam het communistische bewind aan de macht en gedurende de Culturele Revolutie werd in de periode 1960-1970 praktisch het gehele Chinese educatieve systeem verwoest. De dood van Mao Zedong in 1976 luidde het begin in van een periode van economische hervormingen onder leiding van Den Xiaoping. In het nieuwe beleid ontstond ruimte voor de ontwikkeling van een particuliere sector die een plaats krijgt binnen een socialistische markteconomie.

Sinds de economische hervormingen ontwikkelt zich ook een nieuw uitgebreid educatief systeem, waarin parallel aan het formele onderwijs voor kinderen, jongeren en volwassenen ook plaats is voor diverse vormen van training, sociale en culturele vorming en zelfstudieactiviteiten. Het nieuwe educatieve systeem bevat zowel publieke voorzieningen als particuliere. De leertrajecten in het kader van een Levenlang Leren maken een snelle ontwikkeling door.

Sinds het begin van de economische hervormingen bestemmen ondernemingen op basis van een overheidsbepaling 1,5% van de totale loonsom aan opleiding en training. In 1995 werd een belangrijke beleidsmaatregel afgekondigd die de gedachte van voortdurende scholing voor hoger opgeleid en technisch personeel formaliseerde. In de praktijk zijn er echter nog tal van problemen die de voortgang van een Levenlang Leren belemmeren.

De belangrijkste onderzoeksvraag die in Hoofdstuk 1 centraal staat is: Wat is de actuele situatie rond een Levenlang leren in China?

2. Een literatuuroverzicht van een Levenlang Leren

Hoofdstuk 2 schetst de historische ontwikkeling van een Levenlang leren en geeft een weerslag van de vele definities en kenmerken. In het bijzonder krijgt de relatie die bestaat tussen de opvattingen rond een Levenlang leren, de lerende organisatie en de lerende samenleving aandacht. Centrale vragen zijn: Wat verstaan we onder een Levenlang Leren en wat zijn de belangrijkste kenmerken?

Het concept van een Levenlang Leren benadrukt het belang van voortdurende ontwikkeling op het niveau van het individu, de organisatie en de samenleving als geheel. Het belangrijkste doel van een Levenlang Leren is de ontwikkeling van het menselijke potentieel op alle niveaus. Een Levenlang Leren is zowel een persoonlijke verantwoordelijkheid als een voorwaarde voor een succesvolle loopbaan op lange termijn. De volgende kenmerken zijn daarbij te onderscheiden:

- Het Levenlang Leren voltrekt zich gedurende de gehele levensloop van de wieg tot het graf. De kerngedachte is dat elk menselijk leven een leerproces is. Het Levenlang Leren voltrekt zich dan ook voortdurend in alle ervaringen tijdens de loop van het leven, in het privéleven, in werksituaties en daarbuiten.
- Een Levenlang Leren dient men breed op te vatten. Het omvat het formele leren (in school, trainingsinstituten, universiteiten), het non-formele leren (op de werkplek en in het huisgezin) en het informele leren (de bekwaamheden die iemand overneemt van familieleden, collega's op het werk of van mensen uit de gemeenschap.
- Een Levenlang Leren is zowel intentioneel als gepland. De lerenden zijn zich ervan bewust dat zij leren, en het leren dient een duidelijk en specifiek doel.
- Een Levenlang Leren is in essentie een sociale activiteit, die bestaat dankzij de interactie met anderen. Mensen leren veelal in groepen en van elkaar.
- Bij een Levenlang Leren gaat het om begrijpen, bekwaamheden en waarden. In de regel ligt de nadruk meer op het leren door te doen en het creatieve denken. Het leren zou meer competentiegericht dienen te zijn en plezier moeten opleveren.
- Een Levenlang Leren is op het leven gericht. Het accent ligt op het toepassen van kennis op basis van zelfvertrouwen, creativiteit en plezier beleven in alle rollen, omstandigheden en omgevingen. Waar het echt op aan komt is wat mensen kunnen realiseren in het echte leven.
- Een Levenlang Leren richt zich op de behoeften van de lerende, die het eigenaarschap voelt over het leren, en die de gereedschappen en technieken aangereikt krijgt, waarmee deze het leren kan vormgeven overeenkomstig de eigen leerstijl en behoeften.
- Opleiders ten behoeve van een Levenlang Leren zijn vooral gidsen naar de bronnen van kennis. Leraren en trainers werken veeleer als ondersteuners dan als overdragers van kennis. Examens dienen faalervaringen te vermijden en zijn meer gericht op het bevestigen van vooruitgang en het aanmoedigen van het leren in de toekomst.
- De mogelijkheden om te leren zijn wijdverbreid aanwezig en toegankelijk gedurende de gehele levensloop.
- Een Levenlang Leren zou feitelijk vastgelegd moeten zijn in een of ander geschreven, persoonlijk plan. De evaluatie van de vorderingen zou de richting aan moeten geven voor het toekomstige leren.

Op basis van de literatuur zou een Levenlang Leren opgevat dienen te worden als alle leeractiviteiten die zich voltrekken gedurende de gehele levensloop, zowel in formeel onderwijs als in informele en non-formele leerpraktijken.

3. De ontwikkeling van een conceptueel raamwerk ten behoeve van het onderzoek naar een Levenlang Leren.

Hoofdstuk 3 bouwt voort op het literatuuroverzicht en zal uitmonden in een conceptueel raamwerk dat ten grondslag ligt aan het empirische onderzoek. In dit conceptuele raamwerk is plaats voor de volgende aspecten: het onderwijssysteem, de arbeidsorganisatie, persoonlijke kenmerken, de kwaliteit van een Levenlang Leren, de attitude ten aanzien van een Levenlang leren en het gedrag met betrekking tot een Levenlang Leren.

Het onderwijssysteem bevat zowel de initiële opleidingen, het particuliere onderwijs, hoger onderwijs, de volwasseneneducatie en de educatie ten behoeve van ouderen. Het organisatieniveau bevat de hoofdkenmerken van een lerende organisatie, waaronder systeemdenken & gedeelde visie, leiderschap, teamleren, communicatie, leercultuur, het beloningssysteem en het informatiesysteem. De persoonlijke kenmerken hebben betrekking op leeftijd, geslacht, positie, werkervaring en opleidingsniveau. De kwaliteit van een Levenlang Leren is uitgewerkt in dertien verschillende aspecten. Bij de attitude en het gedrag met betrekking tot een Levenlang Leren horen elementen als de behoefteanalyse, het leerplan en de evaluatie van het leren.

Het is algemeen aanvaard dat de veelheid aan leersituaties niet alleen door het formele onderwijs aangeboden dient te worden. Ook de niet-educatieve sectoren in de samenleving zoals bedrijven en organisaties kunnen bijdragen leveren. Met name lerende organisaties kunnen een goede leeromgeving bieden voor medewerkers binnen arbeidsorganisaties.

