The enablers and barriers of providing professional practical skills education to rural elementary school students in Zhejiang, China

Difei Shen
Iowa State University

Follow this and additional works at: https://lib.dr.iastate.edu/rtd

Part of the Agricultural Education Commons, Elementary Education and Teaching Commons, and the Other Education Commons

Recommended Citation
Shen, Difei, "The enablers and barriers of providing professional practical skills education to rural elementary school students in Zhejiang, China" (2006). Retrospective Theses and Dissertations. 3023.
https://lib.dr.iastate.edu/rtd/3023

This Dissertation is brought to you for free and open access by the Iowa State University Capstones, Theses and Dissertations at Iowa State University Digital Repository. It has been accepted for inclusion in Retrospective Theses and Dissertations by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.
The enablers and barriers of providing professional practical skills education to rural elementary school students in Zhejiang, China

by

Difei Shen

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of
DOCTOR OF PHILOSOPHY

Major: Agricultural Education

Program of Study Committee:
Bert Lynn Jones, Major Professor
David G. Acker
William W. Miller
Mack C. Shelley
Richard C. Schultz

Iowa State University
Ames, Iowa
2006
Copyright © Difei Shen, 2006. All rights reserved.
INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

UMI

UMI Microform 3229125
Copyright 2006 by ProQuest Information and Learning Company. All rights reserved. This microform edition is protected against unauthorized copying under Title 17, United States Code.

ProQuest Information and Learning Company
300 North Zeeb Road
P.O. Box 1346
Ann Arbor, MI 48106-1346
Graduate College
Iowa State University

This is to certify that the doctoral dissertation of

Difei Shen

has met the dissertation requirements of Iowa State University

Signature was redacted for privacy.
Committee Member
Signature was redacted for privacy.
Committee Member
Signature was redacted for privacy.
Committee Member
Signature was redacted for privacy.
Committee Member

Major Professor
Signature was redacted for privacy.

For the Major Program
Dedication

To

My beloved ones - Husband

Weiting Lu,

Mother, Wenying Zhou

Father, Yuanyao Shen:

Thanks for your love and support.
Table of Contents

List of Tables ..................................................................................................................... vii
List of Figures .................................................................................................................... viii
Acknowledgements ........................................................................................................... ix
Abstract ............................................................................................................................. x

Chapter 1 Introduction ...................................................................................................... 1
  Definition of Terms ........................................................................................................... 1
  Background and Problems ............................................................................................. 2
    Problems Caused by the Current Educational System ............................................... 5
    Problems Caused by the Interplay of Exam-Oriented Education System and
    the Food Need ........................................................................................................... 6
    Problems Caused by the Interplay of the Exam-Oriented Education System
    and the Policy of Urbanization and TVEs .................................................................. 8
  Study Objectives .......................................................................................................... 16
  Significance of this Study ............................................................................................ 16
  Limitations of this Study ............................................................................................. 19

Chapter 2 Literature Review .......................................................................................... 20
  Education in China ....................................................................................................... 20
  The Relationship between Rural Education and Rural Development ....................... 24
  Professional Technical Skills and Professional Practical Skills .................................. 29
    The Interdependent Relationship between Professional Technical Skills and
    Professional Practical Skills .................................................................................... 32
  Confluent Education Theory ......................................................................................... 38
    The Definition of Confluent Education .................................................................... 39
    The Epistemology behind the Confluent Education Theory .................................... 40
    Confluent Education Promotes a Confluence of Professional Technical
    Skills and Professional Practical Skills .................................................................... 42
  Experiential Learning Theory ....................................................................................... 45
  It Takes a Village Philosophy ....................................................................................... 54

Chapter 3 Methods and Procedures ............................................................................. 60
  Research Design .......................................................................................................... 60
  Subjects and Data Sources ............................................................................................ 61
List of Tables

Table 1. A framework of practical skills ................................................................. 32
Table 2. Parent and teacher participants’ responses about volunteering to help rural
students learn practical skills together with technical skills ......................... 69
Table 3. Enablers of providing practical skills education in confluence with technical
skills education for elementary school students in rural Zhejiang, China .......... 70
Table 4. Parents’ opinions on the purpose of education from the perspective of both
teacher and parent participants ........................................................................ 73
Table 5. Parents’ opinions on the purpose of education from the perspective of
student participants ......................................................................................... 73
Table 6. Teachers’ opinions on the purpose of education from the perspective of
student participants ......................................................................................... 73
Table 7. The role parents are playing in their children’s education from the
perspective of teacher participants and parent participants ......................... 79
Table 8. The frequency of parents’ proactive communication with teachers in addition
to the parents meeting in one semester (1) .................................................... 80
Table 9. The frequency of parents’ proactive communication with teachers in addition
to the parents meeting in one semester (2) .................................................... 81
Table 10. The frequency of teachers’ proactive communication with parents in
addition to the parents meeting in one semester .............................................. 81
Table 11. Students’ participation in extra-curricular activities organized by other
social members ............................................................................................... 83
Table 12. Parents’ financial ability to help their children learn practical skills from the
perspective of both parent and teacher participants ........................................ 86
Table 13. Schools’ financial ability to help rural students learn practical skills from
the perspective of both parent and teacher participants ................................. 86
Table 14. Parent and teacher participants’ opinions about teaching practical skills
through nonformal educational programs ................................................... 89
Table 15. Students’ participation in extra-curricular learning activities organized by
schools from the perspective of student and parent participants ................... 89
List of Figures

Figure 1. Kolb's experiential learning model ................................................................. 51
Figure 2. Jones' experiential learning model ................................................................. 52
Figure 3. The educational system .................................................................................. 56
Figure 4. Lofquist's model ............................................................................................ 57
Acknowledgements

My great appreciation is first to my major professor, Dr Bert Lynn Jones, for his assistance and encouragement during my four-year graduate study in Iowa State University. He worked patiently with me, trying hard to inspire me as well as challenge me to work toward becoming a mature researcher and educator. This dissertation could not have been written without his help. My great appreciation is extended to my committee members, who are Drs. David Acker, Wade Miller, Richard Schultz, Mack Shelley, Shu-Min Huang, and Hui Xu (an auxiliary committee member from Zhejiang Normal University). They have been very supportive of my research throughout my academic program by giving me guidance and suggestions and/or assisting me in making research arrangements back in China.

Special gratitude is also for all the people in China who helped me make my study a success. They are Professor Shizhou Lou, Ms. Jinya Xu, and Ms. Hong Qian, and others who are too numerous to list. In addition, I am grateful to my colleagues in the Global Agricultural Program office in Iowa State University for their support and understanding. They have been a great encouragement to me too. They are Ms Denise Bjellend, Ms Shelley Taylor, and Ms Jodi Cornell.

Finally, I would like to take this opportunity to give the most appreciation to my family, especially my husband and my parents, Weiting Lu, Wenying Zhou, and Yuanyao Shen. I can’t express how grateful I am of their love and support, which is a big encouragement to me all the time. Thanks for having confidence in me all the time.
Abstract

Professional technical skills and professional practical skills are two kinds of education that are often written about and discussed in terms of technical knowledge and life skills respectively. *Professional technical skills* (technical skills) can be defined as mastery of specific subjects (such as mathematics or language) as well as the most basic cognitive skills required to obtain and retain the subject matter, while *professional practical skills* (practical skills) are the abilities professionals will need to put technical skills into practice in different life situations. Recognizing the interdependent relationship between these two skills, the researcher concluded that the acquisition of technical skills and practical skills is the outcome of education. What’s more, a market economy requires a combination of both skills for the development of its individuals and of the nation as a whole.

However, in China, a developing country that is transforming from a centrally planned economy to a market economy, rural students are not provided the opportunity to learn practical skills under the traditional exam-oriented educational system which does not include practical skills-based pedagogy. With a rural population of around 840 million people, China is perhaps the richest nation in the world in terms of the quantity of rural human resources. However, in terms of the quality of rural human resources, China is perhaps one of the poorest countries because most rural students in China are classified as *high score and low ability* or *low score and low ability*. The difference between these two categories is students’ performance on exams that are designed to evaluate only the mastery of technical skills. Regardless of their exam scores, rural students in both these categories lack practical skills because the educational infrastructure required to teach practical skills does not exist. This dissertation argues that building this infrastructure in rural China is essential in order to provide both kinds of skills and improve the quality of its rural human resources.

The purpose of this study is to investigate the feasibility of providing practical skills and technical skills education to rural elementary school students under the exam-oriented education philosophy, and then to make recommendation regarding the design for appropriate educational programs. The researcher used a descriptive design, including both qualitative and quantitative research methods, to investigate the factors that would influence providing both technical and practical skills education to rural elementary school students in
Zhejiang Province, China. Specifically, the researcher conducted focus groups with elementary school teachers, their students, and the students’ parents, and used that data to design and conduct a follow-up survey to generalize the findings to the larger population of the province. The data from both the focus groups and the survey indicated three factors that would enable the process of introducing those skills in the schools. First, teachers and parents overwhelmingly agreed on the importance of providing practical skills education to rural elementary school students and, second, showed their willingness to contribute to and participate in the study and potential subsequent projects aimed toward building the infrastructure for practical skills education. Third, students would enjoy learning practical skills together with technical skills because of their preference on the learning practice that is informed by the educational theory that supports the providing of both skills. However, the data also revealed three barriers to this process: 1) the traditional exam-oriented educational philosophy in China; 2) only schools are responsible for providing education; and 3) financial issues. In addition, the researcher also recognized the lack of role identification between schools and families in terms of providing education, which seems to be related to a lack of effective communication between the schools and the families.

The researcher recommended setting up a cooperative education system to provide nonformal educational programs, such as 4-H-type programs, based on an experiential theoretical base and the *it takes a village* (ITV) philosophy. This system will enable the providing of practical skills education along with technical skills education to rural students, which will complement to the current formal education. The researcher also suggested opportunities for future research in Zhejiang Province that would solicit the perspectives of government and other social groups that ultimately would facilitate and improve communication, understanding, and role identification among government entities, social groups, teachers, parents, and students so that all parties can work together to provide an optimal balance of the professional technical skills and professional practical skills needed to move the Chinese economy forward.
Chapter 1 Introduction

This chapter has 4 main sections: background information and discussion of problems that the study addresses, the study’s specific purposes and objectives; a discussion of the significance of this study; and a discussion of the limitations of this study. Before turning to those sections, the researcher first defines some key terms used in this dissertation.

Definition of Terms

Professional technical skills: Professional technical skills can be described as the specific subjects as well as the most basic cognitive skills to obtain and retain subjects. Mathematics in sciences can be a good example. Some writers refer to technical skills as technical knowledge or hard skills, which are “primarily cognitive in nature and are influenced by an individual’s Intelligence Quotient (IQ)” (Rainsbury, Hodges, Burchell, & Lay, 2002, p. 9).

Professional practical skills: Professional practical skills refer to abilities professionals will need to put into practice technical skills in different life situations. They are usually termed soft skills or life skill and are “primarily affective or behavioral in nature and have recently been connected with the so-called Emotional Quotient (EQ) popularized by Daniel Goleman (Caudron, 1999; Kemper, 1999; McMurchie, 1998)” (as cited in Rainsbury et al., 2002, p. 9). Examples of professional practical skills are learning to learn abilities, problem-solving ability, and creative thinking abilities, and so on.

Chinese exam-oriented education: Exam-oriented education in China refers to the kind of education system that focuses on teaching technical knowledge and using exams as the final evaluation measurement to assess students’ mastery of that technical knowledge (Lin, 1993). It can be simply described as teaching to the test.

Confluent education: Being ‘confluent’ means being aware of, and taking responsibility for, yourself in relation to your experience and your context, people you’re interacting with, the topic and material you’re engaging in, group dynamics, and your environment” (Brown, 1996, p. xvi). Simply put, confluent education calls for an integration of the learner’s intrapersonal, interpersonal, and social domains.

The US 4-H programs: The US 4-H programs is “one of the oldest and largest nontraditional educational efforts in public education in the United States” (Ladewig & Thomas, 1987, p. 1), which “focus on building lifelong learning skills that develop youth’s potential (USDA, 1994, p. 1)” (as cited in Morris, 1996, p. 13). 4-H program is developed
through the utilization of a model of cooperation, which involves many contributors in the society in sharing the responsibility of education, including schools, parents, universities, and other members in the community. What’s more, all the life skills are taught to students in confluence with technical knowledge through learning-by-doing practice.

*It takes a village philosophy:* According to Clinton (1996), “from the moment [children] are born, they depend on a host of other ‘grown-ups’—grandparents, neighbors, teachers, ministers, employers, political leaders, and untold others who touch their lives directly and indirectly….It takes a village to raise a child” (p. 11–12). In this dissertation, the researcher argues that the same situation ought to exist in the rural Chinese educational enterprise and proposes the employment of *it takes a village* philosophy; that is, it takes a village to educate a child. Under the ITV philosophy, all the “grown-ups”, the school, the family, and the community in the society take an active part in the education process in terms of designing, managing, setting goals, and evaluating educational programs.

*Zhejiang Province:* Zhejiang province is situated along the shore of the East Sea. It is one of the most developed provinces in China, especially in terms of the urbanization and township and village-enterprises. The province has a total area of over 100,000 square kilometers (38,600 square miles) and a population of 46 million.

*The policy of urbanization and township and village-owned enterprises:* The Chinese government turns rural areas into small towns and sets up agriculture-related or nonagriculture-related enterprises in these towns. Then the government relocates some rural residents to the small towns and has them work for those enterprises. It has been empirically proven to be essential for the development of agriculture and rural areas towards a modern society (Zhou, 1998).

*Chinese rural elementary schools:* In this dissertation, rural elementary schools are schools that are under the township level (National Bureau of Statistics of China, 2001).

*Other social members:* In this dissertation, the term other social members refers to all other components and/or units of the society in addition to schools, such as families, universities, companies, and the government, and so on.

**Background and Problems**

China has undergone tremendous growth after the implementation of the economic reform of 1978, which was designed to promote the gradual transfer from a central-planning
The reforms have led to significant growth in the Chinese economy. “The economic growth rate in China has over 8 percent per year since 1979—one of the fastest in the world” (Si and Bruton, 1999, p. 83). This soaring growth has brought about a series of satisfactory results such as “full employment in urban areas . . . universal improvement in living standards” (Lai, 2003, p. 9) and 200 million Chinese being lifted out of absolute poverty (The World Bank, 1997). Rural China is not an exception to the rapid growth. Reform in rural China has contributed to the significant improvement of China’s level of food consumption, the freeing-up of rural labor for industrial employment, and the increase in overall agricultural production, as a result of which China has become the most efficient producer of grain per land unit (Hudson, 1997). For example, “the agriculture [sic] output in 1978 was only 3 times of that in 1952, but the agriculture [sic] output in 1999 is 14 times that in 1978” (Yu, 2002, p. 58). Also, according to Zhou (1998), from 1978–1984, farmers’ net income that has been adjusted for inflation had a 15.1% increase each year. Hudson (1997) also stated, “Improved rural diets and housing reveal a qualitative rise in the rural standard of living” (p. 142).

However, most of these achievements made in rural China after the implementation of the 1978 economic reform can be attributed to the “effective policy.” China employed a policy-induced development strategy (Ma, 1989-90). Take the household responsibility system for example. The reform from the commune system to the household responsibility system, “in which the state-owned land was contracted to peasants for their own cultivation, replacing the collective cultivation system that had lasted twenty-five years or so” (Lin, 1993, p. 21), was one of the most successful institutional changes in rural China (Huang, 1998). “This reform greatly enhanced peasants’ motivation” (Lin, 1993, p. 21) and “produced astonishing output and productivity growth. Output growth jumped from 2.4 per cent in 1952–78 to 5 per cent in 1978–84 for grain and from 1.9 to 7.4 per cent for agricultural production” (Huang, 1998, p. 159).

After having developed successfully for more than two decades through the policy-induced development strategy, rural China is now facing a series of challenges with the expansion of the market economy toward a modern society. Examples of these challenges include resource shortages, low levels of urbanization and the development of rural industries, conventional technology, the discrepancy between rural areas and urban areas
(Zhou, 1998), small-scale production modes, poor-quality agriproducts, and food safety issues (Shen, 2001). Even though it is still important to reform certain agricultural institutions and implement new government policies to complete the market reform (Huang, 1998), the policy-induced development strategy alone can no longer help rural China meet these challenges. The function of this development strategy has reached its summit (Ma, 1989–90), as a result of which, it is necessary to adjust the development strategy to accommodate the challenges. Ma (1989–90) stated, “The future stable development of the rural economy will depend more and more on science and technology, on the quality of labor, and on the quality of qualified personnel” (p. 30). Thus a science- and technology-induced development strategy was proposed (Ma, 1989–90). The implementation of this new strategy calls for the interplay of various factors, such as education, economy, and government policies. This study addresses the implementation of this new strategy from the educational perspective.

“Education, as the carrier of science and technology, should play an important role in this transformation [of development strategy]” in terms of equipping rural students with the necessary competences (Shen & Jones, 2005, p. 28). Specifically, the science- and technology-induced development strategy requires rural students not only to be able to apply the agricultural science and technology they learned in schools to various life situations, but also to generate new agricultural science and technology. However, the present education practice in rural China, which is exam-oriented, “has failed to shoulder the load” (Shen & Jones, 2005, p. 28). Most rural students produced by the current system lack the competence to help with the further development of the rural community through the science- and technology-induced developmental strategy. In addition, through interplaying with two important aspects of rural development, the exam-oriented education practice has created more complex problems to prohibit the employment of the science- and technology-induced development strategy. The two aspects are the need to increase the quantity and quality of agricultural production to feed China’s huge population and the policy of urbanization and township- and village-owned enterprises (TVEs). These two aspects are important because the former relates to the most basic need of human beings—food—while the latter has been empirically proven to be essential for the development of agriculture and rural areas towards
a modern society (Zhou, 1998). The following sections of this chapter address these complex problems.

**Problems Caused by the Current Educational System**

The exam-oriented education system focuses on teaching technical knowledge and using exams as the final evaluation measurement to assess students' mastery of that technical knowledge (Lin, 1993). With a very strong positivist philosophical stance, exam-oriented education practice "place[s] heavy emphasis on text books, memorization, and examination of core academic subjects" (Su, 1996, p. 142). Under this practice, the learning process in China has long been regarded as a process of teaching "a vast store of knowledge through rote memorization" (Chan, 1999, p. 298) through a teaching style that is "didactic and trainer-centered" (Kirkbride & Tang, 1992, p. 57). Students are treated as "empty vessels," passively receiving whatever knowledge teachers think students should learn with the sheer purpose of passing exams. Consequently, students' responsibilities for their own education are stolen, which is still the case today (Chan, 1999). Gordon and Debus (2002) stated that the typical study behavior of the surface approach is the reproduction of material "in a required form without analysis or integration" (p. 484). "Deep learning does not take place when we steal these responsibilities from the learner" (Brown, 1996, p. xxi). Under the exam-oriented practice, students tend to employ a surface learning approach. As a result, "students will gain at best a naïve grasp of knowledge within their field of study" (Nichols, 2001, p. 20), and can only transfer their knowledge from setting A to setting B, which has exactly the same context as setting A. This, according to Posner (1995), is the process of training, not education.

Rural students under the exam-oriented education system probably can apply the knowledge in a context-free situation if they have high scores, but it is unlikely that they can apply the agricultural science and technology they have learned in schools creatively in real-life situations, let alone generate new agricultural science and technology. Actually, most rural students in China are classified as *high score and low ability* or *low score and low ability*. The only difference between these 2 categories is students' performance on exams that are designed to evaluate only the mastery of technical skills. Regardless of their exam scores, rural students in both these categories lack practical skills. At best, they are "exam experts who do not know how to apply their knowledge to actual life settings" (Lin, 1993, p.
Most of the rural students produced by the current educational system, even those with high scores on national exams, have limited competence in terms of helping with the further development of rural China toward becoming a modern society through the science- and technology-induced development strategy. In fact, the contribution rate of agricultural science and technology to agricultural production in China is only about 27%-35%, while most of the developed countries have reached 60%-70% (Zhou, 1998).

Problems Caused by the Interplay of Exam-Oriented Education System and the Food Need

Rural areas in China have long been regarded as inferior to urban areas, an attitude that can be dated back even to 500 BC or so when Confucius looked down on agricultural pursuits; “He once rebuked a disciple who asked him about growing crops, naming him ‘a little-minded man’” (Cleverley, 1985, p. 7). “Throughout the entire history of China, almost all the governments have devoted their attention to the development of major cities” (Luo & Wendel, 1999, p. 5). In modern China (i.e., after 1949), the backwardness of rural areas was created and intensified by the dual-policy the government enforced upon urban areas and rural areas. Specifically, the government developed a series of policies to promote the development of urban areas at the expense of rural areas. Even though agricultural and rural development has been emphasized after the economic reform of 1978, many of the government officials only paid lip service to it instead of actual behavior (Zhou, 1998). In addition, the government issued the residential policy to restrict the migration of rural people to urban areas, which subjects rural peasants to a hard life of toiling in the fields, with little government support for medical care, pensions, or guaranteed monthly salaries, all of which only urban residents have the right to enjoy. Consequently, rural people have a very low social status in China. (Lin, 1993, p. 26)

There is a huge gap between rural areas and urban areas in terms of income, access to education, social welfare, personal respect, and so on. For example, in 1978 the average income of urban people was 2.40 times that of rural people, while in 2003, the average income of urban people was 3.23 times that of rural people. If the medical care, pensions, and all other benefits enjoyed by urban people had been included in these calculations, the discrepancy would have been even greater (Li & Zhang, 2004; Zhou, 1998). Also, according to Pan (2003), in rural China, youth age 15 or above get 7 years of education on average,
while urban youth get an average of 10 years of education. As a result, rural people desire to move to urban areas to live a better life. The only possibility for rural people to do so has been the exam-oriented education practice, through which rural students can move to urban areas officially and lawfully if they can get university/college degrees after having high scores on a series of national exams and finally entering the university/college. Much attention is paid to “the development of primary and middle school education with the intention of increasing the transition to higher education” (Atchoarena & Gasperini, 2003, p. 283). The purpose of rural education has thus become “jump out of the farm gate” (Lin, 1993, p. 26), which perpetuates the values that “keep students from committing themselves to help change the backwardness of the rural areas where they live” (Lin, 1993, p. 28).

Given that only 5% or fewer of the rural students are able to pass the exams and go to the university/college (Lin, 1993); the problem of losing relatively competent rural youth (students who have high scores) to urban areas might not seem very serious. However, things worsened in 1980s (Zhou, 1998) after the government issued new residential policies that eased the restrictions on the migration of rural and urban populations, which resulted in huge out-migration from rural areas. “In the period of 1985–1990 the net rural out-migration was 16.7 million,” which is 67% higher than the period between 1949 and 1986 (Cannon, 2000, p. 67). Among these migrants most were relatively competent students because it is comparatively easier for them to find jobs in urban areas. However, even some low-scoring students migrate to urban areas. Consequently, rural communities are left with predominantly large numbers of incompetent rural students. In addition to their inability to apply the learned knowledge creatively and/or generate new knowledge, most of the remaining students have not yet mastered the knowledge (i.e., they have low scores) or even worse. According to Atchoarena and Gasperini (2003), of the 275 million people who are engaged in farming in China, “only 3.4 per cent received primary school education” (p. 279). At the same time, “Rising food consumption standards have increased demand for grain, pressuring China’s farmers to produce ever greater yields” (Hudson, 1997, p. 137) on fewer cultivated lands. According to Hudson (1997), “the quantity of land under cultivation in China dropped 4.5% over the period 1978–94” (p. 141–142). New land use survey data indicate a decrease of 4.1 million ha (3.16%) cultivated land from 1996 to 2002 (Lu, Söderlund, Wu, & Li, n.d.) while
at the same time, China’s population increases by approximately 14 million people each year (Huss, 1999).

Education positively correlates with agricultural production (Yu, 2002) even though it is just a process of “rote learning and reproducing knowledge”. Even those rural students, who have high scores on national exams, have limited competence in terms of applying agricultural science and technology required to produce higher quantity of quality food to feed China’s huge population, one must question the ability of the least competent students—those who have low score and low ability—who remain in the rural areas. It is without doubt that they will make very few or no positive contributions to agriculture production in China.

**Problems Caused by the Interplay of the Exam-Oriented Education System and the Policy of Urbanization and TVEs**

The preponderance of an incompetent rural human resource base will also prohibit the further development of urbanization and township- and village-owned enterprises (TVEs). The urbanization and TVEs policy was created mainly to address the problem of the surplus of rural labor and the low income of rural residents (Hudson, 1997). Simply put, the government turns rural areas into small towns and sets up agriculture-related or nonagriculture-related enterprises in these towns. Then the government relocates some rural residents to the small towns and has them work for those enterprises. According to former Chairman Deng, TVEs have absorbed 50% of the surplus of rural labor force (Zhou, 1998). However, in addition to the great achievements made by the development of urbanization and TVEs, this policy also has some side effects, two of which are especially critical for this study. The first important effect has to do with the incompatible rural students who remain in rural areas after most of the more competent students migrate to urban areas (including small towns) to work and live. The second critical effect concerns the decrease of farm lands when China turns rural areas into urban areas and transfers farm land into industrial land.

However, the existence of these two side effects does not mean that this policy is not good. Every coin has two sides. The policy of urbanization and TVEs is not an exception. As a whole, this policy actually has made more positive contributions than negative ones in view of the achievements it has made to the development of rural community as well as the whole nation.

By 1994, nearly 20 million non-state rural enterprises employed 113,296,984 peasants (or 24% of all rural labor), produced one-half of the national industrial
output value, paid one-quarter of national taxes, and brought in about one-third of the nation's foreign exchange from exports. (Hudson, 1997, p. 122)

In 2000, the output of TVEs accounted for 31% of the GDP of China, and “has become a major part of the country’s economy” (Yu, 2002, p. 62). And according to 2003 figures, the number of non-state rural enterprises has increased to 21,850,000 and the amount of rural labor employed has risen to 135,730,000, which accounts for about 28.1% of the total rural labor (Li & Zhang, 2004). The implementation of this policy will continue because it has been empirically demonstrated to be essential for the development of agriculture and rural areas towards a modern society (Zhou, 1998). In fact, the negative effect of urbanization and TVEs, addressed from the perspective of education, can be attributed mainly to rural human resources that are incompatible because educational development has lagged behind the development of urbanization and TVEs. As a result, instead of making contributions to this policy, the present education practice has intensified the side effects of this policy indirectly by turning out low-ability rural students who are not capable of producing more food with less arable land.

The present education practice should be reformed to catch up with the development of urbanization and TVEs and should also be reformed to reinforce and promote the further development of urbanization and TVEs. According to Zhou (1998), the less competent the rural human resources are, the more difficult it is for them to move to non-farming jobs such as working in TVEs. As part of the agricultural and rural reform in China, after more than two decades of successful development, TVEs also face the challenge to gear towards a market economy in a new era characterized by knowledge- and technology-based competition and globalization. In short, “competitive advantage is determined by the productivity with which a country, region or cluster uses its human, capital and natural resources” (Porter, 2002, ¶ 1). Of these, human resources play a key role. “Those countries and regions that have adaptable workforces with a rich mixture of skills” are able to benefit from the global economy, while “those countries, regions and people that lack necessary skills are destined to fall further behind” (Porter, 2002, ¶ 1). To employ a science- and technology- induced development strategy to promote the further development of TVEs requires high-quality human resources with “a rich mixture of skills”, especially the manager-level personnel. “As China has grown so quickly, the number of qualified managers
in China has been unable to keep pace” (Gross, 1998, p 1). But high quality requires more than high exam score. A study conducted by the Stanford Research Institute and Carnegie Melon Foundation among fortune 500 CEOs indicated that only 25% of long-term job success depended on technical knowledge (Jasrotia, 2003). Dahlman and Aubert (2001) also stated, China’s “competitive edge will be determined by its people’s ability to create, acquire, share, and use knowledge creatively” (p. 69). When combined, the above discussions strongly suggest that the present rural human resources produced by the exam-oriented education practice can not provide qualified workers or managers for the further development of TVEs.

Most of the rural students—who are relatively incompetent in terms of applying and/or generating agriculture science and technology—are not capable of helping rural China either increase the quantity and quality of its agricultural production on fewer cultivated lands or promote the development of the urbanization and TVEs through a science- and technology-induced development strategy. What’s more, the incompetent rural human resources have also exerted negative influences on the urban areas especially after the free migration between urban areas and rural areas was enacted.

It used to be the case that students were assigned certain lifelong jobs by the government based on their academic performance, specifically the results of the exams they took. It didn’t matter if students had the competence and/or skills for a certain job; they had good jobs and stayed in the position for their whole lives as long as they had their degrees (Lin, 1993). “Today, jobs for graduates are no longer guaranteed” (Shao & Bruening, 2002, p. 69). Accordingly, having a university degree doesn’t guarantee a successful life in urban areas any more. Students’ overall competence has become one of the main determinants for them to find good jobs as well as to succeed in these jobs. The reality is that even many of those who have higher education degrees can’t find jobs, let alone the low-score and low-ability students who are without degrees. Eaton (1999) stated, “As the rural peasants become more aware of the regional income disparities, they are increasingly leaving the hinterland and flocking to urban areas where their dreams of sharing the new wealth are seldom realized” (p. 73). Those lucky ones who can find jobs often “perform work that no one else wants to do” (Eaton, 1999, p. 70) and get low salaries (Zhou, 1998). As a result, most rural people simply
become the poor population in urban areas and contribute significantly to the instability of these urban areas.

Despite the great strides it has made in eliminating illiteracy, China has problems with the quality of its rural education (Education World Forum, 2000). The incompetent rural human resources caused by problematic educational practices have become, and will continue to be, the most critical bottleneck to the further development of rural areas and even the whole nation, as China continues its attempts to employ the science- and technology-induced development strategy. According to Dewey, “The modification going on in the method and curriculum of education is as much a product of the changed social situation, and as much an effort to meet the needs of the new society that is forming” (Archambault, 1964, p. 296). There is a need to modify the problematic educational practice in rural China. Otherwise, “when education programs exist out of context, without a bearing on the surrounding job market, or on the local culture, sooner or later they lose their ‘clients’” (Education World Forum, 2000, ¶ 8). At the same time, the successful development of individuals also requires rural youth to have the skills that “will help them to be successful in living a productive and satisfying life” (Hendricks, 1998, p. 4). It is imperative for China to provide rural students the kind of education that will help them improve their low ability and enable them to not only creatively apply agricultural science and technology in real life situations, but also generate new agricultural science and technology to cater to the changing environment. The researcher thus proposes building an infrastructure to provide professional practical skills along with professional technical skills to address the above educational problem.

Within the literature, professional practical skills and professional technical skills are two kinds of education that are frequently written and discussed among writers. However, some writers use slightly different terminology for the same concepts. In the rest of this dissertation, for the sake of the simplicity, the researcher will use technical skills for professional technical skills and practical skills for professional practical skills. Technical skills can be described as the specific subjects as well as the most basic cognitive skills to obtain and retain subject. Mathematics in the sciences can be a good example. Some writers refer to technical skills as technical knowledge or hard skills, which are “primarily cognitive in nature and are influenced by an individual’s Intelligence Quotient (IQ)” (Rainsbury et al,
2002, p. 9). Practical skills, on the other hand, are abilities that professionals will need to apply the technical skills creatively in different situations. Practical skills—sometimes termed soft skills or life skills—are “primarily affective or behavioral in nature and [have] been recently connected with the so-called Emotional Quotient (EQ) popularized by Daniel Goleman (Caudron, 1999; Kemper, 1999; McMurchie, 1998)” (as cited in Rainsbury et al., 2002, p. 9).

According to Hendricks (1998), “there is not complete agreement on the specific life skills needed by youth” (p. 4). The skills referred to as practical skills in this study arise from three domains: intrapersonal, interpersonal, and social domains (Brown, 1996; Hendricks, 1998; Weatherford & Weatherford, 1987). Within each domain, there are certain practical skills. For example, decision-making, problem-solving, and learning to learn are in the intrapersonal domain; working on teams and empathizing with others are interpersonal skills; while assuming leadership and actively practicing citizenship are part of the social domain. In addition, the researcher recognizes and emphasizes the interdependent relationship between technical skills and practical skills, which is the rationale for teaching rural students both skills.

Technical skills are part of the scaffolding upon which practical skills are built, while practical skills, in turn, enable learners to apply and develop technical skills at a higher level. Bruning described instructional scaffolding as “the process of controlling task elements that are beyond the learners’ capabilities so that they can focus on and master those features of the task that they can grasp quickly” (Schunk, 2000, p. 244). Informed by this concept, the researcher uses scaffold here as the basic level of education based upon which higher level of education can happen. However, the most important part of the interdependent relationship between technical and practical skills is that practical skills promote the mastery of technical skills. Specifically, the technical skills that a learner of a certain specialized area will need are useful only if applied as a process of “a transformation of oneself, one’s practice, and one’s knowledge based on the struggles in which one engages in new experiences” (Stevenson, 2002, p. 6). This process requires practical skills to enable the learner to practice technical skills and become a professional, as a result of which, the learner is able to not only do what a professional does (i.e., know what and know how), but also think what a professional thinks (i.e., know why). Students who are equipped with both technical skills
and practical skills will be the competent human resources needed in rural China to implement the science- and technology-induced development strategy and to grow beyond the central-planning model and towards becoming a modern market-driven society.