Op het individuele niveau speelt een positieve attitude met betrekking tot een Levenlang Leren een belangrijke rol. Longworth (2003) gaf aan dat met name de Personal Learning Requirements Audits en de Personal Learning Action Plans een belangrijke bijdrage kunnen leveren aan de ontwikkeling van een positieve attitude en het gedrag met betrekking tot een Levenlang Leren. De Personal Learning Requirements Audits beogen het begrip ten aanzien van het leren te versterken en de wens aan te moedigen om weer een begin te maken met leren. De Personal Learning Action Plans hebben als doel de barrières ten aanzien van het leren weg te nemen en nieuwe leeractiviteiten te initiëren. Beide instrumenten beogen de gewoonte van het leren te bevorderen en deze in verbinding te brengen met het functioneren in het dagelijkse werk. Zij omvatten een veelheid aan persoonlijke activiteiten op het gebied van leren en ontwikkelen. De attitude en het gedrag met betrekking tot een Levenlang Leren omvatten een behoefteanalyse, een leerplan en een evaluatie. Tezamen vormen zij de afhankelijke variabelen in het empirisch onderzoek.

4. Onderzoeksmethodologie en instrumenten.

Hoofdstuk 4 beschrijft de wijze waarop het empirisch onderzoek is opgezet en uitgevoerd, en hoe de betrouwbaarheid van de instrumenten is vastgesteld. In totaal hebben zes organisaties aan het onderzoek meegewerkt. In juni 2006 zijn 789 vragenlijsten uitgezet, waarvan er 650, een maand later, ingevuld teruggestuurd zijn. Twee vragenlijsten zijn uit de set verwijderd, omdat er teveel gegevens ontbraken.
De volgende zes organisaties hebben aan het onderzoek deelgenomen:

- Transfar Group Co Ltd. is een particuliere organisatie in Hangzhou. Hier zijn 106 vragenlijsten afgenomen bij de afdelingen operationeel management, informatie management, de financiële afdeling en de personeelsafdeling.
- Tyco International Ltd. is een buitenlandse onderneming. Hier zijn 96 vragenlijsten ingevuld bij de productieafdeling, de afdelingen marketing, personeelszaken en financiën in de vestiging van Shanghai.
- Siemens is eveneens een buitenlandse onderneming. Hier zijn 110 vragenlijsten ingevuld bij de productie en technologie afdelingen van Siemens Changchun.
- Times Bright is een particuliere onderneming in Beijing. Hier zijn 101 vragenlijsten ingevuld bij de afdeling personeelszaken, research & development, marketing en de interne adviesgroep.
- China Railway Sixth Group Co. Ltd. is een staatsbedrijf. Hier zijn 120 vragenlijsten afgenomen bij de afdelingen personeelszaken, engineering, de veiligheids- en kwaliteitsdienst, en de afdeling organisatie-ontwikkeling, alle gevestigd in Beijing.
- China Machine Press (CMP) is een staatsbedrijf, gevestigd in Beijing. Hier zijn 115 vragenlijsten ingevuld bij de afdelingen informatie, onderzoek en verzending.

De betrouwbaarheid van de schalen is berekend aan de hand van Cronbach's alpha, waarvoor de data van 648 respondenten zijn gebruikt. Na verwijdering van vier items uit de schalen bleek het dataverzamelinginstrument voldoende betrouwbaar te zijn voor verdere analyse.

5. Analyse van de respondenten in zes organisaties

Door middel van een one-way ANOVA analyse is vastgesteld of de kenmerken van de respondenten onderscheidend zijn in relatie tot hun uitspraken ten aanzien van de verschillende variabelen in het onderzoeksinstrument. Het betreft met name de kenmerken leeftijd, geslacht, werkervaring, positie, en opleidingsniveau.

- Vrouwen en mannen vertonen een significant verschil ten aanzien van de kwaliteit van een Levenlang Leren. Het zelfde geldt ten aanzien van het beloningssysteem. Wellicht speelt de ervaren ondergeschikte positie van vrouwen hier een rol.
- Medewerkers reageren significant verschillend ten opzichte van hoger leidinggevenden ten aanzien van systeemdenken & gedeelde visie. Medewerkers op het operationele niveau zijn kennelijk eenzijdig op het dagelijkse werk gericht, terwijl de hoger leidinggevenden vanuit hun positie nauw betrokken zijn bij zaken die betrekking hebben op systeemdenken & gedeelde visie.

- Eenzelfde significant verschil ten aanzien van systeemdenken & gedeelde visie is terug te vinden tussen de hoogopgeleide medewerkers en de medewerkers met een lagere opleiding. Wellicht dat er een samenhang is met de hoogte van de opleiding en de affiniteit met systeemdenken & gedeelde visie. Een andere verklaring zou kunnen zijn dat de hoger opgeleiden makkelijker toegang hebben tot de hogere leidinggevende posities.
- Medewerkers met een lange werkervaring onderscheiden zich ook significant van medewerkers met een korte werkervaring op het aspect van systeemdenken & gedeelde visie. De lange werkervaring brengt waarschijnlijk ook een groter begrip van de werksystemen met zich mee, wat leidt tot een brede en gedeelde visie.

6. Condities voor een Levenlang leren in zes organisaties

Hoofdstuk 6 doet verslag van de interviews die gevoerd zijn in aansluiting op de afgenomen vragenlijsten. De interviews bieden een ruimere achtergrondinformatie ten behoeve van de interpretatie van de kwantitatieve data. Tevens geven de interviews een gelegenheid om mogelijke verschillen tussen de zes organisaties nader te verklaren.

Conclusies ten aanzien van het onderwijssysteem
In de buitenlandse ondernemingen twijfelen de medewerkers aan de kwaliteit van de particuliere onderwijsaanbieders. Mensen hebben weinig vertrouwen in het particuliere onderwijs. Zij kiezen zelf zelden voor deze onderwijsvoorzieningen. De respondenten zijn van mening dat de overheid meer moet investeren in het onderwijssysteem, en dan met name in het onderontwikkelde platteland.

Medewerkers in staatsbedrijven beschouwen een curriculum in het initiële onderwijs dat de vaardigheden en het enthousiasme bevordert voor een Levenlang leren als ondersteunend. Zij kennen de particuliere opleidingsmogelijkheden, maar vinden de prijzen te hoog. Deze voorzieningen zijn daardoor niet toegankelijk voor de armen. De overheid geeft te weinig erkenning en ondersteuning aan het particuliere onderwijs. Afgestudeerden van particuliere universiteiten vinden moeilijk een baan omdat hun diploma's minder waard zijn in vergelijking met die van de staatsuniversiteiten.

Ook de medewerkers van de particuliere bedrijven waarderen het curriculum in het primaire onderwijs dat aanzet tot een Levenlang Leren. Zij weten echter weinig van de particuliere onderwijsmogelijkheden. Ook zij wantrouwen de kwaliteit van deze instellingen. Het particuliere onderwijs zou hoogstens een aanvulling op de reguliere voorzieningen kunnen zijn. De onderwijsmogelijkheden voor ouderen worden hoog gewaardeerd, maar zij zijn weinig beschikbaar op het onderontwikkelde platteland. De respondenten zijn van mening dat de overheid haar steun aan het onderwijssysteem moet uitbreiden.

Systeemdenken & gedeelde visie
Medewerkers van zowel buitenlandse ondernemingen, staatsbedrijven en particuliere organisaties, onderschrijven het belang van systeemdenken en een gedeelde visie. In de praktijk blijkt deze wens echter nauwelijks tot uitvoering te komen.

In de buitenlandse ondernemingen bestaat er een verschil in opvatting tussen de hogere leiding en de uitvoerende medewerkers als het gaat om de afstemming tussen persoonlijke doelen en de organisatiedoelen. Uitvoerende medewerkers hebben weinig zicht op de organisatie als geheel, de structuur, de werkprocessen en systemen en hoe zij met elkaar samenhangen.

Ook in de staatbedrijven leggen de uitvoerende medewerkers een groter accent op het verrichten van hun eigen dagelijkse taken dan op het geheel. Zij hebben geen helder beeld van de organisatiestructuur.
De leidinggevenden zijn beter dan hun ondergeschikten in staat om een verband te leggen tussen de lange termijndoelen, de ondersteunende strategieën en hun dagelijkse werkzaamheden.

Deze bevindingen gelden onverkort voor de particuliere bedrijven. Ook hier hebben de uitvoerende medewerkers weinig zicht op het geheel van de organisatie. Het management benadrukt regelmatig de noodzaak tot samenwerking tussen de verschillende afdelingen, maar er zijn nog weinig positieve effecten waar te nemen. Medewerkers houden zelden rekening met de lange termijn doelen bij het plannen van hun dagelijkse werkzaamheden. Managers zijn zich van hun verantwoordelijkheden in deze echter meer bewust.

Leiderschap
In de buitenlandse bedrijven bevestigen medewerkers dat hun managers bewust leermogelijkheden voor hen creëren, passend bij hun individuele behoeften en situatie. Medewerkers zijn tevreden over de leeromgeving en het beschikbare leermateriaal. Medewerkers ervaren een grote mate van vrijheid als het gaat om het nemen van beslissingen en het dragen van de verantwoordelijkheid daarvoor. De leermogelijkheden zijn gelijkelijk verdeeld en veelal afhankelijk van de kenmerken van het werk.

De medewerkers van een van de staatsbedrijven zijn van mening dat de opleidingsmogelijkheden vooral gegeven worden aan personen die al heel goed zijn in hun vak of die een goede relatie hebben met hun leidinggevende. In een ander staatsbedrijf gaven de medewerkers aan dat de leidinggevenden veel meer opleidingsmogelijkheden hadden dan de uitvoerende medewerkers. Zij vonden dat opleiding en status sterk aan elkaar verbonden waren. Als leidinggevenden meer de nadruk leggen op de opbrengsten van het werk, zijn er vaak meer mogelijkheden voor opleiding en scholing. Als leidinggevenden alleen op de uitvoering gericht zijn, is er minder aandacht voor leren.

In particuliere bedrijven zeggen medewerkers dat er weliswaar mogelijkheden zijn voor leren, maar dat hun managers geen specifieke maatregelen hiertoe nemen. De opleidingsmogelijkheden zijn veelal voorbehouden aan de zeer competente medewerkers. Als de managers open zijn naar hun medewerkers toe, zijn er ook meer mogelijkheden om zelf verantwoordelijkheid te nemen voor beslissingen. Maar managers met een open attitude zijn zeldzaam.

Team leren
In de buitenlandse bedrijven geven de medewerkers aan dat zij zelden openlijk spreken over fouten die gemaakt worden, om er van leren. Zo is de cultuur niet. Ook al wordt af en toe terloops melding gemaakt van fouten, dan nog is dat niet met de bedoeling om er gezamenlijk lessen uit te leren en de ervaringen te delen. Sommige medewerkers geven aan dat zij bewust fouten verbergen, hoewel in het algemeen de communicatie tussen teamleden efficiënt verloopt.

In de onderzochte staatsbedrijven geven de respondenten aan dat teamleden elkaar helpen bij het leren en dat zij er op een passende wijze communiceren. Hoewel er een efficiënte manier van leren in de teams bestaat, ervaren velen echter toch problemen bij het openlijk aan de orde stellen van gemaakte fouten. In sommige afdelingen gaat dat in de heersende cultuur gemakkelijker dan in andere.

In de particuliere bedrijven zeggen de medewerkers dat er regelmatig leer-bijeenkomsten plaatsvinden. Maar het bewust bespreken en leren van gemaakte fouten vinden sommige medewerkers niet prettig.

Communicatie
De buitenlandse bedrijven kennen een open communicatie tussen de medewerkers onderling en ook met het management. Medewerkers voelen zich vrij om hun opvattingen te delen en hun gedachten uit te spreken. Sommige medewerkers geven echter aan dat in de communicatie met managers bewust nagedacht wordt over hoe ze ideeën naar voren moeten brengen, omdat zij een goede indruk willen achterlaten bij hun managers. Veel hangt echter ook af van het karakter van hun manager. Bij een dominante manager waarmee je moeilijk kunt communiceren, aarzelen medewerkers om vragen te stellen.

In de staatsbedrijven doen medewerkers moeite om hun afwijkende meningen op een beleefde en indirecte wijze naar voren te brengen, ook al is er een open sfeer waar zij onder elkaar ideeën uitwisselen. Respondenten geven aan dat zij soms bang zijn om hun dominante managers aan te spreken, zeker als die zelden aandacht hebben voor de inbreng van hun medewerkers. Medewerkers wegen goed af wanneer zij wel of niet met hun managers communiceren.

In de particuliere ondernemingen ervaren medewerkers een zekere vrees voor rangen en standen, wat hen bedachtzaam maakt in het communiceren. Er bestaan veel stille klachten bij medewerkers over het feit dat hun bevordering afhangt van de voorkeuren van hun chefs die de macht hebben en waarvan zij volledig afhankelijk zijn.

Leercultuur
In de buitenlands bedrijven delen de medewerkers hun ervaringen. Fouten en problemen worden niet bestraft maar opgevat als mogelijkheden om van te leren. Deze organisaties hebben een goede tolerantie voor de fouten van medewerkers. Managers bevorderen de persoonlijke ontwikkeling van medewerkers als een deel van hun werk, en verschaffen hen mogelijkheden om het geleerde toe te passen in de praktijk.

In de staatsbedrijven ervaren de medewerkers geen cultuur van gezamenlijk delen. Als iemand een goed voorbeeld heeft waargenomen in een bepaald onderdeel van het bedrijf, dan wordt dat niet gemakkelijk gedeeld met anderen. De communicatie tussen gelijke niveaus is gering. Omdat hun managers hen snel zullen bekritiseren, zijn medewerkers bang om in hun werk fouten te maken. Managers moedigen hun medewerkers echter wel aan om zich te ontwikkelen omdat de creativiteit en de ontwikkeling van medewerkers winst oplevert voor het bedrijf. Hoewel leren gewenst is en aangemoedigd wordt, is het niet de hoofdzaak. Het werk goed afmaken en de bedrijfsdoelen bereiken zijn leidend, waarbij leren slechts een bijproduct is van de andere bedrijfsactiviteiten.