This dissertation suggests the exam-oriented education system in China needs to be replaced with a new education system that provides rural students with both technical and practical skills. However, for both theoretical and practical reasons, this kind of reform cannot take place overnight. From the theoretical perspective, before reforming actual practices, it is necessary to first reform the educational philosophy that informs the practice. According to Guba (1990), the philosophic perspective "is a basic set of beliefs that guide action, whether of the everyday garden variety or action taken in connection with a disciplined inquiry" (p. 17). The educational philosophical perspective informs the teaching and learning process, the teaching methods, and the learning outcomes. Specifically, the reform of the educational philosophical perspective will lead to changes in both the ends of education and the means employed to reach these ends. It would be futile to just reform the means, which is the teaching and learning process, without changing the ends, which have to do with the final usage of education, and vice versa. Take quality education reform in China for example, which was put forward as a new education mode to handle the exam-oriented education system in China (Wang, 1998). The core idea of quality education is to produce ethical, knowledgeable, healthy and aesthetic youth (Chinese State Council, 2005). Specifically, quality educational reform "will teach students to gain more ability for survival, to show concern for, and to cooperate and get along with others, to correctly settle various conflicts and disputes and distinguish right from wrong" (Wang, 1998, § 6). Quality educational reform is also called basic ability reform by some authors. Some schools that try to use more student-oriented teaching methods, which is part of the quality education reform, "find themselves ending up with the old ‘banking’ teaching method, because the new teaching methods cannot help students pass exams" (Shen & Jones, 2005, p. 34). The ends of education is still passing exams, which can be reached by the old means, which tends to make changing the means of education pointless. Similarly, reforming the National Entrance Exams to universities/colleges to reflect rural students' mastery of both technical and practical skills is no doubt pointless without changing the educational process accordingly to help students learn both skills. Therefore, any reforms that target only teaching practices
without exploring and changing the underlying educational philosophy will result in failure. In fact, most educational reforms in China fail. However, the researcher admits that changing the Chinese philosophical stance is not an easy or fast process.

Exam-oriented education has evolved over a long time and has become so deeply rooted in Chinese society that “people regard those who pass the exam as dragons and those who fail the exam as worms” (Lin, 1993, p. 26). Dragon is the symbol of superiority as ancient emperors were described as dragons, while worms are viewed as useless. The huge difference between the dragon and the worm stimulates the desire of people to become the dragon, which is especially true with rural people, who have been regarded as worms for so long because of their low educational level. Chan (1999) stated “academic achievement and hard work [are] seen by many as the main way of moving up the social ladder” (p. 298). Changing social opinions and the traditional ideology surrounding the importance of passing exams requires time. On the other hand, the exam-oriented education practice has been proven an effective educational practice in China, a country with a large population and few universities. The current practice has social, economic, and cultural importance of existence. Reforming exam-oriented education practices, therefore, should be a systematic process, which requires changing all aspects of the society. Admittedly, this is not an easy or short process either.

However, gradual reform of the exam-oriented education practice does not mean that educational programs that will provide rural students with both technical and practical skills education should be designed only after the exam-oriented education system has been reformed. Instead, careful consideration should be given to the weaknesses and the restrictions of the current educational system—both its philosophical stance and its practice—so that the design and implementation of appropriate educational programs can be facilitated to support the gradual reform process of exam-oriented education. The researcher believes that one of the most critical weaknesses of exam-oriented education, that can be strengthened to enable the providing of practical skills before the complete reform of the education system, is the centralization of the education provider: in present day rural China, schools are the exclusive providers of education.

Under the current exam-oriented education system, school education focuses on technical skills. In order to help students master technical skills and then pass exams that are designed
to assess technical skills, schools devote all formal teaching and learning efforts toward gaining technical skills and leave little or no opportunities for teaching practical skills. However, students do not just learn from schools. According to Clinton (1996), “From the moment [children] are born, they depend on a host of other ‘grown-ups’—grandparents, neighbors, teachers, ministers, employers, political leaders, and untold others who touch their lives directly and indirectly....It takes a village to raise a child” (p. 12). Based on research and experience, the researcher agrees that schools alone can not shoulder all the load of education, especially that of the practical skills education. The researcher thus proposes implementing the it takes a village (ITV) philosophy. Under the ITV philosophy, all the “grown-ups” in the society take an active part in providing education, because they each have their own expertise that schools don’t have especially in the areas of practical skills. In addition, as a part of the society, they each are influenced by the products of education to some extent, which provides the rationale for them to share the responsibility of education with schools. The researcher believes that the ITV philosophy can balance the present education philosophy in particular in the gradual reform process of the present education practice when the formal school education can not provide practical skills education to its students.

Actually, in China, involving other social members in education is not a new idea. In this dissertation, the term other social members refers to all other components and/or units of the society in addition to schools, such as families, universities, companies, and the government, and so on. The origin of education in China took the form of nonformal education, under which younger members learned social practice and work skills from old members in the community (Cleverley, 1985). Later, Confucius, a famous philosopher and educator in ancient China, some of whose ideas on education still influence China, “demonstrated the utility...of learning modestly from others” (Cleverley, 1985, p. 6). In modern China (i.e., after 1949), even though schools were made the sole providers of education, certain practice was tried to involve other social members in education. Specifically, “under the principle of ‘walking on two legs’... schools could be run by enterprises, work units and communities to complement the public system” (Ahmed, Cheng, Jalaluddin, & Ramachandran, 1991, p. 130). If the practice in ancient China could be regarded as a close manifestation of the ITV philosophy, the modern Chinese format of involvement simply makes other social members...
part of the central school system. Other social members are not really involved in education in the sense of the ITV philosophy. As a result, there is a need to examine the feasibility of involving other social members based on the ITV philosophy, specifically as a means to help schools provide both technical skills and practical skills education to rural students in China under the exam-oriented education philosophy.

This study is designed to investigate the enablers and barriers of providing practical skills education in confluence with technical skills education for rural elementary school students in Zhejiang Province, China. It is expected that the findings of this study will provide rationale and guidance for the employment of the ITV philosophy to balance the exam-oriented education philosophy through creating a confluence of formal and nonformal education. Further, this study’s findings will lead to suggestions about developing an appropriate educational program for rural Zhejiang, China that provides practical skills education along with technical skills.

**Study Objectives**

The purpose of this study is to investigate the feasibility of providing practical skills education along with technical skills education in rural Zhejiang under the exam-oriented education philosophy and to put forth recommendations about the design of an appropriate educational program to provide both technical and practical skills education for rural elementary school students in Zhejiang, China. The specific objectives of this study are:

1. Investigate the enablers of providing both practical skills and technical skills education for elementary school students in rural Zhejiang, China
2. Investigate the barriers of providing both practical skills and technical skills education for elementary school students in rural Zhejiang, China
3. Provide suggestions about the design of an appropriate educational program to provide practical skills education in confluence with technical skills education to elementary school students in rural Zhejiang, China, based on the results from the investigation of enablers and barriers.

**Significance of this Study**

Efforts were made in China to reform the present education system to help students develop into ethical, knowledgeable, healthy, and aesthetic youth (Chinese State Council, 2005). Primary among them was quality education reform which targeted practical skills
education in confluence with technical skills education to Chinese students. Under the influence of this reform, some schools not only initiated different educational programs to teach students practical skills, but also started changing the traditional, banking model of education to a more student-centered approach. However, quality education reform failed because of the lack of a comprehensive understanding of the importance of reforming the philosophy that guided the exam-based education system. As a result, most practices of quality education reform have been focused on either the means of the education or the ends of the education.

A good example would be the discrepancy between the reform of the final evaluation methods and the reform of the teaching and learning process. Some elementary school teachers tried to change the traditional teaching methods to a more student-oriented educational approach so that they could help students develop some high-level cognitive abilities. However, the standard exams that students are required to take to get into higher level educational institutes were designed to measure students’ mastery of technical skills only, which means that there has been no need to change the teaching methods when the traditional “spoon-feeding” teaching method was good enough to help students pass exams. As a result, teachers reverted back to the traditional teaching methods that had worked under the exam-oriented education philosophy.

This study puts forth a model that brings the means and the ends of education together through exploring educational philosophies and theories that support and inform the educational practice of providing practical skills along with technical skills to rural students. First, the researcher develops the practical skills from three domains in line with confluent education theory, which has a focus on the combination of learners’ intrapersonal, interpersonal, and social context domains. This focus requires the employment of experiential learning practice to implement the educational program. Morris (1996) stated, “The learning of life skills [technical skills] occurs within an educational context through a means of active participant participation….Within the literature review, this educational process is often referred to as an experiential one” (p. 10). And the essence of experiential learning is making the learning process meaningful to learners (Foundations, 1997). In this study, the focus on the three domains indicates the kinds of learning experiences that are meaningful. Specifically, the learning process that relates learning to the learner’s social
context, encourages learning through cooperation, and situates learning in the learner’s domains of behavior (cognitive, affective, and psychomotor), makes the whole learning process meaningful.

Second, in this study, the researcher identifies and discusses the interdependent relationship between technical skills and practical skills. Essentially, technical skills are the metaphorical scaffolding upon which practical skills are built, while practical skills enable the application and development of technical skills to a higher level. Most important of all, practical skills promote the mastery of technical skills. This interdependent relationship not only indicates the importance of providing practical skill, but also provides the rationale for teaching practical skills in a confluent manner with technical skills instead of as an add-on to technical skills. Third, the researcher suggests the employment of the ITV philosophy can balance the traditional exam-oriented educational philosophy, which can also work as a possible solution to enable the providing of practical skills together with technical skills before the formal exam-oriented education philosophy is reformed.

The traditional exam-oriented education system in rural China deprives even elementary school students the opportunities of experiential learning. Under such educational practices, not only are the mind and the body of the learners separated, but also the learners and the rest of the society are separated. The result is that most students, even those who are considered to be excellent students under the exam-oriented educational philosophy and practice, only have acquired solid technical skills. Even though the importance of practical skills is recognized, students are still taught technical skills only. Thus, through combining the above theories into the design and implementation of the final educational program to help rural students learn practical skills, this study no doubt has its theoretical importance.

In addition to the theoretical significance, through investigating the barriers and enablers of providing practical skills education along with technical skills education to rural youth, this study provides practical support and foundation for the design and successful implementation of the educational programs that provide both skills in the targeted research area, Zhejiang Province. Even though this study is conducted in a relatively developed area in China, it can serve as the model for the execution of similar studies in other areas of rural China, at least, in terms of ideas. This, in the long run, will benefit both developing China as
well as the whole world, especially considering the fact that rural population accounts for 70% of the Chinese population and China accounts for one-fifth of the world population.

**Limitations of this Study**

China is a big country with 23 provinces, which are different in terms of demography, economic development level, and even cultural background. Because this study focuses on rural elementary schools in Zhejiang province, the results of this study cannot be generalized to all rural areas in China. However, the idea of providing technical skills and practical skills education to rural youth can be generalized.
Chapter 2 Literature Review

This chapter discusses the literature that forms the basis for and sets the direction for the study. This review of the literature includes sections that discuss the following six areas: education in China; the relationship between rural education and rural development; professional technical skills and professional practical skills; confluent learning theory; experiential learning theory; and the it takes a village (ITV) philosophy. This chapter begins with a review of the evolution of exam-oriented education practice in China in terms of the guiding philosophy behind and problems derived from this practice, and then transitions to rural education by discussing educational problems in a context of rural development, based upon which the author introduces the idea of the confluence of technical skills and practical skills as a solution to the problems. The chapter concludes with a review and discussion of the theoretical and philosophical bases for providing both technical and practical skills in a confluent manner from the perspectives of confluent learning theory, experiential learning theory, and the ITV philosophy.

Education in China

China is a country with thousands of years of history. It is always beneficial for anyone who wants to study modern China to refer back to its history because history has its marks and influences on all aspects of the modern Chinese society. Education is not an exception. The main educational practice in modern China, the exam-oriented education practice, can be traced back to ancient times. Since the rudimentary format of education first came into being in the Yellow River and the Yangtze, which took the nonformal format as the “transmission of work skills and social practices” (Cleverley, 1985, p. 1), education has existed for more than 6,000 years in China. “Schools approximating our understanding of the word were teaching the rituals of social life to the common people in the Shang Dynasty (c. 1700–1100 BC)” (Cleverley, 1985, p. 1). During the same time period, the ancient format of exam-oriented educational practice originated, “when a rudimentary examination system [the imperial civil service examination] was devised to select men for higher office” (Cleverley, 1985, p. 1). Since then, the imperial civil service examination has dominated the education practice in China, with a few exceptions when it was abolished during certain historical periods (Epstein, 1991). Even after the imperial civil service examination was abolished in
1905 (Epstein, 1991), “the validity of the idea of a national public examination persisted” (Cleverley, 1985, p. 21), as is still the case in modern China (i.e., after 1949).

Although changes have been made to the exam-oriented education practice in modern China in terms of the format, the content, and the specific purpose of the exams, the main educational philosophy remains unchanged. This can be explained by looking at the purpose of education, the roles teachers and students play in the educational process, and the teaching methodologies employed. Under the imperial civil service examination, the exams were designed to test the mastery of Confucian canons (Epstein, 1991) to ensure that “the members of the ruling elite were imbued with Confucian doctrine” (Cleverley, 1985, p. 15), with the only exception in Qin Dynasty at about 210 BC when Confucianism was challenged and overthrown by Qin Shihuang, the first Emperor in China (Cleverley, 1985). As a result, passing exams and then climbing up to the higher social ladders became the purpose of education for many commoners.

The educational process is characterized as teacher-centered. Reflected in the role the teachers and the students each should play, the teacher acted as the knowledge transmitter, passing on principles to students, who took in whatever the teacher taught them with the sole purpose of passing the imperial civil service examination mainly through rote learning (Cleverley, 1985). This teaching and learning process was like a process of “spoon-feeding” (Su, 1996), and it started even as early as the boy can hold a brush (Cleverley, 1985). The relationship between the teacher and the learner in the educational process was like that of an expert and a novice. Not only knowledge (i.e., principles of Confucius), but also the transmitters of the knowledge (i.e., the teachers) were regarded as authority. According to Cleverley (1985),

Mozi, a famous Chinese thinker and teacher, warned his students that trying to refute his words by theirs was like throwing eggs at a boulder; Xunzi, also a famous thinker and teacher, had told his class that not to consider the ways of one’s own teacher the best was as sound as asking a blind man to distinguish colour, or a deaf man sound. (p. 23)

Because students learned principally by rote memorization to prepare for the exams, they did not understand what they had learned and were not able to apply what they had learned in various life situations. Actually, practical utility of the knowledge was not attached great importance at all. Cleverley (1985) goes on to say,
Examination success called for an excellent memory, knowledge of the Classics and their approved annotations, of conventions like avoiding characters used in the personal and after-death names of Emperors of the reigning dynasty, and of the highly stylised ‘eight-legged’ essay form [essays that have the style characterized with eight fixed formats but hollow content], and the accomplishments of an elegant calligraphy and an uncorrected text. (p. 20–21)

As early as Tang Dynasty (618–907), “there were complaints that officials were being selected according to their abilities to speak and write rather than act” (Cleverley, 1985, p. 20). In addition, Zhang Zhongli, a Qing scholar-statesman stated, “the constant drilling in traditional Confucian moral principles and the writing of formalized essays kept the minds of the gentry so occupied that they had little time for independent thought and study” (Cleverley, 1985, p. 21).

According to Gall, Gall, and Borg (2003), positivism is “the epistemological doctrine that physical and social reality is independent of those who observe it, and that observations of this reality, if unbiased, constitute scientific knowledge” (p. 14). Informed by this epistemological philosophy, the learner is regarded as “a wax tablet, a blank slate, [and] a tabula rasa with nothing written on it at birth” (Brown, 1996, p. 7). The teacher, on the contrary, is considered as the knowledge transmitter. The whole teaching and learning process can be depicted as the learner’s being “an empty vessel into which instructors pour their wisdom” (Johnson, Johnson & Smith, 1991, P. 1:4). Obviously, the educational philosophy behind the exam-oriented education practice in ancient China is positivism.

After the People’s Republic of China was established in 1949, exam-oriented education was introduced and still is in use today. Exam-oriented education in modern China can be broadly defined as the kind of education that focuses on teaching technical knowledge and using exams as the final evaluation tool to assess student’s mastery of the technical knowledge. While different from the imperial civil service exams in aspects such as format, content, and the specific purpose of the exams, this modern exam-oriented educational practice still shares similarities with the imperial civil service exams in some important aspects, such as the purpose of education, the relationship between the teachers and the students, and the teaching methods used because both practices are informed by the same educational philosophy, positivism.
The purpose of education for the students in modern China is still passing the exams and thus climbing the social ladder. Much attention is paid to “the development of primary and middle school education with the intention of increasing the transition to higher education” (Atchoarena & Gasperini, 2003, p. 283). As a result, “academic achievement and hard work are seen by many as the main way of moving up the social ladder” (Chan, 1999, p. 298). And “Chinese education has become an education for exams” (Lu, 2000, ¶ 8). Under this kind of educational practice, “exams have become the striving target for teaching and studying activities” (Lu, 2000, ¶ 7). Reflected in the relationship between the teachers and the students in modern China, a teacher-centered approach is still prevalent. Students are passive receivers of knowledge from teachers in order to pass exams. They are expected to accept whatever their teachers teach them. Thus not only the authority of knowledge is unquestionable, but also that of the teachers. Chan (1999) stated, “Chinese learners have been brought up to respect wisdom, knowledge and expertise of parents, teachers and trainers. They have been socialized to respect highly those who provide the knowledge and to avoid challenging those in authority” (p. 298). What’s more, the traditional teaching method, which is “didactic and trainer-centered” (Kirkbride & Tang, 1992, p. 57), remains largely unchanged too. Heavy emphasis is put on “textbooks, memorization, and examination of core academic subjects” (Su, 1996, p. 142). Similar to the education practice in traditional China, “education today still focuses on the acquisition of a vast store of knowledge through rote memorization, at the expense of creativity” (Chan, 1999, p. 298).

From the perspective of education, under the exam-oriented education practice, Chinese students are not provided with education but training. The ultimate goal of education “is not to simply transfer knowledge or develop skills…. What really counts in education is the ability to truly understand subject matter so that it can be applied in various circumstances” (Nichols, 2001, p. 19). In other words, students should be able to not only creatively apply the knowledge they have learned from the school in various situations, but also to construct new knowledge, which requires a deep learning approach. However, guided by the positivism educational philosophy, the exam-oriented education practice in China makes students passive receivers and deprives students’ responsibilities of their own education. Brown (1996) stated, “Deep learning does not take place when we steal these responsibilities from the learner” (p. xxi). As a result, “students will gain at best a naïve grasp of knowledge
within their field of study” (Nichols, 2001, p. 20), which is the result of training (Posner, 1995).

The Chinese exam-oriented education practice covers urban education as well as rural education, and most students produced by this practice are labeled high score and low ability or low score and low ability. The only difference between these two groups of students is whether or not the student can pass exams, not whether the students are capable of applying their knowledge creatively in various life situations, let alone generating new knowledge. Therefore, most of the rural students, even those belonging to the high score and low ability category, probably, at best, can apply knowledge in context-free situations. They have limited competence in terms of reaching the ultimate goal of education. Lin (1993) stated, “[graduates from rural schools] cannot draw up a contract, or write a poster or an advertisement....Few can use what they have learned to analyze the advantages and disadvantages of their areas and to utilize local resources to increase their earnings” (p. 29). At best, they are examination experts, “who do not know how to apply their knowledge to actual life settings, they lack the ability to work or to solve problems independently” (Lin, 1993, p. 28).

**The Relationship between Rural Education and Rural Development**

Development has long been regarded as economic development. And the economic-educational relationship has been described as a one-way relationship, under which economic development determines educational development. In other words, economic development leads to the development of education. As a result, the role education plays in promoting development has been neglected. However, Atchoarena & Gasperini (2003) suggest that “accumulated evidence, as well as development theories, teach us that education is a powerful instrument of economic, social and cultural change” (p. 24). The role education plays in the process of development is recognized especially as a result of the work of the United Nations Development Program on the Human Development Index (HDI). “Development cannot be measured in terms of economic growth alone” (Atchoarena & Gasperini, 2003, p.59). Instead, according to Adelman,

Development is a complex and multi-dimensional process that results from a combination of several factors: (1) sustained growth; (2) modification of social and economic structures; (3) technological progress; (4) social, political and institutional
modernization; (5) overall improvement in the populations’ standard of living.
(Atchoarena & Gasperini, 2003, p. 59)

In this regard, education is an end as well as a means of development. Education as an end of development can be reflected from its being one of the components of human development. Being knowledgeable—having education—is one of the human capabilities that help human beings “develop their full potential and lead productive, creative lives in accord with their needs and interests” (“What is,” 2005, ¶ 1). Education is also one of the means to promote development. According to the Human Capital Theory, education is regarded as “an investment ‘like any other,’ and as a generator of externalities. For example, individuals make individual choices concerning their education, but this choice has a strong economic impact through the resulting increase in total factor productivity” (Atchoarena & Gasperini, 2003, p. 55–56).

Rural education is not an exception. It is not only one of the components of the developmental level of rural areas, but also one of the means to promote rural development. In the case of China, rural education has experienced great positive changes as a part of the country’s reform starting in 1978 (Lin, 1993), with the eradication of illiteracy as one of the most important achievements. According to Lin (1993), “in 1983, students attending primary schools in China numbered 135.578 million; the 94 percent admission rate had increased from 84.7 percent in the mid-1960s” (p. 21–22). Robinson (1991) reports, “the proportion of illiterate Chinese has fallen from over 80 percent before 1949 to 20.6 percent in 1987” (p. 179). “In 2000, the illiteracy rate was only 6.7 per cent” (Yu, 2002, p. 68) for people aged 15 and above, while in 2002, according to Zhou Ji, the minister of education in China, the rate was less than 5 percent among young and middle-age people (UNESCO, 2003). As a result, “Education attainment among people aged 15 and above has improved gradually” (Yu, 2002, p. 68).

Rural education also is an important means for promoting positive rural development such as increasing agricultural production and promoting the development of township and village-owned enterprises (TVEs) which can be explained from the following two aspects. First, rural education contributes to the increase of the agricultural productivity. Human Capital Theory states that “the educational level of the agricultural laborer force has an influence on agricultural productivity” (Atchoarena & Gasperini, 2003, p. 56). In the case of
China, based on an investigation conducted among farmers in 12 provinces and municipalities in 2000, “the average per capita income of a family with less education is lower than that of a family with a middle or higher educational background” (Atchoarena & Gasperini, 2003, p.280).

A high level linear relationship has been identified between the farmers’ educational attainments and their income level, shown by a [sic] evidence-based research conducted jointly by The National Policy Research Department and the Rural Observation Office of the Ministry of Agriculture in 2000. Farmers with high education attainment earn more money. (Zhang, Zhao, Zhao, Zhang, & Wang, 2004, p. 27–29)

Also, according to Fan, Zhang, and Zhang (2002), in China, “Government expenditure on education had by far the largest impact in reducing poverty...it had the second largest return to agricultural gross domestic product...Therefore, investing more in education is the dominant ‘win-win’ strategy” (p. 43–44).

Second, rural education plays an important role in enhancing the development of TVEs, which is the policy designed to transfer China from a traditional agricultural country to an industrial country. Through turning the rural areas into urban areas and then setting up TVEs in those urban areas, this policy has helped China promote rural development by absorbing large numbers of surplus rural labor. According to two surveys conducted in Zhejiang Province and Jiangsu Province, which are among the provinces with the most developed TVEs in China, education has been proved to contribute greatly to the fast development of TVEs (Yu, 2002).

Most people agree that education plays an important role in the development of rural China. However, much research suggests that paying attention to the quantity of education is enough for the development of rural China. In other words, as long as most of the rural labor force has education, it doesn’t matter what kind of education they have, because a labor force with any education will promote positive rural development. Admittedly, this was the case in rural China during the initial stages of the reform started in 1978, which is characterized by two transitions, from a planning economy to a market economy and from a traditional agricultural country to an industrial country (The World Bank, 1997). During these initial
stages, positive rural development can be attributed to the release of the potential capability of the rural labor forces by the new government policies as well as education.

New government policies that were more market oriented replaced the planning oriented policies after the implementation of the 1978 reform, through which the potential competence of rural labor was released. For example, according to Lin (1993), the reform in rural China, which was characterized by replacing the collective cultivation system with a responsible system, "greatly enhanced peasants’ motivation and productivity, and their lives quickly improved" (p. 21). On the other hand, before the 1978 reform, the educational level of rural labor was relative low. With the increase of education attainment, the potential competence of the rural labor no doubt was stimulated too. According to a report released at the International Forum on Development and Financing in Western China held in August 2001, “with universal primary education as the enrollment rate of school-aged children [the attainment of education] increase by 1 percent, the percent capita GDP growth may grow by 0.35-0.59 percent” (Zhang et al., 2004, p. 27).

However, it is no longer the case that China further expands its reform to promote these two transitions in rural areas. “It is widely agreed that the most effective strategy for eliminating poverty and achieving sustainable development in any country is to expand educational access and improve educational quality” (Zhang et al., 2004, p. 1). After having made great achievements to increase the educational access, it's time for China to switch its focus to the educational quality too (Education World Forum, 2000), especially when China tries to apply a science- and technology-induced development strategy. In addition, some new development challenges and issues make the role rural education plays in rural development more complicated. For example, while rural education contributes to increases in agricultural productivity, when China further expands its reform by moving large numbers of people from rural areas to urban areas—which is the premise for China to transfer from a traditional agricultural country to an industrialized country—education actually pushes many farmers out of rural areas especially with the issuing of the policy that facilitates rural people to migrate to urban areas. This will no doubt lead to the decrease of agricultural production because China used to employ a labor-intense production mode. Instead of helping increase the agricultural productivity, rural education now might contribute to the decrease of the agriculture productivity. At the same time, “Rising food consumption standards have
increased demand for grain, pressuring China's farmers to produce ever greater yields" (Hudson, 1997, p. 137) on fewer cultivated lands.

The above paradoxical role played by rural education does not mean that rural education is no longer important to rural development. On the contrary, it requires China to emphasize the role education plays in rural development with a different focus. In the case of the above example, education should be provided to meet the needs of increasing agricultural productivity with fewer farmers. Ma (1989–90) stated, “the future stable development of the rural economy will depend more and more on science and technology, on the quality of labor, and on the quality of qualified personnel” (p. 30). This is true especially in an era characterized by a knowledge economy and globalization, under which, “competitive advantages from the old sources are becoming less important...individuals and firms must focus on maintaining and enhancing their baggiest asset: their knowledge capital” (Bai & Enderwick, 2003, p. 20). To survive and succeed in this new environment, China has to move away from “factor-based growth toward knowledge-based growth” (Dahlman & Aubert, 2001, p. 24). This move requires China to switch from a policy-induced development strategy to a science- and technology-induced development strategy (Ma, 1989–90), which calls for the quality education in addition to the quantity education. Quality education enables the rural human resources to be capable of applying agricultural science and technology creatively as well as generating new agricultural science and technology to promote rural development, which in turn will lead to rural students’ attainment of the ultimate goal of education. As a result, rural students will be able to, according to Nichols (2001), not only “transfer knowledge or develop skills”, but also “truly understand subject matter so that it can be applied in various circumstances” (p.19).

However, as discussed earlier in this chapter, under the present exam-oriented educational practice, “Rural schools are turning out millions of exam experts who do not know how to apply their knowledge to actual life settings. They lack the ability to work or to solve problems independently” (Lin, 1993, p. 28). They can neither creatively apply the existing agricultural science and technology in rural development, nor generate new agricultural science and technology. Take agricultural production for example. According to Zhou (1998), the contribution rate of agricultural science and technology to agricultural production in China is only between 27%–35%, while most of the developed countries have
reached 60%-70%. This is a strong indicator that rural China has very low ability in terms of applying existing science or technology to increase the agricultural productivity, let alone the ability of creating new science and technology. As a result, the ability of the present rural students, who will be the primary rural human resources in the future, in terms of promoting further development in rural China to realize these two transitions, is questionable. There is a need existing for China to pay attention to the quality of education in addition to the quantity of education to promote further development in rural areas.

**Professional Technical Skills and Professional Practical Skills**

In order for rural areas to successfully develop, China must focus on the *quality* of rural education in addition to the *quantity* of rural education. Quality of education includes many areas, such as the quality of the teachers, the quality of the school environment, and the quality of the learners in terms of their state of health, and so on (UNESCO, 2003). This study will mainly focus on the quality of education from the perspective of the nature of education including both the ends and the means of education. According to Daft (2001), "Today’s world is in constant motion….The system of life—and organizations—is fluid, dynamic, and potentially self-renewing” (p. 9). In the same way, Senge (2000) suggests that, "no one really knows what the working world or, indeed, what civilization and culture worldwide will be like in eighteen years, when today’s kindergartners graduate from college” (p. 10). This uncertainty requires students to have the kind of education that will help them cope with various situations in the future instead of knowledge that allows fitting only in a specific situation, which, according to Posner (1995) actually is the process of training. Nichols (2001) emphasizes that the ultimate goal of education “is not to simply transfer knowledge or develop skills. . . . What really counts in education is the ability to truly understand subject matter so that it can be applied in various circumstances” (p. 19). This goal of education implies that there are two kinds of education, technical skills education and practical skills education.

Technical skills can be described as the specific subjects as well as the most basic cognitive skills to obtain and retain subjects and are “associated with technical aspects of performing a job and usually include the acquisition of knowledge (Page, Wilson, & Kolb, 1993)” (as cited in Rainsbury et al., 2002, p. 9). Some writers refer to technical skills as technical knowledge or hard skills, which are “primarily cognitive in nature and are
influenced by an individual’s Intelligence Quotient (IQ)” (Rainsbury et al., p. 9). Practical skills, on the other hand, refer to abilities professionals will need to put into practice technical skills in different life situations. Practical skills are “primarily affective or behavioral in nature, and have recently been associated with the so-called Emotional Quotient (EQ) popularized by Daniel Goleman (Caudron, 1999; Kemper, 1999; McMurchie, 1998)” (as cited in Rainsbury et al., p. 9). They are sometimes termed as soft skills or life skills by some writers.

The importance of technical skills education is recognized and it is what students are learning from the school, while the importance of practical skills education has long been neglected in the context of formal school education. Many efforts and practices developed in recent years happened outside of the formal school education. One of the earliest examples of life skills education in the U.S. was “a manpower training course provided to unemployed individuals” (Morris, 1996, p. 8) that was designed by Winthrop Adkins of Teachers College, Columbia University, Sidney Rosenberg of York University, and the Training Resources for Youth project of the New York YMCA in 1965 (Weatherford & Weatherford, 1987). Since then, life skills education has been written and developed by various authors. Mullen described life skills as “problem solving behaviors appropriately and responsibly used in the management of personal affairs….Appropriate use requires an individual to adapt the behaviors to time and place. Responsible use requires maturity or accountability” (Weatherford and Weatherford, 1987, p. 12). Glenn and Nelson “referred to their ‘significant seven’ as skills that are necessary for success during ones lifetime” (Morris, 1996, p. 7). At the similar time period, Peter Scales focused on neglected thinking and reasoning skills as life skills (Morris, 1996).

Later, life skills were developed to include more thorough skills instead of focusing on a few skills. Hamburg depicted life skills as skills “needed for surviving, living with others, and succeeding in a complex society” (as cited in Morris, p. 7). Sellin (1999) argued that the information technology developments creates the demand for “horizontal or core competencies which cut across sectors and disciplines” (e.g., inter-personal skills, the ability to take a broad view of occupational situations/production processes, the ability to learn, and so on), “transversal and personal skills” (e.g., ability to work in a team, creativity, imaginativeness, self-perception), “participatory skills” (e.g., the ability to understand the
point of view of others, social skills, and so on), and “social and communication skills” (p. 70). One of the most famous and thorough life skills frameworks is the Targeting Life Skills (TLS) Model, which was developed by Hendricks (1998) for 4-H rural youth development programs. Under the TLS Model, all possible life skills were included under four categories, heart, hands, health, and head (Hendricks, 1998).