In een van de particuliere organisaties voelen de medewerkers, en met name de jongeren, zich vrij om open hun ervaringen te delen. Respondenten bevestigen dat fouten en problemen die door collega's veroorzaakt worden niet bestraft worden, maar gezien als een mogelijkheid om van te leren. In de andere particuliere onderneming is dat anders. Medewerkers zullen daar wel voor hun fouten bestraft worden. Medewerkers worden aangemoedigd om datgene wat ze geleerd hebben ook toe te passen in het werk, omdat dat de organisatie winst zal opleveren. Sommige medewerkers geven aan dat het middenkader bang is dat hun positie in gevaar komt als de ondergeschikten zich verder zullen gaan ontwikkelen.

Beloningsysteem
In de buitenlandse ondernemingen zeggen de respondenten dat hun organisatie een duidelijk systeem heeft waarmee het functioneren wordt gemeten. Medewerkers begrijpen de werking van het systeem goed. Teams en individuele medewerkers worden beloond voor hun verdiensten.

Echter, in de staatsbedrijven geven de respondenten aan dat er geen duidelijke systeem bestaat om de werkprestaties te meten. De promotie van medewerkers hangt in de regel af van voorkeuren van hun chefs die de macht hebben. Managers beslissen wie het goed doet, en dat is het dan.

In een van de particuliere bedrijven bestaat een duidelijk systeem voor het meten van de werkprestaties en de medewerkers begrijpen de werking ervan. In het andere particuliere bedrijf geven de medewerkers aan dat een dergelijk systeem niet bestaat, wat het beloningssysteem ambigue maakt en de medewerkers ontmoedigt.

Informatiesysteem
In de buitenlandse ondernemingen geven de medewerkers aan dat hun leeractiviteiten ondersteund worden door een informatiesysteem en dat zij vrij gebruik kunnen maken van Internet. De opleidingen die de organisatie aanbiedt kunnen ze goed combineren met hun werk, wat het leerproces waardevol en compleet maakt. Leren en werken sluiten bij elkaar aan en de leeromgeving en de hulpmiddelen zijn goed.

In de staatsbedrijven geven de respondenten aan dat hun organisatie meer belang hecht aan de productie dan aan opleiden. De productie levert direct opbrengsten op, terwijl de opleidingen extra investeringen vragen. Hun organisatie besteedt weinig middelen aan opleidingen.

In de particuliere organisaties bevestigen de medewerkers dat ze vrij gebruik kunnen maken van Internet. Hun opleiding is echter niet direct gekoppeld aan het werk. De programma's zijn algemeen van karakter en verbreden het denken; je kunt de inhoud niet direct toepassen in het werk. Er is geen passend computersysteem dat de leeractiviteiten ondersteunt.

Conclusies met betrekking tot de kwaliteit van en Levenlang Leren
In de buitenlandse ondernemingen beseffen de medewerkers veelal dat zij gedurende hun hele leven moeten blijven leren om hun employability op niveau te houden. Zij hebben echter geen duidelijk plan en precies doel voor ogen hoe dat moet. Zij ervaren frustraties vanwege het moeten afleggen van examens. Respondenten geven aan dat zij voldoende leermogelijkheden van hun organisatie ontvangen als zij daar behoefte aan hebben.

De respondenten in de staatsbedrijven geven aan dat zij het belang van een Levenlang Leren erkennen, en dat zij bewust willen leren van de ervaringen die zij elke dag opdoen in hun werk. Maar zij hebben hiervoor geen specifiek doel of plan. Zij leren meestal individueel en nemen geen deel aan leerteams en communities. De leraren en trainers van hun opleidingen werken voornamelijk als overdragers van kennis, meer dan als ondersteuners van het leerproces. Examens hebben meestal alleen de bedoeling om hun falen en slagen vast te stellen. De respondenten geven aan dat zij meestal niet de leermogelijkheden krijgen die zij graag willen hebben.

In de particuliere ondernemingen zeggen de respondenten dat zij geen specifiek en helder doel voor ogen hebben als het gaat om een Levenlang Leren. De omgeving is voortdurend in verandering, waardoor een helder beeld van de toekomst ontbreekt. Enkele medewerkers geven aan dat, hoewel ze geen helder doel hebben, toch blij zij dat ze leren, gewoon om te leren. Medewerkers spreken de hoop uit dat de leermogelijkheden die de samenleving biedt en die van hun eigen organisatie makkelijker toegankelijker zouden worden.

Conclusies met betrekking tot de attitude en het gedrag voor een Levenlang Leren
In de buitenlandse ondernemingen schrijven de medewerkers aan het begin van elk jaar een persoonlijk ontwikkelingsplan, wat hen een positieve attitude ten aanzien van een Levenlang Leren geeft. In één bedrijf gaven de medewerkers aan dat de begeleiding van een professionele tutor behulpzaam zou kunnen zijn bij de uitvoering van hun leeractiviteiten. Geïnterviewden in een andere organisatie gaven aan dat zij twijfels hadden bij de bekwaamheden en deskundigheid van dergelijke tutors. Medewerkers gaven ook aan dat het individuele leerplan behulpzaam is bij het plannen van hun leeractiviteiten. Met zo'n plan krijgen de activiteiten en meer systematisch en duurzaam karakter. Het geeft richting en is behulpzaam bij het voortdurend evalueren van het individuele leertraject.

In de staatsbedrijven geven de medewerkers aan dat zij er niet van overtuigd zijn dat een specifieke mentor behulpzaam zou zijn bij het organiseren van leeractiviteiten. Zij hebben hun eigen opvattingen over wat zij moeten leren. Zij willen het liefst handelen naar eigen inzicht, omdat zij zelf het beste begrijpen wat zij nodig hebben voor hun studie. Respondenten bevestigen dat leren een gepland proces is en dat een leerplan daarbij bruikbaar is. Het helpt mensen om hun leergebied te vinden en brengt meer focus aan bij het plannen van de activiteiten. Respondenten bevestigen dat het nodig kan zijn om het leerplan voortdurend aan te passen aan een nieuwe situatie.

In de particuliere ondernemingen geven de respondenten aan dat zij geen ervaringen hebben met een tutor, waardoor ze twijfelen aan zo'n rol en aan de deskundigheid. Zij hebben ook geen behoefte aan een dergelijke tutor. Medewerkers hebben hun eigen ideeën over hun individuele leeractiviteiten.