Though different authors define life skills differently, the skills are linked by certain common threads. In short, authors all agree that youth who have life skills are more likely to lead successful lives today and in the future and will actively contribute to their societies (Morris, 1996). In this regard, as a means to reach positive youth development, obtaining practical skills does not conflict with learning life skills; instead practical skills expand and add to life skills. Based on the study of other writers, the researcher of this study defines practical skills from three domains: intrapersonal, interpersonal, and social context domains (Brown, 1996; Hendricks, 1998; Weatherford & Weatherford, 1987). Each domain, shown in Table 1, contains certain practical skills. For example, decision-making, problem-solving, and learning to learn belong to the intrapersonal domain; teamwork and empathy are interpersonal skills; while leadership and citizenship are part of the social domain. One important thing about this framework of practical skills is that it was not designed to cover an exhaustive list of skills; instead it was created to provide a better understanding of practical skills through a visual version.

There are also differences between practical skills and life skills, which do not just lie in the definition or the detailed skills or abilities practical skills framework include. Instead, the difference rests on the emphasis practical skills have with regard to their relationship with technical skills. The researcher of this study recognizes the interdependent relationship between practical skills and technical skills, which addresses an issue with most of the life skills defined by other authors; that is the lack of the theoretical and epistemological support for the providing of life skills education in confluence with technical knowledge.

Although some authors acknowledged the importance of having both skills together (Rainsbury et al., 2002; Weatherford & Weatherford, 1987), most of them did not explore the theoretical rationale behind from the perspective of the relationship between technical skills and practical skills (i.e., life skills). “The relationship between the technical [i.e., technical skills] and social aspects of a ‘skill’ [i.e., practical skills] has not always been clearly
defined” (Bash & Green, 1995, p. 14). Salovey and Mayer (1990) also stated that research on emotional intelligence has been focused on “more general contributions of emotionality to personality” (p. 190) instead of the active interactions between cognition and affect. As a result, technical skills and practical skills appear more like two isolated skills, and the provision of practical skills usually happens outside the formal school education. Even if practical skills are included in formal education, they are regarded as an add-on to technical skills and are conditioned by technical skills.

Table 1. A framework of practical skills

<table>
<thead>
<tr>
<th>Domain</th>
<th>Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrapersonal domain</td>
<td>Various emotional abilities</td>
</tr>
<tr>
<td></td>
<td>Problem-solving skills</td>
</tr>
<tr>
<td></td>
<td>Creativity</td>
</tr>
<tr>
<td></td>
<td>Critical thinking ability</td>
</tr>
<tr>
<td></td>
<td>Learning to learn abilities</td>
</tr>
<tr>
<td></td>
<td>Decision-making abilities</td>
</tr>
<tr>
<td>Interpersonal domain</td>
<td>Communication skills, both verbal and written</td>
</tr>
<tr>
<td></td>
<td>Teamwork skills</td>
</tr>
<tr>
<td></td>
<td>Empathy</td>
</tr>
<tr>
<td></td>
<td>Actively listening</td>
</tr>
<tr>
<td></td>
<td>Conflict resolution ability</td>
</tr>
<tr>
<td></td>
<td>Developing others</td>
</tr>
<tr>
<td></td>
<td>Collaboration skills</td>
</tr>
<tr>
<td>Social context domain</td>
<td>Community service volunteering</td>
</tr>
<tr>
<td></td>
<td>Leadership</td>
</tr>
<tr>
<td></td>
<td>Responsible citizenship</td>
</tr>
<tr>
<td></td>
<td>Service learning</td>
</tr>
<tr>
<td></td>
<td>Contributing to group effort</td>
</tr>
</tbody>
</table>

**The Interdependent Relationship between Professional Technical Skills and Professional Practical Skills**

In this study, the researcher identifies and explains the interdependent relationship between technical skills and practical skills from three dimensions: 1) practical skills make the application of technical skills in real-life situations possible, 2) technical skills serve as the foundation for the practical skills, and 3) practical skills promote the learning and
mastery of technical skills. The analysis of these three dimensions of the interdependent relationships between technical skills and practical skills provides the theoretical foundation for the providing of these two skills in a confluent manner. The researcher will discuss them one by one in the following paragraphs.

First of all, technical skills include the knowledge as well as abilities to obtain and apply the knowledge to a certain specialized area. Thus, technical skills can be described as the generic knowledge for the same industry/specialized area. However, this generic knowledge is useless if it is simply transferred by the learner from setting A to setting B, both sharing the same application contexts. Instead, it should be a “transformation of oneself, one’s practice, and one’s knowledge based on the struggles in which one engages in new experiences” (Stevenson, 2002, p. 6). This transformation process requires site-specific knowledge to enable learners to apply the generic knowledge in various specific sites. Unlike the generic knowledge, site-specific knowledge can vary even within the same industry because of the different interactions between learners and their context, which includes the environment, culture, and people around them (Stevenson, 2002). “There is substantial variation in the use of relatively similar technical competences [technical skills] across different occupations and companies, even those in the same industry” (Bash & Green, 1995, p.15). For example,

having the expertise to conduct soil sample and analyses is important, but it is critical to have the ability to communicate in an effective and sensitive way when the soil results need to be interpreted, or when they are late, or when another sample is needed because the first one was lost or inappropriately secured, or when one of the five or six people you have to work with to get the analyses done is argumentative or uncooperative. (Ayers & Stone, 1999, p. 2)

Employing site-specific knowledge—the processing of practical skills—is what enables a learner to become a professional. Indeed, this kind of site-specific knowledge differentiates a learner (who has the technical skills) from a professional (who has both technical and practical skills), which also provides the rationale of using the term of practical skills versus technical skills.

Secondly, practical skills scaffold on technical skills. Technical skills are the knowledge, based upon which the processing of practical skills can happen. Simply put, a professional,
first of all, needs to have technical skills, to apply to new experiences. Otherwise if the person does not have the technical knowledge to perform a job, there would be no point of having practical skills, because there would be simply no knowledge to be processed. This is especially true in the twenty-first century, the knowledge economy era, when the generation, innovation, and transformation of knowledge are the main impetus for development. Dahlman and Aubert (2001) stated that a knowledge-based economy requires people to be able to “create, acquire, share, and use knowledge effectively” (p. 69), which calls for both technical skills (i.e., technical knowledge) and practical skills (i.e., the abilities to process, transform, and generate the technical knowledge).

Lastly and most importantly, practical skills promote the learning and mastery of technical skills. This can be explained first from the perspectives of the theory. Learning is a process during which the learners construct meanings of their experiences (Merriam & Caffarella, 1999). Practical skills promote the learning and mastery of technical skills because the former promotes learners’ meaning-make process through a confluence of three domains of learners; that is, intrapersonal, interpersonal, and social context domains. Specifically, by relating learning to the learner’s social context, by encouraging learning through cooperation, and by situating learning in the learner’s domains of behavior (cognitive, affective, and psychomotor), the whole learning process is meaningful. The learner thus will learn and master the knowledge (i.e., technical skills). In the following paragraphs, the researcher will discuss these three domains one by one with regards to their facilitation of the meaning-making learning process of learners.

The learner’s intrapersonal domain includes three aspects, the learners’ cognitive domain, the learner’s affective domain, and the learner’s psychomotor domain. “Cognitive refers to the activity of the mind in knowing an object, to intellectual functions. “What an individual learns and the intellectual process of learning it would fall within the cognitive domain” (Brown, 1971, p. 4). A good example would be learning to read. “Affective refers to the feeling or emotional aspect of experience and learning. How a child or adult feels about wanting to learn, how he feels as he learns, and what he feels after he has learned are included in the affective domain” (Brown, 1971, p. 4). Preferences and attitudes are good examples of the affective domain. “The psychomotor domain includes all behaviors
involving body movement or muscular control”, for instance, athletic and sports (Ringness, 1975, p.5).

Although learners’ affective domains are present in any learning situations, it is typically neglected and not introduced intentionally during school education (Ringness, 1975). However, this doesn’t mean that the affective domain is not important. According to both the study of the physical organization of the brain and the cognitive development of the brain, the affective domain plays an equal important role as the cognitive domain (Merriam & Caffarella, 1999). Cherniss (2000) stated, “There is research suggesting that emotional and social skills actually help improve cognitive functioning” (p. 5). “Positive emotion may alter memory organization so that cognitive material is better integrated and diverse ideas are seen as more related” (Salovey and Mayer, 1990, p. 198). This can also be explored by analyzing the interaction between levels of Bloom’s Cognitive Taxonomy and Affective Taxonomy.

Under the lowest level of Bloom’s Affective Taxonomy, which is receiving, learners become aware of the content (Ringness, 1975). They are neither for nor against it, which means that they haven’t exerted their feelings (“Alternative Learning,” 2003). Whether or not they will proceed to the lowest level of the Cognitive Taxonomy, knowledge and comprehension, depends on how they feel about the information, i.e. responding (“Alternative Learning,” 2003), which is the second lowest level of the Affective Taxonomy (Ringness, 1975). This has been proved by new neuroscience discoveries of human being’s brain, which claims that the limbic brain, the emotional mechanism of the brain, serves as the gatekeeper of the brain (Goleman, 1995). In other words, people filter the information entering into their brains and decide its ultimate destination based on their feelings. If they feel it’s meaningful, they will direct the information further to the cortex brain, the cognitive mechanism of the brain. Otherwise, the information will not even have the chance to be learned; that is being rejected by the limbic brain to enter the cortex brain, let alone reaching the highest level in Bloom’s Cognitive Taxonomy.

On the other hand, the higher levels of the Cognitive Taxonomy, application, analysis, synthesis, and evaluation, in which learners are “grasping concepts and being able to use them creatively” (Nichols, 2001, p.16) to reach generativity (B. L. Jones, personal communication, October 18, 2002), requires learners to “develop some organization of preferences, appreciations, and attitudes on which to act. “It is exactly this affective
dimension that brings learning out of mere passivity and accumulation of information toward full, active participation and meaning outcomes” (Beane, 1990, p. 8-9).

Based on the above discussion of the learner’s intrapersonal domain, it is apparent that the realization of the Cognitive Taxonomy will not happen if the attention is only paid to the learners’ cognitive learning domain. Brown (1971) stated, “The cold, hard, stubborn reality is that whenever one learns intellectually, there is an inseparable accompanying emotional dimension” (p. 11). In other words, “it is not that we want to do away with emotion and put reason in its place...but instead find the intelligent balance of the two” (Goleman, 1995, p. 28-29). In addition, the learning process designed by combining the affective and cognitive domains of the learner sometimes also addresses the psychomotor domain of the learner to certain extent. For example, the design of some hands-on learning activities to stimulate student’s interest in learning no doubt involves the learner’s psychomotor domain. In conclusion, a confluence of learners’ three intrapersonal domains is necessary for the realization of the highest level of the Cognitive Taxonomy, which is also the ultimate goal of education.

The interpersonal domain of the learner also plays a very important role in the educational process in terms of making learning meaningful. Human beings are social animals and they create meanings through group activities. According to symbolic interactionism, “the meanings of things arise out of social interaction. For example, in Chinese culture, the notion that bamboo sticks are eating utensils called chopsticks (or, more accurately, kuai zi) is constructed through group life” (Esterberg, 2002, p.15). This was confirmed by Dewey too. Influenced by Darwin’s evolutionary method, Dewey described education as an evolutionary process that “proceeds by the participation of the individual in the social consciousness of the race” (Archambault, 1964, p. 427), with an emphasis on interaction, both among individuals and between individuals and the environment. In other words, interactions and communications of experiences among all individuals should be allowed, so that the appropriate changes/adjustments of the society can happen. Reflected in education, this means that the educational process is the process of social interaction. According to Johnson et al. (1991), “Learning is a personal but social process that results when individuals cooperate to construct shared understandings and knowledge” (p. 1:10).
The important role the learner’s social context domain plays in education in terms of making learning meaningful can be simply described by the statement that knowledge (i.e., technical skills) is contextual. It is situated in the context, from the context and for the context. According to Taylor and Mulhall (1997), learning is influenced by the linkage between the school, parents and community—the social context. It is not “just a psychological process that happens in splendid isolation from the world in which the learner lives, but that it is intimately related to that world and affected by it” (Jarvis, 1987, p. 11). As the society/world we are in is complex and changing frequently, what the learner learns today may not be useful and related later in their life (Senge, 2000). This requires the learner to be able to construct knowledge to fit in different context—the ultimate goal of education. This won’t happen if the educational process is context-free, under which the learner “will gain at best a naïve grasp of knowledge within their field of study, and little of what they learn can be transferable or useful later in life” (Nichols, 2001, p. 20). Even though some knowledge may be objective and stable, especially those from the physical science, it is still contextual. According to symbolic interactionism, the learner can learn the knowledge and apply it creatively only if s/he can make meaning of it in the context (Esterberg, 2002), which means that the learner still needs to make meaning of the “objective and stable knowledge” in the context.

The role practical skills play in promoting the learning and mastery of technical skills can also be illustrated by some practical examples. 4-H is an extracurricular educational program in the United States which is designed to help youth learn all kinds of life skills. “Studies suggest that participation by community organizations such as 4-H can enrich the learning environment of elementary and middle school classrooms (National 4-H Science and Technology Committee, 1991)” (as cited in Horton & Konen, 1997, P. 1). Specifically, in a study conducted in Colorado that was designed to assess the impact of the 4-H school enrichment projects, eighty-five percent of the agents being surveyed in twenty counties across the state reported that “the greatest impact was increased conceptual knowledge for students within the local schools” (Tochterman, Carroll & Steele, 2004, p. 1).

In addition to the studies conducted to evaluate the impact of the 4-H youth programs, there is also the famous “marshmallow studies” at Stanford University. In this study, some four-year old kids, who stayed in the room alone with a marshmallow, were told that “if they
could wait until the researcher came back before eating the marshmallow, they could have two” (Cherniss, 2000, p. 5). Of course, some kids ate the marshmallow while others didn’t. A study conducted ten years later among these kids indicated that “who were able to resist temptation had a total SAT score that was 210 points higher than those kids who were unable to wait (Shoda, Mischel, & Peake, 1990)” (as cited in Cherniss, 2000, p. 5). Another study conducted in the Philadelphia schools found that “students in an affective group using confluent approaches had half the absences and a third the tardiness of a control group... In addition, students in the affective group improved in reading comprehension more than the control group, and grades increased for 62 percent of the students in English and 51 percent in social studies” (Brown, Phillips & Shapiro, 1976, p. 22).

The above discussion of the interdependent relationship between the technical skills and practical skills especially the important role practical skills play in promoting the learning of technical skills indicates that a confluence of technical skills and practical skills is required to realize the ultimate goal of education. Practical skills should not be regarded as an add-on to technical skills in formal school education anymore; instead, they should be provided together with technical skills to enable students to “apply knowledge, skills, attitudes and values to standards of perfection required in specific context” (Rainsbury et al., 2002, p. 8), and generate new knowledge as well. In addition, the confluence of technical skills and practical skills is also required by the market economy, not only in terms of the development of the whole nation, but also that of individuals, especially in a new era characterized with globalization and knowledge-based competition. “Hard and soft skills [technical skills and practical skills] are now regarded by many authors as being complementary, with successful individual performance in the workplace seen to require both types of skills, and superior performers having high EQ as well as high IQ ratings (Kemper, 1999; McMurchie, 1998)” (as cited in Rainsbury et al., 2002, p. 9).

**Confluent Education Theory**

As discussed earlier in this chapter, facilitating the learning of students in a manner that enables them to not just be consumers of information, but actual producers of knowledge is the ultimate goal of education. Several educational theorists and philosophers believe that a confluence of technical and practical skills is a process to help students reach these ultimate goals. They also believe these to be necessary for youth to lead successful productive lives.
today and in the future. However, under the present exam-oriented education philosophy in China, rural students are only provided with technical skills in schools even though the importance of practical skills has been recognized. The main reason is the lack of an understanding of the interdependent relationship between technical skills and practical skills, which has been addressed earlier in this chapter. However, in order to provide practical and technical skills in a confluent manner, it is also necessary to establish a good understanding of the educational theory that supports this educational practice, which is the confluent education theory.

The Definition of Confluent Education

Confluent education theory originated in late 1960s and early 1970s (Brown, 1996) in the U.S. When the idea of confluent education was first put forward by some writers, it had a focus on the integration or confluence of the learner’s affective and cognitive domains. There are three domains of the behavior of the learner, the cognitive domain, the affective domain, and the psychomotor domain (Ringness, 1975). “Cognitive refers to the activity of the mind in knowing an object, to intellectual functions. What an individual learns and the intellectual process of learning it would fall within the cognitive domain” (Brown, 1971, p. 4), for example, learning to read. “Affective refers to the feeling or emotional aspect of experience and learning. How a child or adult feels about wanting to learn, how he feels as he learns, and what he feels after he has learned are included in the affective domain” (Brown, 1971, p. 4). Take learning to read as an example again, the attitudes felt during and after reading about the subject matter. The psychomotor domain deals with all learning behaviors “involving body movement or muscular control”, for instance, athletics and sports (Ringness, 1975, p. 5). In reading, for example, this might include the physical capacity to read via eyesight or brain. “These domains of learners, as they form an integrated whole or gestalt, are confluent” (Brown, 1996, p. xxi). Therefore, confluent learning theory can be simply defined as the learning process during which learners’ cognitive, affective, and psychomotor domains work together.