7. Combinatie van multi-level analyse en multiple regressie analyse

In welke mate beïnvloeden de diverse factoren uit het conceptuele raamwerk de attitude en het gedrag van een Levenlang Leren? Dit is de centrale vraag waarvoor in Hoofdstuk 7 door middel van statistische analyses de bouwstenen aangedragen worden. Door middel van een multi level analyse is eerst vastgesteld of de observaties al dan niet geclusterd zijn. Het blijkt dat alle variantie in de afhankelijke variabelen op het individuele niveau verklaard kan worden en niet op het niveau van de organisaties. De observaties binnen de zes organisaties blijken niet te correleren. Het al dan niet medewerker te zijn van een bepaalde organisatie blijkt er niet toe de doen, waardoor de observaties voor de verdere analyses als onafhankelijk te beschouwen zijn. Op basis van deze constatering is voor de verder analyse gekozen voor een reguliere regressie analyse.

Als descriptieve variabelen zijn opgenomen: geslacht, leeftijd, opleidingsniveau, jaren werkervaring en positie in het bedrijf. Verder zijn in de analyse de volgende onafhankelijk variabelen betrokken: educatieve ondersteuning, organisatieniveau, kwaliteit van een Levenlang Leren en persoonlijke kenmerken. De constructen van de attitude en het gedrag van een Levenlang Leren zijn behandeld als de afhankelijke variabelen. De gedefineerde onafhankele variabelen verklaren 39% van de variantie in het construct van de Levenlang Leren attitude. Communicatie, leiderschap en het beloningsysteem blijken de belangrijkste predictor variabelen te zijn. De gedefineerde onafhankele variabelen verklaren 2% van de variantie in het construct van het Levenlang Leren gedrag. Communicatie en het beloningssysteem blijken ook hier de belangrijkste predictor variabelen te zijn. Het hoofdstuk sluit af met een herziening van het conceptuele model.

8. Conclusies en reflectie

Op basis van de interpretatie van de onderzoeksresultaten is het mogelijk om een aantal aanbevelingen te formuleren ten behoeve van de verdere ontwikkeling van een Levenlang Leren in Chinese bedrijven.

1. Aanbevelingen met betrekking het onderwijssysteem

Het curriculum in het initiële onderwijs dat de vaardigheden en het enthousiasme voor een Levenlang leren cultiveert is behulpzaam. De ondersteuning van de regering voor alle vormen van educatie zou versterking verdienen, in het bijzonder de educatie op het platteland. Dang, Zeng en Wang (2007) geven aan dat hoewel China de wet op het particuliere onderwijs heeft aangenomen, er een grote behoefte bestaat aan de verterking van dit type onderwijs.

2. Aanbevelingen voor organisaties

(1) Versterk de rol van de leiders
Van leiders wordt verwacht dat zij in de positie verkeren om mensen een stap in de goede richting te laten zetten. Leiderschap is een belangrijk en stevig fundament onder een lerende organisatie (Senge, 1990). Zij dienen vier cruciale bijdragen te leveren aan de ontwikkeling van een lerende organisatie: het vormen van een initiële visie over de bestaansreden van de organisatie en de richting waarin die zich zal gaan ontwikkelen; het breed communiceren van die visie; gemeenschappelijke beelden opbouwen en hier eigenaarschap rond laten ontstaan; een voorbeeldrol spelen in de activiteiten die anderen zouden moeten gaan ontwikkelen.

(2) Aanbevelingen voor HRD professionals
Door de brede invulling van een Levenlang leren, met formele, informele en non-formele componenten kan de HRD professie een belangrijke rol spelen bij de verdere ontwikkeling. Juist omdat HRD zich niet alleen richt op formele trainingen maar ook op de informele en non-formele leersituaties in de dagelijkse werkomgeving (Watkins & Marsick, 1993), kan HRD een grote stimulans voor een Levenlang Leren in de organisatiecontext betekenen. HRD moet zich dan echter niet beperken tot formele trainingen in een opleidingsafdeling.

(3) Aanbevelingen om negatieve resultaten tegen te gaan
Systeemdenken & gedeelde visie zijn duidelijk van belang en breed begrepen maar zelden geïmplementeerd. Enerzijds zouden deze elementen in formele leertrajecten aandacht moeten krijgen, anderzijds zou het beloningssysteem initiatieven van medewerkers in deze richting moeten waarderen.

Vanuit het oogpunt van leiderschap zouden de staatsbedrijven en de particuliere ondernemingen kunnen leren van de buitenlandse bedrijven die zich in China gevestigd hebben. Deze buitenlandse bedrijven bieden veelal gelijke leermogelijkheden aan hun medewerkers, gerelateerd aan de eisen die het werk aan hen stelt, en ongeacht hun positie.

Op het gebied van het teamleren en de leercultuur zou er meer aandacht uit kunnen gaan naar regulier werkoverleg waarin van fouten geleerd mag worden, en waar het delen van positieve en negatieve leerervaringen tot de cultuur gaat behoren. De angst voor het bestraffen van fouten zou men weg moeten nemen.

Wat betreft de belangrijke invloed van het beloningssysteem is veel aan duidelijkheid en rechtvaardigheid te winnen. Hier ligt de basis voor het verbeteren van het functioneren van medewerkers en het verder ontwikkelen van de organisatie.

Wat betreft de inzet van informatiesystemen ten behoeve van het leren doen de buitenlandse bedrijven het beter. De leertrajecten daar zijn nauw verbonden met het dagelijkse werk, waardoor het leren betekenis krijgt en de formele opleidingen effectiever worden.

(4) Aanbevelingen voor de verbetering van de attitude en het gedrag rond een Levenlang Leren
In alle onderzochte bedrijven wordt het belang en de betekenis van een Levenlang Leren onderkend en onderschreven, zowel op het individuele niveau als het gaat om het behoud van de employability als voor de ontwikkeling van de organisatie als geheel. Het is echter van belang om in de activiteiten ten behoeve van een Levenlang Leren een meer planmatige aanpak door te voeren. Medewerkers staan wel positief tegenover leren, maar hebben hiervoor geen concreet doel noch plan. Het maken van een individueel ontwikkelingsplan bevordert de attitude ten aanzien van leren en helpt bij het ontwikkelen van een passend leergedrag. Een planmatige aanpak kan de richting en de systematiek van het leren versterken en de activiteiten een duurzaam karakter geven. Een dergelijk plan helpt ook bij het regelmatig evalueren van de gemaakte vorderingen. Het spreekt voor zichzelf dat een studieplan regelmatig aangepast dient te worden aan gewijzigde omstandigheden.

In de literatuur vinden we sterke aanbevelingen voor de functie van een tutor die speciaal gericht is op het ondersteunen van de leeractiviteiten van medewerkers. In de onderzochte Chinese bedrijven denkt men zeer wisselend over deze rol. Medewerkers vinden dat er een belangrijke rol bij henzelf ligt. De buitenlandse bedrijven lijken veel aandacht te besteden aan het creëren van gevarieerde leermogelijkheden voor hun medewerkers. De medewerkers van de staatsbedrijven en de particuliere ondernemingen houden een krachtig pleidooi voor het beter toegankelijk maken van de educatieve voorzieningen binnen de organisatie en binnen de gemeenschap. Het is vooral van belang dat die educatieve voorzieningen de medewerkers op een praktische manier aanspreken en een nauwe verbinding hebben met een het dagelijkse leven en werken.

Aan het slot van Hoofdstuk 8 volgen nog enkele kritische reflecties ten aanzien van het uitgevoerde onderzoek. Door in enkele schalen items te verwijderen is de betrouwbaarheid van het instrument verder verhoogd. De combinatie van vragenlijsten en individuele interviews heeft extra achtergrondinformatie opgeleverd voor de interpretatie van de resultaten. Het afnemen van de interviews was een heel plezierige activiteit, niet op de laatste plaats vanwege de open gesprekken en de prettige samenwerking met de respondenten.
De reacties van de respondenten kunnen echter beïnvloed zijn door de specifieke positie die zij in hun organisaties innemen. Zo kan het voor senior managers moeilijk zijn om toe te geven dat pogingen om een Levenlang Leren te bevorderen mislukt blijken te zijn. Zij kunnen geneigd zijn om een te rooskleurig beeld van hun organisatie te schetsen.

In het onderzoek zijn drie soorten organisaties betrokken die een representatief beeld geven van de soorten bedrijven die op het ogenblik in China actief zijn: staatsbedrijven, particuliere ondernemingen en buitenlandse bedrijven. Hoewel door de hoge response rate het totale aantal respondenten 650 bedroeg, was elk soort onderneming met slechts twee voorbeelden in het onderzoek vertegenwoordigd. Dit kleine aantal verschillende bedrijven belemmert het doen van betrouwbare uitspraken over de soorten organisaties in relatie tot een Levenlang Leren in China.

De bestaande literatuur op het gebied van een Levenlang Leren is vooral op het Westen georiënteerd. De nationale cultuur en geschiedenis van een land als China heeft ook een grote invloed op het gedrag van organisaties en individuen. Daarom is het aan te bevelen om in de literatuurstudie nog meer bronnen op te nemen met betrekking tot Oosterse culturen en hun invloed op het leergedrag van mensen en organisaties. Met het oog op de toenemende globalisering is het van belang om het beste van de Westerse kennis en inzichten te combineren met verworvenheden uit de Oosterse culturen en geschiedenis. Dalhman, Zeng en Wang (2007) houden een pleidooi voor een open vorm van onderzoek naar een Levenlang Leren, wat het mogelijk maakt om voortdurend gebruikt te maken van nieuwe en succesvolle ervaringen zowel in China als daarbuiten. Het framework voor een Levenlang Leren, zoals ontwikkeld in dit onderzoek zal daarom ook voordurend onderhevig zijn aan bijstelling en verbetering, om zo te blijven passen bij de ontwikkelingen van een zich ontwikkelende kenniseconomie. Dat maakt het doen van onderzoek op het gebied van een Levenlang Leren spannend en verrijkend.

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Appendix A

Enrolment in Regular and Adult Education by Level (in thousands)

Year	Regular Education			Adult Education		
	Higher	Secondary	Primary	Higher	Secondary	Primary
1949	116.5	1 268.0	24 391.0			
1950	137.5	1 566.0	28 924.0			
1951	153.4	1 964.0	43 154.0			
1952	191.2	3 145.0	51 100.0	4.1		1 375.0
1953	212.2	3 629.0	51 664.0	10.0		1 523.0
1954	253.0	4 246.0	51 218.0	13.0	946.0	2 088.0
1955	287.7	4 473.0	53 126.0	16.0	1 362.0	4 538.0
1956	403.2	6 009.0	63 466.0	64.0	2 799.0	5 195.0
1957	441.2	7 081.0	64 283.0	76.0	3 302.0	6 267.0
1958	659.6	11 998.0	86 403.0	150.0		26 000.0
1959	812.0	12 903.0	91 179.0	300.0	11 162.0	55 000.0
1960	961.6	14 873.0	93 791.0	793.0	19 740.0	76 160.0
1961	947.2	10 344.0	75 786.0	410.0	3 760.0	3 200.0
1962	829.7	8 335.0	69 239.0	404.0	3 480.0	2 052.0
1963	750.1	8 376.0	71 575.0	418.0	5 581.0	4 043.0
1964	685.3	10 195.0	92 945.0	445.0	8 480.0	7 904.0
1965	674.4	14 318.0	116 209.0	413.0	8 540.0	9 237.0
1966	533.8	12 968.0	103 417.0			
1967	408.9	12 545.0	102 443.0			
1968	258.7	14 051.0	100 363.0			
1969	108.6	20 253.0	100 668.0			
1970	48.0	26 483.0	105 280.0			
1971	83.0	31 494.0	112 112.0			
1972	194.0	36 167.0	125 492.0	16.6	809.7	
1973	314.0	34 947.0	135 704.0	145.8	1 235.1	
1974	430.0	37 137.0	144 814.0	213.7	2 395.8	46 976.1
1975	501.0	45 368.0	150 941.0	729.1	3 857.4	95 914.8
1976	565.0	59 055.0	150 055.0	2 628.6	3 251.9	127 302.4
1977	625.0	68 488.0	146 176.0	1 738.9	2 358.9	96 407.3
1978	856.0	66 372.0	146 240.0	1 408.3	2 989.7	46 605.0
1979	102.0	60 249.0	146 629.0	1 722.3	6 104.8	4 870.0
1980	1 144.0	56 778.0	146 270.0	1 554.1	8 044.7	4 251.7
1981	1 279.0	50 146.0	143 328.0	1 346.3	8 206.7	3 522.9
1982	1 154.0	47 028.0	139 720.0	1 173.0	10 804.0	7 566.0
1983	1 207.0	46 347.0	135 780.0	1 128.0	9 748.0	8 172.0
1984	1 396.0	48 614.0	135 571.0	1 384.0	5 987.0	9 322.0
1985	1 703.0	50 933.0	133 702.0	1 725.0	5 470.0	8 338.0
1986	1 880.0	53 223.0	131 825.0	1 856.0	8 066.0	12 614.0
1987	1 958.7	54 037.3	128 358.5	1 858.0	10 470.4	13 517.0
1988	2 065.9	52 468.2	125 357.8	1 727.6	12 311.1	16 095.0
1989	2 082.1	51 813.4	123 731.0	1 741.1	15 411.1	19 461.0
1990	2 062.7	52 391.9	122 413.8	1 666.4	15 294.4	22 820.0
1991	2 043.7	53 695.6	121 641.5	1 476.0	34 236.0	8 536.0
1992	2 184.4	55 104.9	122 012.8	1 478.7	39 344.5	8 288.9
1993	2 535.5	55 581.4	124 212.4	1 862.9	44 479.1	7 876.9
1994	2 798.6	58 947.0	129 226.2	2 351.8	50 822.6	7 613.4
1995	3 051.8	63 806.8	131 951.5	2 570.1	56 941.7	7 782.5
1996	3 183.4	68 281.5	136 150.0	2 655.7	60 185.9	6 731.4

Source: Xiao, J. (1998). Higher Adult Education: Redefining Its Roles. In M. Agelasto, & B. Adamson, (Eds.), *Higher education in post-Mao China*. (pp.189-210). Hong Kong: Hong Kong University Press.