Much attention has been directed to the integration of the affective and cognitive domain only. Brown et al. (1976) stated, “The first conceptualization of confluence blended emotional and intellectual factors in learning and teaching or integrated the affective and cognitive domains” (p. 10). This is because “Traditional curriculum placed almost total
emphasis on cognitive objectives and cognitively oriented learning experiences” (Brown et al., 1976, p. 16). As a result, learners’ affective domain is typically neglected and not introduced intentionally during school education (Ringness, 1975), even though, “The cold, hard, stubborn reality is that whenever one learns intellectually, there is an inseparable accompanying emotional dimension” (Brown, 1971, p. 11). “Confluent education is the term for the integration or flowing together of the affective and cognitive elements in individual and group learning-sometimes called humanistic or psychological education” (Brown, 1971, p. 3). Later, Rogers (1974) also proposed “learning by the whole person, with feelings and ideas merged” (p. 103). These writers all consider confluent education as the integration of the learner’s affective domain and cognitive domain.

A thorough description of confluent education is more than a confluence of these three intrapersonal domains, “Being ‘confluent’ means being aware of, and taking responsibility for, yourself in relation to your experience and your context, people you’re interacting with, the topic and material you’re engaging in, group dynamics, and your environment” (Brown, 1996, p. xvi). According to Johnson et al. (1991), “Learning is a personal but social process that results when individuals cooperate to construct shared understandings and knowledge” (p. 1:10), which is “intimately related to [the] world and affected by it” (Jarvis, 1987, p. 11). Confluent education is now viewed as “a conceptual framework that emphasizes the integration of cognition and affect by creating an awareness of the relationships among [intrapersonal, interpersonal, and social contextual domains]” (Brown, 1996, p. 46). Confluent education calls for an integration of the learner’s intrapersonal, interpersonal, and social domains. Brown, et al. (1976) offered this example:

if a curriculum is designed to teach democratic processes, and individual students share in decisions affecting them, work in small groups in a decision-making process, and participate with the teacher in setting classroom rules, a confluence exists among intrapersonal needs, interpersonal relations, and the extrapersonal [social context] setting. If the teacher governs the class autocratically, however, the situation is not confluent. (p. 11–12)

**The Epistemology behind the Confluent Education Theory**

The important role confluent education theory plays in facilitating learners’ development of practical skills in addition to technical skills, first of all, can be traced back to its epistemological origin (i.e., philosophic perspectives on education). According to Guba
(1990), the philosophic perspective “is a basic set of beliefs that guide action, whether of the everyday garden variety or action taken in connection with a disciplined inquiry” (p. 17). Reflected in education, different epistemologies inform different designs of the teaching and learning process as well as different teaching methods, and therefore lead to different learning results. According to Brown (1996), there are two views of knowledge, a spectator view and a participator view, the latter of which is the epistemological origin of confluent education theory. A spectator view is developed based on the traditional paradigm, which describes knowledge as the objective truth existing “out there”. Plato, one of the first people who subscribed to this epistemology, stated that “knowledge exists free from practical reference and has its source in a purely immaterial, ideal world” (Brown, 1996, p.6). Under this epistemology, the learner is regarded as “a wax tablet, a blank slate, [and] a tabula rasa with nothing written on it at birth” (Brown, 1996, p. 7). The teacher, on the contrary, is considered as the knowledge transmitter. The whole teaching and learning process can be depicted as the learner’s being “an empty vessel into which instructors pour their wisdom” (Johnson et al., 1991, P.1:4). There is no need for the learner to exert any active influence on the learning process. The more passive the learner is, the better the learner can learn. A good example is that a student “learns about football by watching a game” (Brown, 1996, p. 5).

A participator view of the knowledge, on the contrary, has a focus on “active participation”. Reflected in the above example, the learner learns about football “by playing the game, not by watching it” (Brown, 1996, p. 5). Knowledge is viewed as something that can be constructed by the learner (Brown, 1996). The learner is not regarded as a sheet of blank paper, instead, according to Dewey and Piaget, s/he brings with his/her own formal experiences and schema of former knowledge (Brown, 1996; Slavin, 1997) when confronted with new learning opportunities. The teacher is no longer the authority or expert who transmits the knowledge to the learner. Learning happens when the learner makes meaning of their experiences and then assimilates or accommodates whatever s/he is confronted to his/her former schema and experiences (Brown, 1996; Schunk, 2000). The teaching and learning process is thus the process of the learners’ meaning-make (Merriam & Caffarella, 1999).
**Confluent Education Promotes a Confluence of Professional Technical Skills and Professional Practical Skills**

Under the spectator view of knowledge, great emphasis has been put on the learning of technical skills because they are the “objective truth existing 'out there'”. And it is possible to test the mastery of this “objective truth” (i.e., technical skills) through exams. The exam-oriented education system in China is a good example of applying this epistemology in practice. Under the exam-oriented education system, students are regarded as passive receivers of whatever technical skills teachers pass on to them in order to pass various exams that are designed to test the mastery of technical skills. As described by Lu (2000), the purpose of education is passing exams. The participator view of knowledge, however, has an emphasis on the importance of learning practical skills in addition to technical skills. Knowledge is considered as being constructed by the learners through meaning-making process (Brown, 1996; Merriam & Caffarella, 1999) that happens when the learners’ intrapersonal, interpersonal, and social contextual domain work together, the realization of which calls for practical skills. Anchored in a participator view of knowledge, confluent education theory thus can facilitate learners to learn practical skills together with technical skills. Brown et al. (1976) stated, confluent curriculum “has been designed in three broad goals categories: to achieve traditional subject matter goals, to achieve nontraditional goals of personal and interpersonal or social development, and to learn process skills that will help students to attain their own goals” (p. 16).

In addition, these two epistemological views also lead to different learning approaches students employ, which inform different learning contexts, such as the curriculum and teaching methods, etc., and therefore stimulate different learning results. Learning approaches refer to “the ways in which students go about their academic tasks, thereby affecting the nature of the learning outcome (Biggs, 1994)” (as cited in Chin & Brown, 2000, p. 110). Although students’ personal factors play a role in students’ decision-making process regarding which learning approach to choose (Chin & Brown, 2000; Rhem, 1995), “students’ perception of particular contexts and the intention she forms as a result” exert a bigger influence (Rhem, 1995, ¶ 9). Generally speaking, there are two learning approaches, the surface learning approach and deep learning approach. “The surface approach is based on extrinsic or instrumental motivation”, under which the learner “perceives the task as a demand to be met, tends to memorize discrete facts, reproduces terms and procedures
through rote learning, and views a particular task in isolation from other tasks and from real life as a whole” (Chin & Brown, 2000, p. 110). They “would simply try to remember the text” (Webb, 1997, p. 195). “A ‘deep’ approach to learning is one in which a person tries to understand and construct meaning from a learning event” (Webb, 1997, p. 195). It is “associated with intrinsic motivation and interest in the content of the task” (Chin & Brown, 2000, p. 110).

When considered in terms of Bloom’s Taxonomy of Educational objectives (1956), ‘deep’ learning requires higher order cognitive thinking skills such as analysis (i.e. compare, contrast) and synthesis. ‘Surface’ learning, on the other hand, consists mainly of comprehension and reproducing knowledge (rote learning) which is often forgotten by students shortly after the course has ended. (Campbell, 1998, ¶ 1)

When learners employ the surface learning approach, “they were [are] looking for the facts they thought [think] they would [will] be tested on. They were [are] not looking for the meaning of the text” (Rhem, 1995, ¶ 4). They may have “a good memory for facts and definitions, but limited ability to understand or use them” (Thomas, 2003, ¶ 1). As a result, they stay in the lower levels of Bloom’s Cognitive Taxonomy. They “will gain at best a naïve grasp of knowledge within their field of study” (Nichols, 2001, p. 20). There is no way that they can apply the knowledge in various life situations, let alone generating new knowledge. “Deep learning, on the other hand, results in facility of thought derived from linking newly acquired facts and definitions into a conceptual framework of existing knowledge” (Thomas, 2003, ¶ 1). By employing a deep learning approach, the learners try to focus on the meaning of the text. They proceed to the higher level of the Bloom’s Cognitive Taxonomy, application, analysis, synthesis, evaluation, and generativity (B. L. Jones, personal communication, October 18, 2002). Consequently, they have the ability to truly understand subject matter so that it can be applied in various circumstances instead of simply transferring knowledge or skills (Nichols, 2001).

Within the spectator view of knowledge, the learning responsibility lies with the teacher. Brown (1996) stated that deep learning will not happen when students’ responsibility is stolen. As a result, students are extrinsically motivated and seldom make meaning of what they have learned and do not construct knowledge. Accord to Rhem (1995), the traditional teaching and learning process that is informed by the spectator view of knowledge “pushes
students toward superficial levels of engagement with material, even as it hopes to do the opposite” (¶ 5). In short, students employ a surface learning approach under the spectator view of knowledge. Under the participator view of knowledge, which is the epistemological perspective informing confluent education, the learners are responsible for their own learning. By relating what they have learned with their intrapersonal, interpersonal, and social contextual domains, the learners are intrinsically motivated. They “acquire some subject matter content in the belief that by so doing they will be able to satisfy a felt need, solve a problem, or in some other way fulfill a conscious desire”, which leads to deep learning (Brown, 1996, p. 22). Therefore, the learners employ a deep learning approach under a participator view of knowledge.

The discussion so far indicates that, under the spectator view of knowledge, the learners are likely to stay in the lower levels of Bloom’s Cognitive Taxonomy and only have a superficial mastery of the knowledge. The participator view of knowledge enables the learners to reach the higher levels of Bloom’s Cognitive Taxonomy, as a result of which they not only can apply the knowledge in various situations, but also generate new knowledge. In other words, they have both technical and practical skills. Informed by a participator view of knowledge, confluent education theory influences the design of teaching and learning processes in such a way that it facilitates the learners to employ the deep learning approach, and therefore leads to learners’ mastery of practical skills in addition to technical skills.

Practically, confluent education also plays a very important role in terms of producing the kind of human resources a market economy will require in China. China used to have a central-controlled and central-planning system, under which, everything was strictly controlled by the central government. The central government made decisions and took initiatives in issues regarding all aspects of people’s life. There was no need for the people to be actively participating in the decision-making process. Just as the students under the traditional exam-oriented educational philosophy, the more passive the people, the easier and better their lives were. However, under a market economy that China is trying to evolve, people are given more decision-making and initiative-taking responsibilities, which are not nurtured under the traditional educational philosophy. For example, farmers, who used to produce whatever agricultural products the government ordered, now are required to make decisions regarding what to produce, how much to produce, and how to sell the products.
However, they are just not trained to make all these decisions. There is a huge gap between economic development and the human resources needed for the economic development. Confluent education can help eliminate this discrepancy by facilitating the learning of practical skills, which includes a series of abilities people will need to adapt to the market economy. What’s more, confluent education theory itself has the democratic theme which is required by the market economy. “Students are not viewed as objects to be molded into predetermined forms; rather, students and teachers work together in what one hopes is a mutually empowering learning experience” (Hurlburt, Kroeker, & Gade, 1991, Discussion section, ¶ 2).

In conclusion, confluent education provides a support to the providing of practical skills in addition to technical skills, both theoretically and practically. It is “grounded in a humanistic paradigm that emphasizes subjectivity, process, and personal development, as opposed to models of learning that stress objectivity, performance, and mastery of subject matter” (Shapiro, 1983, p. 85).

Most of the evidence consistently indicates that confluent education can make an important difference in facilitation many affective variables connected with development and learning, personal growth, self-concept, philosophical understanding, interpersonal relationship, attitudes toward school and learning, and general classroom environment apparently can all be improved by various confluent approaches. (Shapiro, 1983, p. 88–89)

In addition, confluent education also echoes some of the ideas of Confucius. According to Tweed and Lehman (2002), Confucius valued pragmatic learning. “An acceptable goal of learning, in addition to personal reform, is to competently conduct oneself within a civil service job (13:5), a role Confucius viewed as important for reforming society” (p. 92).

Experiential Learning Theory

Based on the discussion earlier, confluent education theory informs the educational practice that provides practical skills together with technical skills to students, both theoretically and practically. However, applying the confluent education theory in the real educational process to help students master both skills requires the employment of experiential learning. Brown (1996) stated, “What has been termed ‘experiential learning’… clearly seems to be a prerequisite to integrated learning” (p. 32-33). What’s more, “the
learning of life skills [practical skills] occurs within an educational context through a means of active participant participation....Within the literature review, this educational process is often referred to as an experiential one” (Morris, 1996, p. 10). Thus it is necessary to gain a good understanding of the experiential learning theory before applying the education practice that provides both technical and practical skills.

Though there are several different definitions of experiential learning in the literature (Weatherford & Weatherford, 1987), there are certain common threads going through them, which characterize the learning as a process that “a learner constructs knowledge, skills and value from direct experiences (the American Association for Experiential Education)” (as cited in Atchoarena & Gasperini, 2003, p. 209). Experiential learning is nothing innovative, it “began in earliest time as man learned from discovery and by experimentation with his surroundings” (Weatherford & Weatherford, 1987, p. 2). The importance of learning from experiences has been reflected by some famous figures. For example, Confucius (450 BC) pointed out the importance of learning from experiences by stating that “I hear, I forget; I see, I remember; I do, I understand” (Kennedy, 1998, p. 489). The “father” of extension – Seaman A. Knapp also stated: “What a man hears, he may doubt; what he sees, he may possibly doubt, but what he does, he cannot doubt” (Rasmussen, 1989, p. 35). “Early advocates [of experiential learning] were not even educators” (Weatherford & Weatherford, 1987, p. 2). “Contemporary educators have just begun to question its [experiential learning] greater utilization for more meaningful education. Thus, experiential learning is “soundly based in intellectual traditions of social psychology, philosophy, and cognitive psychology” (Kolb, 1984, p. 3-4). John Dewey, a great philosopher, was one of the first to “suggest actual experiences should be utilized to enhance a learner’s growth” (Weatherford & Weatherford, 1987, p. 2), and he “establish[ed] the contemporary basis for experiential education” (p. 4).

Influenced by Darwin’s evolutionary method, Dewey claimed that humans are products of evolution, “action is response; it is adaptation, adjustment” (Campbell, 1995, p. 37). Therefore, “the organs and structures of all living things, humans included, are to be treated as instruments of ‘adjustment or adaptation to a particular environing situation’” and this adjustment process is a “continuing process” (Campbell, 1995, p. 37). It is primarily based on this general philosophic idea that Dewey later described education as a process that “proceeds by the participation of the individual in the social consciousness of the race”
(Archambault, 1964, p. 427) and concluded that “all genuine education comes about through experience” (Dewey, 1938, p. 13). In describing the nature of education, “Dewey stresses the experimental character of learning” (Brown, 1996, p. 4). He (1938) declared the existence of “the organic connection between education and personal experience” (p. 12). Even though in a less widening and deepening level compared to the confluent education theory, Dewey’s exploration of the relationship between experiences and education comes close to the confluent concept (Brown, 1996). This is also one of his major accomplishments, which exerts great influence on the educational practices and institutions thereafter.

The essence of Dewey’s perspective on experiential education was not only different from the traditional philosophy, rationalism, but also those of empiricism. According to Plato, to whom the key argument of rationalism can be traced, there is a sharp distinction between knowledge and experience (Brown, 1996; Schunk, 2000). He argued that experience “is associated with constantly changing things and appearances of which we can only form beliefs, not true knowledge” (Brown, 1996, p. 6). Thus experience is useless to learning at all. Though the empiricist assigns an important role to experience by claiming that knowledge arises from the experience (Brown, 1996; Schunk, 2000). Their views of experience are still different from that of Dewey’s. Locke, “a highly influential empiricist” (Brown, 1996, p. 7), describes human mind as “a wax tablet, a blank slate, a tabula rasa with nothing written on it at birth” (Brown, 1996, p. 7). “Ideas are acquired from sensory impressions and personal reflection on these impressions” (Schunk, 2000, p. 17). Locke’s account of experience thus renders mind as passive and receptive, not being able to “construct any ideas, beliefs, or knowledge of its own” (Brown, 1996, p. 6). Human beings learn from experiences primarily through sensation. For example, according to Locke (1947), “A snowball [has] the power to produce in us the ideas of white, cold and round” (p.134).

Although the experience portrayed by rationalism and empiricism is different, they still share certain similarities. In short, both rationalists and empiricists neglect the active human component in knowledge acquisition (Brown, 1996). These two philosophic views are a reflection of the teaching and learning process in traditional classroom-based education. This is characterized as “dualisms of mind and body, mind and world, and on deductive logic that works from the general to the particular” (Foundations, 1997, p. 7). Dewey rejected these two perspectives and these dualisms. He not only argues that experience is important to learning
(i.e., opposes the traditional separation of experience and knowledge), but also states that not all experience is educative (i.e., disagrees with empiricists’ perspectives on experience). According to Dewey, experience is valuable to learning when it “includes both an active and a passive element” (Brown, 1996, p. 9), which is based on the general philosophic views that Dewey holds for human actions. Dewey believed that human actions are the “‘large co-ordination’ of the live creature” (Campbell, 1995, p. 35). Take “a child and a candle” as an example. A child sees a candle; s/he touches it, and gets burned. S/he then withdraws his/her hand, and avoids repeating that action again in the future. For those who favor dualism of “body” and “soul”, there are two separate stages in this human action. One is that the sensation of light stimulates the child to touch the fire as a response, while the other is that the burning result stimulates the child to withdraw his/her hand as a response (Campbell, 1995). The child is more like a machine, acting upon the separate stimulus without the intervention of the mind to combine them by thinking. An empirical example of this kind of experiential learning is “George Berkeley’s description of the same water feeling cold to a warm hand and hot to a cold hand” (Brown, 1996, p. 8).

Dewey argued that there is only one whole experience for this human action, which he called “a sensori-motor coordination” (Campbell, 1995, p. 35). The child first sees the candle, which is reflected to his/her mind. S/he then takes action, i.e. touches the fire. But the experience is not finished here. Instead, the fact that s/he gets burned, which is the result of taking action, is the completion of the experience. In addition, the child ends with learning not to touch fire again in the future through reflection and thinking about the burning result. Thus experience is portrayed by Dewey as a whole part, which should be understood in the sense of the “cumulative process of interactions between a living organism and its environment, a process that finds the organism undergoing change and striving for control” (Campbell, 1995, p. 71). To make this kind of educative experience happen, combining “what people undergo” and “what people act upon” through reflection and thinking is imperative. In the above example of a child and a candle, Dewey wouldn’t call it an experience (that is educative) if the burning of the hand, what the child undergoes were not connected with the pain and then resulted in avoiding touching the fire in the future. Reflection/thinking, “those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations” (Boud,
Keogh, & Walker, 1985, p. 19), plays the key role in transforming experiences into knowledge. “If we are exposed to one new event after another without a break we are unlikely to be able to make the most of any of the events separately” (Boud et al., 1985, p.26).

Dewey also believed that experience is valuable to learning when it has influences on future experiences. He (1938) stated, “Every experience lives on in further experiences. Hence the central problem of an education based upon experience is to select the kind of present experiences that live fruitfully and creatively in subsequent experiences” (p. 16-17). This is later echoed by other writers as well. “Daniel Goleman documents the ways in which prior experience conditions our responses to current experiences—offering physiological evidence that we learn from experience” (Foundations, 1997, ¶ 14). Boud et al. (1985) stated, “It is important to draw upon learners’ prior experience and to provide opportunities for them to be engaged actively in what they are learning” (p.7). They further extend this idea when they develop the reflection model by claiming that the former experience of the learner plays an important role in his/her later learning process (Boud et al., 1985). Glaser and Baxter (1999) also expressed the same view:

Extensive research and theory on human problem solving shows that the ways students represent the information given in a math or science problem, or in a text that they read, depends upon the organization of their existing knowledge. As learning occurs, increasingly well-structured and qualitatively different organizations of knowledge develop. These structures enable individuals to build a representation or mental model that guides problem solution and further learning, to avoid trial-and-error solution strategies, and to formulate analogies and draw inferences that readily result in new learning and understanding. (p. 2–3)

Therefore, “The fundamental thing we need to do, to achieve learning that lasts, is connect the new learning with one of those pre-existing networks” (Foundations, 1997, ¶ 14).

In addition to Dewey, Piaget, a psychologist, and Kurt Lewin, an organizational theorist, were also influential authors on the development of experiential learning theory. According to Kolb (1984),

Piaget’s distinctive contributions to experiential learning are his description of the learning process as a dialectic between assimilating experience into concepts and
accommodating concepts to experience, and his work on epistemology—the relationship between the structure of knowledge and how it is learned. (p. 18)

Further, Schunk (2000) asserts that, “according to Piaget, cognitive development depends on four factors: biological maturation, experience with the physical environment, experience with the social environment, and equilibration…Equilibration is the central factor and the motivating force behind cognitive development” (p. 233). Learning happens when the learner tries to solve the cognitive conflict to reach equilibration by either assimilation, “fitting external reality to the existing cognitive structure,” or accommodation, “changing internal structures to provide consistency with external reality” (Schunk, 2000, p. 234). Kurt Lewin, an organizational theorist, basically emphasizes the importance of experience to organizational learning. He argued that “personal and organizational development resulted from the ability of an individual or a group to set goals, theorize about prior experience, experiment with that theory in their work, and revise their goals and theories based on the results of their experience” (Foundation, 1997, ¶ 9).

Mainly based on the work done by Dewey, Piaget, and Lewin, a number of contemporary writers examine how people learn from experience and develop a series of experiential learning theories and models (Merriam & Caffarella, 1999). However, the essence of all these experiential learning theories is making meaning of experience. Just as Dewey has stated, “events are present and operative anyway; what concerns us is their meaning” (Foundations, 1997, ¶ 7). Based on the work of Dewey and Lewin, Kolb (1984) created an experiential learning model, which includes four learning stages (see Figure 1). First, a learner carries out an action and sees the effect of the action in a certain situation; second, through reflection, the learner understands these actions so that if the same action were taken in the same circumstances it would be possible to anticipate what would happen. Third, the learner forms the general principle under which the particular instance falls. Finally, the learner applies the general principle in the real life (Kolb, 1984).
In Kolb’s (1984) experiential learning model, experience is related with learning, and the learning process becomes meaningful, because knowledge is no longer something separated from learners but the result of their experience in the real life. Kolb (1984) said, “Learning is the process whereby knowledge is created through the transformation of experience” (p. 38). This definition of learning makes experiential learning theory differ from “rationalist and other cognitive theories of learning that tend to give primary emphasis to acquisition, manipulation, and recall of abstract symbols, and from behavioral learning theories that deny any role for consciousness and subjective experience in the learning process” (Kolb, 1984, p. 20). Through employing experiential learning, learners’ mind and body, mind and world are connected. They become active and responsible learners, as a result of which they will employ a deep learning approach to reach the highest level of cognitive taxonomy—that is, they can not only apply knowledge in various situations, but also generate new knowledge. They have both technical skills and practice skills.

Other writers further developed the experiential learning model based on Kolb’s work. Barnett added a fifth component between Stage 3 and Stage 4 of Kolb’s model, planning for implementation to make the learning cycle more usable by practitioners (Merriam & Caffarella, 1999, P. 224). In 1987, Jarvis (1987) expanded Kolb’s model to a more complex model to explain learning from experience. Boud and his colleagues developed an experiential learning model emphasizing more on the learners’ affective domain.
Learning from experience is necessarily an active one which involves learners in engaging with and intervening in the events of which they are part. This engagement and intervention is with what is termed the learning milieu—i.e., The social, psychological and material environment in which the learner is situated. (Boud, 1994, Development of a model section, ¶ 6).

Bateson, Usher, Bryant, and Johnston created experiential learning models by emphasizing the influence of the context of learning (Merriam & Caffarella, 1999). In a somewhat more complex model of experiential learning that was designed to add value to Kolb’s ideas, Jones (2002) adds a fifth element he terms preflection. His model places a separate and distinct process for cognitive rehearsal prior to Kolb’s element of concrete experience, as showed in Figure 2.

![Enhanced Learning Diagram](image)

Figure 2. Jones’ experiential learning model

According to Jones:

We know that reflective learning is one of the better carriers of learning that is highly transferable while at the same time having a great deal of depth and endurance. With
those concepts in mind it is appropriate to facilitate pre-work on the part of the learner that has potential for enriching what the learner might gain during the concrete experience. I have labeled such elements as preflection. It has been my observation and experience that the thoughtful and purposeful inclusion of preflective opportunities greatly enhances student readiness and capacity to learn more from experience, thereby having more to reflect upon. This entire process can offer a great boost to student learning. (Jones, 2002)

But the main theme of all these theories and/or models is the same as that of Kolb’s, that is, learning from experience makes learning meaningful because learners connect what they have learned from current experiences to those in the past as well to possible future situations (Merriam & Caffarella, 1999). These are what learners want to learn and what is useful for learners.

When considering the definition of confluent education given by Brown (1996) “being confluent means being aware of, and taking responsibility for, yourself in relation to your experience and your context, people you’re interacting with, the topic and material you’re engaging in, group dynamics, and your environment” (p. xvi), the researcher argues that experiential learning contributes to the realization of confluent education. This is because, first of all, experiential learning “integrates the cognitive and the affective domains” of the learner (Brown, 1996, p. 7). “It is based on the intrinsic motivation of the learner” (Atchoarena & Gasperini, 2003, p. 215). Quoting from Prisig, Weatherford and Weatherford (1987) stated

experiential education is not simply the use of experience to better learn a skill or ideas as an end result. Today’s experiential educators, in Prisig’s view, should use experience to teach the skill or idea but so that the learner gains insight into oneself, to approach learning as something intrinsic to the learner and not imposed by external sources. Experiential educators should go beyond the traditional goals of learning a skill to create those environments in which the learner is actively involved in his or her own learning. (p. 5)

Also, Soljo found that adult students who have more life experience are more likely to “emphasize the internal aspects of learning—in other words, learning is seen as something the learner does in order to make sense of the world”, while students who have less life experience tend to view learning as something external (Banyard & Hayes, 1994, p. 303).
Second, experiential learning facilitates the confluence of the learner's interpersonal domain. The reflection stage of experiential learning models includes the reflection to the learner himself/herself and the reflection the learner do with others. "Learning is at once deeply personal and inherently social; it connects us not just to knowledge in the abstract, but to each other" (Senge, 2000, p.4). Third, experiential learning can also assist the learner to attend to his/her social context domain. "Piaget's critical point for experiential educators is that intellect grows through interaction with things and people in the child's or adults' environment (Kraft, 1983)" (as cited in Weatherford & Weatherford, 1987, p. 5). In addition, "Dewey, Letin, Freire, and Kolb all suggest that a goal of experiential education is that we learn how to transform experience into knowledge, that we use this knowledge for our...collective development" (Foundation, 1997, ¶ 10). As a result, as Jarvis (1987) observes, learning is "intimately related to [the] world and affected by it" (p.11).

**It Takes a Village Philosophy**

The entire traditional education system in rural China is exam-oriented and deprives even elementary school students of opportunities to learn practical skills together with technical skills. Considering the fact that schools are the predominant provider of education in China, it would be ideal if schools could employ confluent education theory as well as experiential learning practices in the teaching and learning process to provide both constructs to rural students. However, in reality, it is not that simple. Both the theory and the practice point to the fact that schools alone can not shoulder all the responsibility of providing both technical and practical skills education. There is a need to include other members in the society to share the load of education with schools to create a confluence of educational providers. At the same time, the sudden eradication of the traditional exam-oriented education philosophy will not and can not happen according to the discussion thus far. Therefore, in order to provide both technical and practical skills to rural students, the researcher of this study proposed the *it takes a village* (ITV) philosophy as a possible solution to balance, as well as to supplement, the exam-oriented education philosophy, especially in the gradual reform process of China's rural education.

Theoretically, the nature of education requires all the members in the society to share the responsibility of education with schools. According to Dewey, education is a process that "proceeds by the participation of the individual in the social consciousness of the race"
(Archambault, 1964, p. 427). It does not exist in vacuum. As observed by Javis (1987), learning rarely occurs “in splendid isolation from the world in which the learner lives...it is intimately related to that world and affected by it” (p. 11). Specifically, learning is influenced by the linkage between the school, parents and community—the social context (Taylor & Mulhall, 1997). And it is this relationship between education and the world that makes learning meaningful, which is the prerequisite for students to realize the ultimate goal of education. As a result, students develop higher-level cognitive abilities to apply knowledge creatively and generate new knowledge. The importance of the environments to education is also recognized by Hamilton and Hamilton (2004) when they pointed out the critical role the neighborhood (i.e., the family and the community) plays in successful human development. They stated,

> From intelligence test scores as early as age 3, to positive engagement in educational and extracurricular activities in adolescence, and ultimately, to socioeconomic and psychosocial well-being in adulthood, the quality of the neighborhood in which one lives makes a difference. (p. 216)

Based on these theoretical perspectives, Sutherland (1999) argued to create a learning infrastructure, which is “comprehensive, integrated and builds on community partnerships: schools and colleges; and both schools and colleges with employers and other agencies within the local community” (p. 281). By creating the learning infrastructure, Sutherland actually portrayed an education system, which includes the school, the family, and the community, as illustrated in Figure 3. According to Spedding (1979), a system can be described “as a group of interacting components operating together for a common purpose, capable of reacting as a whole to external stimuli: it is unaffected directly by its own outputs and has a specific boundary based on the inclusion of all significant feedback” (p. 18). Reflecting in the case of education in China, the school, the family, and the community are interdependent components of the educational system. When there are environmental changes and/or challenges, all of them cooperate and collaborate with each other to develop systematic coping strategies, which, according to systems theory, will result in synergy (Corning, 1998). “The effects produced by wholes are different from what the parts can produce alone” (Corning, 1998, p. 136). However, if each component acts separately to respond to the changes and/or challenges of the environment without any communication, it
is quite possible that they will only address parts of the problem because each of them only views parts of the problem. "They are like the blind men and the elephant in the old Sufi parable-each sees a part, but no one sees the whole" (Bolman & Deal, 1997, p. 25). The best such a system can achieve is the sum of the whole when all components of the system take actions. There is no way that this kind of unsystematic approach can lead to the synergy, let alone the nonsystematic approach, which, unfortunately, is the case of China.

Figure 3. The educational system

According to Ahmed et al. (1991), the systematic approach calls for so-called meaningful participation, which is "participation in designing, managing, setting goals and evaluating programs by community members" (p. 129). However, under the exam-oriented education philosophy in China, schools have been made the sole institution responsible for providing education. This is not a meaningful participation resulting from a systematic approach because this practice is not "sufficiently supportive of meaningful participation of interested parents and community members in planning and managing educational programs in the communities" (Ahmed et al., 1991, p. 129). Lofquist (1993) further placed in perspective the
importance of a community participatory learning model that takes into consideration how adults treat youth in the process of social participation. As shown in Figure 4, Loftquist’s model proposed that community leaders tend to treat young people in one of three dispositions. 1) Youth as objects or tools for communities to accomplish their work, 2) as recipients or beneficiaries of the communities’ good intentions or, 3) as resources or integral partners in the development of community.

<table>
<thead>
<tr>
<th>Youth as</th>
<th>Youth as</th>
<th>Youth as</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJECTS</td>
<td>RESOURCES</td>
<td>RECIPIENTS</td>
</tr>
</tbody>
</table>

Figure 4. Lofquist’s model

In Lofquist’s model, the first 2 dispositions keep youth in passive positions while the resources disposition facilitates active participation (or experience) and thereby enhanced learning. The literature suggests that the most successful community development models (such as ITV) move the social members toward the central disposition treating youth as resources. Such a disposition would complete Kolb’s concept of experimentation thus rounding out the experiential learning cycle. In absence of such models social members actually become nothing but a part of the school system. There is no education system at all. Schools still respond to the environmental changes and/or challenges by themselves.

In summary, from the theoretical perspective, schools alone cannot shoulder all the responsibilities of education because education is situated within the school, the family, and the community. Consequently, to better face the challenges of providing education, especially both technical and practical skills education, to rural students, a systematic approach is required in China, which calls for the cooperation and collaboration between schools and other social members.

People who traditionally may have been suspicious of one another – parents and teachers, educators and local businesspeople, administrators and union members, people inside and outside the school walls, students and adults – recognize their
common stake in the future of the school system and the things they can learn from one another. (Senge, 2000, p.5)

Accordingly, the school, the family, and the community change their attitudes towards each other and work together to figure out the best way to reach system synergy and maintain the sustainability of the education system.