Appendix B

Basic Statistics of Adult Education in China as of 1995 (Unit: Ten thousand)

	Schools	Graduates	Entrants	Enrolment	Teachers, Staff & Workers	
					Total	of which: Full-time Teachers
Total	**579027**	**8680.46**	**7071.88**	**6729.42**	**110.13**	**48.84**
Higher Educational Institutions for Adults	1156	63.61	91.38	257.01	21.34	9.82
Radio/TV Universities	46	15.68	19.35	54.16	4.50	2.04
Workers' Colleges	694	8.59	10.75	31.39	8.48	4.01
Peasants' Colleges	4	0.02	0.05	0.10	0.03	0.01
Institutes for Administration	166	4.63	6.24	14.77	3.73	1.46
Educational Colleges	242	8.83	7.77	21.37	4.47	2.23
Independent Correspondence Colleges	4	0.41	0.48	1.35	0.14	0.07
Run by Reg. Inst. of Higher Ed.		25.44	46.74	133.87		
Divisions of Correspondence		15.88	27.14	84.13		
Evening Schools		5.49	10.23	30.90		
Short-cycle Courses for Adults		4.08	9.37	18.83		
Of the total: The Regular Short-cycle Courses in Radio/TV Universities, or graduates from higher Schools		5.00	8.06	17.80		
Sec. Education for Adults	409720	7851.52	6298.87	5694.17	71.02	33.27
Specialized Sec. Schools for Adults	4904	89.34	125.24	290.79	21.29	11.27
Radio/TV Specialized Sec. Schools	126	15.43	21.48	55.98	1.51	0.75
Specialized Sec. Schools for Staff & Workers	1988	26.97	43.50	101.88	8.20	4.17
Specialized Sec. Schools for Cadres	238	5.26	7.95	16.02	1.41	0.70
Specialized Sec. Schools for Peasants	453	6.26	10.04	22.36	1.66	1.01
Correspondence Specialized Sec. Schools	68	13.95	18.12	42.92	1.12	0.41
In-service Teacher Training Schools	2031	21.47	24.15	51.63	7.39	4.24
General Sec. Schools for Adults	6020	63.99	61.17	74.23	4.30	2.33
General Sec. Schools for Staff & Workers	2199	25.63	27.06	33.53	2.53	1.45
General Sec. Schools for Peasants	3821	38.36	34.11	40.69	1.76	0.88
Technical Training Schools for Adults	398796	7698.19	6112.46	5329.15	45.43	19.67
Technical Training Schools for Staff &Workers	13299	662.81	675.17	380.45	10.32	6.03
Technical Training Schools for Peasants	385497	7035.38	5437.28	4948.70	35.11	13.64
Adult Primary Schools	168151	765.33	681.63	778.25	17.77	5.75
Worker Primary Schools	1078	11.29	12.23	14.52	0.31	0.16
Peasant Primary	167073	754.04	669.40	763.73	17.46	5.59
Schools of which: Literacy Classes	117031	476.13	393.47	487.63	12.34	3.57

Source: Department of Planning & Construction, State Education Commission, The People's Republic of China, "Educational Statistics Yearbook of China 1995", People's Education Press, Beijing, 1996.

Appendix C

Reliability Test Result for the System Thinking and Shared Vision Scale

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Qo1	Employees share the business goal with the management team.	.651	.814
Qo2	People have a broad understanding on the structure, system and interrelation of their organization.	.569	.832
Qo3	People take into account their organization's long-term goals and strategies when they plan and do their work.	.713	.794
Qo4	People realize when they do their work their responsibility is not only for their own department but also for the other departments and external systems.	.674	.805
Qo5	Individuals' performance goals are clearly aligned with the organization's strategic goals.	.655	.811

Appendix D

Reliability Test Result for the Leadership Scale

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Qo6	The leader has a clear vision for the organizational development.	.581	.740
Qo7	The leader stimulates employees to come up with ideas to improve their work.	.453	.773
Qo8	The leader instructs employees responsible for their own learning and career performance.	.544	.751
Qo9	The leader not only instructs employees to study but also create learning opportunities for them.	.534	.752
Qo10	The leader guarantees that employees have equal learning opportunities.	.568	.746
Qo11	The leader encourages employees to make decisions and to be responsible on their decisions.	.547	.749

Appendix E

Reliability Test Result for the Communication Scale

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Qo17	Employees are not afraid to share their opinions and speak openly about what is in their minds.	.555	.783
Qo18	Employees listen to others' opinions before speaking and ask what others think whenever they state their viewpoints.	.612	.766
Qo19	Employees give open and honest feedback to each other.	.665	.751
Qo20	Employees are encouraged to ask questions regardless of rank.	.611	.767
Qo21	Employees treat each other with respect.	.542	.790

Appendix F

Reliability Test Result for the Information System Scale

Statement #	Item as outlined in the questionnaire	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Qo35	Learning activities are supported by the valid computer information system.	.494	.746
Qo36	Employees can use the Internet freely.	.582	.715
Qo37	The electronic and multi-media facilities for learning are equipped, and the learning environment is the perfect combination of art, color, music and vision.	.540	.730
Qo38	The high-tech learning system, training and actual work are combined together to make the learning process complete and valid.	.545	.728
Qo39	The electronic information system can improve our work performance and efficiency.	.558	.726

Appendix G

Quality of Lifelong Learning Variable Items

* Qlllq 1: I realize that learning should cover all life, developing my own potential at all levels and a prerequisite to long-term career success.
* Qlllq 2: Such learning is also important for the survival and development at the levels of the organization and society.
* Qlllq 3: My learning is intended and planned learning that goes on more or less continuously over the lifespan and it has a definite and specific goal.
* Qlllq 4: I actively participate in learning teams and communities learning from each other.
* Qlllq 5: My learning has the widest possible boundaries including formal learning, non-formal learning and informal learning.
* Qlllq 6: My learning is fun and perceived wisdom.
* Qlllq 7: I learn by doing.
* Qlllq 8: My learning is based on understanding, skills and values.
* Qlllq 9: My learning is competency driven and emphasizes on how to think creatively.
* Qlllq 10: My learning is life-based applying knowledge and skills to resolve all problems in real life.
* Qlllq 11: In my learning, I learn according to my own learning needs and styles having ownership of my own learning.
* Qlllq 12: In my learning, teachers and trainers are guides to sources of knowledge serving as facilitators rather than transmitters of knowledge.
* Qlllq 13: In my learning, examinations are as failure-free personal learning opportunities confirming progress and encouraging future learning.

Qlllq 14: I have access to learning opportunities over the whole lifespan and on a widespread basis.

* *Items were selected after the reliability analysis.*

Appendix H

Educational System Level Variable Items

* Qes 1: A specific curriculum that helps students to develop essential Lifelong Learning skills and enthusiasm during the initial education is helpful for personal learning.
* Qes 2: The private education system provides some support for my learning activity.
* Qes 3: The higher education system provides some support for my learning activity.
* Qes 4: The adult education system provides some support for my learning activity.

* Qes 5: The universities for the aged provide opportunities for old people's learning.
* Qes 6: The government supports all kinds of education in a sufficient way.
Qea 1: The private education system is available for my personal learning if necessary.
* Qea 2: The higher education system is available for my personal learning if necessary.
* Qea 3: The adult education system is available for my personal learning if necessary.
* Qea 4: The education for the aged is available for any old people who want it.

* *Items were selected after the reliability analysis.*

Appendix I

Organizational Level Variable Items

* Qo 1: Employees share the business goal with the management team.
* Qo 2: People have a broad understanding on the structure, system and interrelation of their organization.
* Qo 3: People take into account their organization's long-term goals and strategies when they plan and do their work.
* Qo 4: People realize when they do their work their responsibility is not only for their own department but also for the other departments and external systems.
* Qo 5: Individuals' performance goals are clearly aligned with the organization's strategic goals.
* Qo 6: The leader has a clear vision for the organizational development.
* Qo 7: The leader stimulates employees to come up with ideas to improve the work.
* Qo 8: The leader instructs employees responsible for their own learning and career performance.
* Qo 9: The leader not only instructs employees to study but also create learning opportunities for them.
* Qo 10: The leader guarantees that employees have equal learning opportunities.
* Qo 11: The leader encourages employees to make decisions and to be responsible on their decisions.
* Qo 12: The work team has a specific learning agenda.
* Qo 13: Tools such as inquiry and dialogue are more widely used in the organization.
* Qo 14: Team members help each other to learn.
* Qo 15: Team members openly discuss mistakes in order to learn from each other.
* Qo 16: The communication among team members is efficient.
* Qo 17: Employees are not afraid to share their opinions and speak openly about what is in their minds.
* Qo 18: Employees listen to others' opinions before speaking and ask what others think whenever they state their viewpoints.
* Qo 19: Employees give open and honest feedback to each other.
* Qo 20: Employees are encouraged to ask questions regardless of rank.
* Qo 21: Employees treat each other with respect.
* Qo 22: Managers encourage employees to pursue personal development as part of their jobs and to learn by doing.
* Qo 23: Employees identify a best practice in one part of the organization and share it so that it can be used by another part of the organization.
* Qo 24: Mistakes and problems made by employees in their work are not punished but regarded as an opportunity to learn.
* Qo 25: Opportunities are provided for employees to apply what they learn into practice.
* Qo 26: Employees are encouraged to try out new ideas and new approaches to their work.
* Qo 27: The training for improving methods of learning is provided for employees.
* Qo 28: Employees support and comprehend the importance of learning.
* Qo 29: Employees take the process of working as the process of learning.
* Qo 30: Managers are rewarded for supporting the development of their employees.
* Qo 31: People know the measurement system that is used to measure their performance at work.
* Qo 33: Teams are rewarded for their achievements as a team.
* Qo 32: Employees are rewarded for personal growth.
Qo 34: There is always recognition for every initiative or effort to find new knowledge or ways to do the job in a better way.
* Qo 35: Learning activities are supported by the valid computer information system.
* Qo 36: Employees can use the Internet freely.

* Qo 37: The electronic and multi-media facilities for learning are equipped, and the learning environment is the perfect combination of art, color, music and vision.
* Qo 38: The high-tech learning system, training and actual work are combined together to make the learning process complete and valid.
* Qo 39: The electronic information system can improve our work performance and efficiency.

* *Items were selected after the reliability analysis.*

Appendix J

Lifelong Learning Attitude and Lifelong Learning Behavior Variable Items

* Qla 1: I am aware of the significance of learning.
* Qla 2: I have a positive attitude to learning.
* Qlb 1: I frequently reflect on my past learning experiences in all aspects of my life.
* Qlb 2: I reflect on my present participation in learning, the personal attitude and interest to learning.
* Qlb 3: Listing all the things that are interesting and necessary to learn if the money, time and motivation are available helps to analyze my learning needs.
* Qlb 4: I set personal learning objectives in a realistic way and devise learning strategies for achieving them.
* Qlb 5: I turn the formulation of learning objectives and strategies into a written, realistic and formal plan to be carried out.
* Qlb 6: I add to or change my learning plans frequently in the light of new information.
Qlb 7: Using a learning adviser or mentor who can give good suggestions to me is a good way to promote my own learning.
* Qlb 8: I regularly assess my learning progress and the extent to which my learning goals have been accomplished
* Qlb 9: On the basis of the assessment, I design better learning strategies to promote the achievement of learning goals.

* *Items were selected after the reliability analysis.*

Curriculum Vitae

Personal Data
Chinese Name: Yao Dilin
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Education

Sept. 2004 - Now:	Pursuing PhD, Faculty of Behavioral Sciences, University of Twente, Research Domain in Human Resource Development.
Aug 2003 - June 2004:	M.S., Faculty of Behavioral Sciences, University of Twente, Major in Human Resource Development.
Sept. 2001 - July 2003:	M.S., International Business Administration School, Northeast Normal University, Major in Economics.
Sept. 1997 - July 2001:	B.S., International Business Administration School, Northeast Normal University, Major in Economics.

Core Courses
Master of Science Programme Human Resource Development in Holland:
Design of Human Resource Development Interventions
Research Skills for HRD Professionals
Learning in Organizations
Internet Technologies for Workplace Learning
The Learning Organization
HRD in a Learning Society and Knowledge Economy
HRD Consultancy
Cost Effectiveness and HRD Evaluation

Master of Economics in China:
Micro-Economics
Human Resource Management
Macro-Economics
Foreign Trade English
English
Philosophy
Finance and Revenue
International Finance
World Trade Organization
International Regional Economics
Chinese Market Economy
Selected Reading in Capitalism

Honors

2003 Awarded Delta Scholarship at University of Twente, The Netherlands.
2001 Privilege to enter the graduate program at Northeast Normal University, waived of the usually mandatory admission test.
2000 Excellent Student of Northeast Normal University.
1998 First Prize in the Lecture Competition of Northeast Normal University.
1997-2001 Awarded Excellent Academic Scholarship at Northeast Normal University for four successive years.
1997-2000 Second Prize in the Paper Competition of Jilin province for three successive years.

Research and Work Experience

September 1 - December 30, 2005
Teaching International Business English in North China University of Technology Beijing, China.
March 16 - June 16, 2005
Working in Mercer Human Resource Consulting Beijing, China.
October 6 - October 8, 2003
Working as a volunteer for the ASTD ROI Network Conference Amsterdam, The Netherlands.
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Working as a volunteer for the Annual Conference of Economics Changchun, China

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