Practically, the family and the community should share the responsibility for education with the school because they have their own expertise in terms of providing education that schools do not have. An orchestra can be a good metaphor for the education system. Just like each musical player is skilled at a certain musical instrument, the school, the family, and the community each have certain skills and/or assets at delivering education. Only if all the players cooperate and collaborate with each other, can the orchestra produce synergy, which is the pleasant music. Similarly, in the education system, only if the family, the community, and the school work together, can they provide optimal education, which is the combination of technical and practical skills. This won’t happen under an unsystematic or nonsystematic approach.

Specifically, the employment of confluent education theory and the experiential learning practice to relate learning to learners’ interpersonal, intrapersonal, and social context domains to provide practical skills education is too complex for schools. Schools can practice this kind of approach only if they have all the necessary resources, such as time, energy, and money, and so on. For example, if a school plans to teach students certain practical skills through gardening class, introducing the knowledge of gardens, taking students to different kinds of gardens so that they are internally stimulated, and having students actually teamwork in the gardens would be a good practice of providing both technical and practical skills education to students though experiential learning. However, because schools would need to be equipped to engage in this practice, which would include additional human resources to teach this class, gardens, time for teaching students through their experiences in the garden(s), and for these and other reasons, it simply is not feasible for schools to practice this kind of education. Schools lack human resources (i.e., experts in all the areas students are going to learn specific, practical skills), the money to access necessary learning sites or learning experiences, and the time for students to learn practical skills especially under the exam-oriented education system in China, when all the school time already is devoted to the
teaching and learning of technical skills. It is just not efficient or effective for schools to undertake this kind of experiential learning, at least at present under the exam-oriented education philosophy. However, in this example, experiential education programs are more likely to work in China with the supplementary help from the family and the community in terms of experts, money, and garden(s), and so on.

According to Clinton (1996), “from the moment [children] are born, they depend on a host of other ‘grown-ups’—grandparents, neighbors, teachers, ministers, employers, political leaders, and untold others who touch their lives directly and indirectly....It takes a village to raise a child” (p. 11-12). The researcher argues that the same situation ought to exist in the rural Chinese educational enterprise and proposes the employment of the it takes a village (ITV) philosophy; that is, it takes a village to educate a child. Under the ITV philosophy, all the “grown-ups”, the school, the family, and the community in the society take an active part in the education process in terms of designing, managing, setting goals, and evaluating educational programs, because they each have their own expertise in terms of providing education especially in the areas of practical skills. In addition, as a part of the society, they each are influenced by the products of education to some extent, which also provides the stimulus for them to share the responsibility of education with each other.

Finally, for both theoretical and practical reasons, it is not feasible to focus only on schools to address the problem of providing practical skills education to rural students. Schools alone can not shoulder the entire load. As parts of the education system, the family and the community should share the responsibility with schools and contribute to the providing of education. The researcher believes that this application of the ITV philosophy can balance the present exam-oriented education philosophy, particularly as a gradual reform process of the present education practice to compensate and complement formal school education which is not capable of providing practical skills education to its students.
Chapter 3 Methods and Procedures

This study is designed to investigate the feasibility of providing practical skills education along with technical skills education in rural China. It is expected that the findings of this study will provide rationale and guidance for the employment of the ITV philosophy to balance the exam-oriented education philosophy through creating a confluence of formal and nonformal education. From such confluence appropriate educational programs that teach through both arenas can be designed. The specific objectives of this study are:

1. Investigate the enablers of providing both practical skills and technical skills education for elementary school students in rural Zhejiang, China
2. Investigate the barriers of providing both practical skills and technical skills education for elementary school students in rural Zhejiang, China
3. Provide suggestions on the design of an appropriate educational program to provide practical skills education in confluence with technical skills education to elementary school students in rural Zhejiang, China, based on the results from the investigation of enablers and barriers.

This chapter will present the methods and procedure used to address these objectives. Specifically, research design, information about the study subjects and data sources, instrumentation, data collection, and data analysis will be covered in the following sections.

Research Design

This study used a descriptive design. Both qualitative and quantitative research methods, which are widely used in educational research, were employed. Gall et al. (2003) stated that the descriptive study, which involves “the description of natural or social phenomena, their form, structure, activity, change over time, relationship to other phenomena, and so on” (p. 3), is “concerned primarily with determining ‘what is’” (p. 290). Educational research design based on this strategy helped the researcher describe educational phenomena as they exist. According to Ary, Jacob, and Razaviah (2002), qualitative research “focuses on understanding social phenomena from the perspective of the human participants in the study” (p. 22). The purpose and the specific objectives of this study aimed at finding out what the barriers to and the enablers of providing technical and practical skills education to Chinese rural students from the perspectives of students, their teachers, and their parents provided the rationale of the employment of the descriptive design and the qualitative research method.
The specific qualitative research method employed was the focus group. According to Krueger (1988), “Focus groups can be used before an experience such as in planning (including strategic planning), needs assessment, assets analysis, program design, or market research (p. 31). “They are frequently used to learn about either topics or groups of people that are poorly understood” (Morgan & Krueger, 1998, Focus group kit 1, p. 12). In the case of this study, no research has been conducted in China before regarding the barriers and enablers to the providing of both technical and practical skills education to rural students, the researcher thus decided to use focus groups. However, the researcher also recognized that most focus groups were used among adult participants. In order to ensure that focus groups can also work for students, who are about 12 or 13 years old, the researcher contacted Krueger for some suggestions through email. According to him, “Focus groups can be quite effective for students in grades 4–6” (R. A. Krueger, personal communication, April 13, 2004). However, he also pointed out that Chinese students are different from American students in that Chinese students do not spontaneously talk. As a result, the researcher should make participants of the focus groups understand that it is acceptable to share different views and to disagree with other students (R.A. Krueger, personal communication, April 13, 2004).

Used as a qualitative research method, data from focus groups can provide the researcher “a rich understanding of participants’ experiences and beliefs” (Morgan & Krueger, 1998, Focus group kit 1, p. 11), which is the discovery of “themes and relationships at the case level” (Gall et al., 2003, p. 24). This kind of data can not be generalized to the whole population. In the case of this study, the opinions of teachers, parents, and students obtained from focus groups can not represent the opinions of all teachers, parents, and students in Zhejiang Province. However, they can be used to inform the quantitative research, which “is best used to validate those themes and relationships in samples and populations” (Gall et al., 2003, p. 24). Thus, informed by the data gathered from focus groups, the researcher developed the quantitative research method, questionnaires, and then delivered questionnaires either by mail or in person to the study participants.

**Subjects and Data Sources**

This study was conducted in rural Zhejiang, China with a population consisting of rural elementary school students and the students’ teachers and parents. The focus on the elementary school education level was based on the theories of development stages of human
beings put forward by Piaget, Vygotsky, and others. Considering various stages is vital, because, according to Piaget, learning and thinking abilities are different at different ages (Charles, 1976). Based on the Zone of Proximal Development and the Instructional Scaffolding, children can fully develop into independent learners as well as intellectual adults, only if they are provided all the necessary help needed during the early stages of learning (Cole, John-Seiner, Scribner, & Souberman, 1978; Schunk, 2000). Pedagogy, the entire set of learning/teaching strategies for the teaching of children, is a vital foundation for strategies to help adults learn (i.e., Andragogy) at later stages of their development. In other words, successful elementary education is the key scaffolding for producing effective and competent learners. Therefore, the researcher selected rural elementary school students, specifically those in grade 5 and grade 6 (generally aged 12–13), as the research subjects. Another reason for choosing this group of students is practicality. Today’s 12 or 13 year-old rural students will become the main rural human resources in China in 10 or 20 years. Whether rural China can continue to develop depends on whether today’s 12 or 13 year-old are well educated.

The selection of the target research area is based on the rationale that, as one of the most developed areas in China, Zhejiang province is also one of the earliest areas challenged and negatively influenced by the lack of competent rural human resources. What this province is going through now will be the future of other less developed areas sooner or later. In addition, Zhejiang is also one of the provinces that have met the requirements of quantity education. Considering the fact that, in some rural areas, youth cannot afford to go to schools, it makes more sense and is easier for Zhejiang province to initiate the transition from only providing technical skills education to providing both technical and practical skills education to these rural students. Zhejiang Province can then serve as a model for other rural provinces in China.

Rural area is a frequently changing definition in China because of the development of urbanization and the reform efforts to move from an agricultural country to an industrialized country. According to the National Bureau of Statistics of China (NBSC) (2001), rural elementary schools are schools that are under the township level. However, in reality, it is not that simple. With the development of urbanization, some new towns were set up and/or old towns were expanded with the inclusion of some villages. While these towns were no longer
considered to be rural, elementary schools in these towns still have many students who hold rural citizenship and come from rural areas. On the other hand, the rural elementary schools that were under the township level were frequently transformed into urbanized schools after villages rapidly become part of larger towns, which makes it difficult to measure the exact number of rural elementary schools, rural elementary school students, and students’ teachers and parents. However, in this study, the researcher used information from the NBSC as the closest estimation of the total survey population. According to NBSC (2001), there are approximately 2,600 rural elementary schools in Zhejiang Province in 2001, which consists of a total student population of approximately 511,000 and a total teacher population of approximately 28,000.

In order to select the focus groups, the researcher first divided rural Zhejiang into three regions, northeast, southwest, and middle, based on the areas’ economic development levels, with which most economists in China agree. The rationale behind the use of economic development level as the standard for the division is that the problem of the lack of competent rural human resources has a lot to do with economic development but, at the same time, becomes the biggest challenge to the further economic development.

Next, with the help of the president of Zhejiang Normal University (the leading teachers’ education college in Zhejiang Province), Professor Xu Hui, who also serves as an auxiliary committee member of the researcher, schools were selected from the above 3 areas. At the same time, Professor Xu helped the researcher obtain the approval for conducting focus groups in these schools. In addition, he also made all the arrangements necessary to meet the researcher’s requirements and needs. These arrangements included the selection of participants from the schools for focus groups, the scheduling of the focus groups, and explaining the study and certain technological terms to participants used in focus groups. As a result, the researcher began conducting focus groups immediately upon her arrival in China in May, 2004.

Each of the three rural areas had one focus group for each category of participants (students, teachers, and parents); the researcher conducted a total number of nine focus groups. Regarding the specific selection of participants for each focus group, the researcher asked Professor Xu to select an average of 10 participants for focus groups of teachers and parents and an average of 8 for students’ focus groups from the elementary schools that were
already selected in each area. The number of student participants in focus groups was recommended by R. A. Krueger (personal communication, 2004). As a standard for the selection of participants, the researcher asked Professor Xu to make sure that the participants of the same focus group shared agreed-upon characteristics but did not know each other or at least did not know each other very well, especially in the case of teachers’ and students’ focus groups.

Based on the findings from focus groups conducted in May 2004, the researcher designed the quantitative research instrument, the questionnaire, for use with a larger population. Again, the researcher divided Zhejiang province into three areas based on the different economic development levels and used stratified sampling to get the sample for the survey. Specifically, Professor Xu and some of the former students of the researcher’s parents, who are now holding important leadership positions in rural Zhejiang, helped the researcher select 8 rural elementary schools from each of the three areas as randomly as possible. They then helped the researcher select survey participants from each school. Forty students from grade 5 and grade 6 were randomly selected, if there were more than 40 students in the school. When there were only 40 or fewer students in a school, all of them were chosen for the survey. 10 teachers were randomly selected if there were more than 10 teachers who taught grade 5 and grade 6 in each school. The researcher utilized the parents of the student participants. Thus, 960 students, 960 parents, and 240 teachers participated in the survey phase of the study.

In ways that were similar to preparing for the focus groups, Professor Xu and other concerned personnel helped the researcher obtain the approval for distributing the questionnaires to the survey participants. Depending on the location of these schools, the researcher mailed or personally delivered the questionnaires to the headmasters of these schools, and the headmaster distributed the questionnaires to the students, teachers, and parents who had been selected to participate in the research project. The headmaster also collected the questionnaires after they were completed and mailed them or personally delivered them to the researcher.

**Instrumentation**

The qualitative method used for collecting the data was the focus group method, and the quantitative instruments, the survey questionnaires, were developed based on the findings
from the focus groups. With regards to focus groups questions, the researcher first developed the focus group questions, and in order to ensure the success of focus groups research, the researcher had her major professor and professor Xu, who is the president of Zhejiang Normal University, review the questions as well as make changes based on their suggestions. Just like what Morgan and Kruger (1998) stated, “the key to good focus group research is to work with others to create the right questions” (Focus group kit 3, p.13). Of course, the researcher also acknowledged the emergent characteristics of qualitative research by constructing the final questions as a list of major points she wanted to focus on. This list along with the specific situations during each focus group formed the basis for the researcher’s follow-up questions.

In order to establish the content and face validity of the questionnaires, Dr Lynn Jones, an expert in rural youth development as well as the technical and practical skills education who is in the Agricultural Education and Studies Department at Iowa State University, and Professor Xu, the president of Zhejiang Normal University, reviewed the questionnaires. The researcher incorporated their comments and their other useful inputs into the final design of the survey instrument. In addition, to test the reliability of the questionnaire, the researcher asked her parents to conduct a pilot test with 3 elementary school students who are in grade 5 or grade 6, 3 elementary school teachers, and 3 elementary school students’ parents in China, while, at the same time, the researcher conducted a pilot study with a group of Chinese students who were studying at Iowa State University.

Data Collection

Data collection for this study began in May, 2004. After the sample participants for focus group were selected through the procedure described above, the researcher conducted separate focus groups for students, teachers, and parents. The main topic for the participants in every the focus group was the barriers and enablers of providing practical skills education along with technical skills education to rural youth. Each focus group lasted for about an hour and a half, and the sessions were tape recorded as a record of the interaction and group discussion. A graduate student from Zhejiang Normal University who was hired to serve as the research assistant wrote the field notes.

The questionnaire design was based on a through analysis of the focus group results. The researcher arranged for mailing or personal delivery of the questionnaires to the headmasters
of the selected schools for distribution to the study participants. Because Professor Xu and other concerned personnel already contacted the local government department in charge of the rural elementary education for help, it was expected that headmasters would try to ensure a satisfactory response rate of questionnaire return from students, teachers, and parents. After the questionnaires were returned, the headmasters mailed or personally delivered them to the researcher.

Data Analysis

In order to analyze the data from focus groups, the researcher organized the data, the field notes taken by the research assistant, the summary of the debriefing process that took place immediately after each focus group between the researcher and the research assistant, and the transcription of the focus groups discussions. After comparing and coding the focus group data, the researcher identified and categorized barriers and enablers. The researcher used the Statistical Package for the Social Science to analyze the data from the survey questionnaires and to obtain the descriptive statistics used to construct recommendations, implications, and suggestions for future research.
Chapter 4 Findings and Discussion

After a brief discussion of the demographics of the participants in the study who were subjects for the two research methods, focus groups and the questionnaire-based survey, this chapter is organized into sections according to the study objectives. Each study objective section is further organized by discussions of focus group findings, survey findings, and summaries of the findings for each objective.

Focus Group Demographics

The researcher conducted 9 focus groups in rural Zhejiang province, with 3 teachers’ focus groups, 3 parents’ focus groups, and 3 students’ focus groups. Parent participants had a mixed background in terms of job, age, educational level, and gender. So did teacher participants. They were of different gender, age, educational level, and were teaching different subjects. With regards to student participants, they were from either grade 5 or grade 6. There was a mix of male and female students. In addition, there was quite a good mix of so-called good and bad students based on the exam-oriented education philosophy in China; that is, some of the student participants performed better academically compared to others, so that they were holding certain positions in the class, such as the monitor.

Survey Demographics

The researcher surveyed 960 students, 960 parents, and 240 teachers in rural Zhejiang, China. The response rates were 86.0% for parent participants, 95.0% for teacher participants, and 89.9% for student participants. And the response rates within each of the three areas for different groups of participants were very close. In addition, the missing rate for each question averages 2%.

In terms of gender distributions for teacher and student respondents, the participants were almost evenly divided between male and female, with 49.7% male teachers and 50.3% female teachers, and 44.8% male students and 55.2% female students. However, more fathers participated in the study, with 75.2% fathers and 24.8% mothers. Most teacher participants (64.4%) had postsecondary degrees, and most of them taught major subjects, such as Chinese and math. In addition, most of teacher participants were between 20 and 40 years old (63.2%) and had taught for an average of 16 years.
Most parent participants (54.4%) had completed junior high school or its equivalent while only 5.7% of the parents had postsecondary education. Most parent participants were between 30 and 40 years old. In terms of the parents’ occupations, 41.8% were farmers and 56.0% were non-farmers; 2.2% of the parent participants were unemployed. In addition, most parent participants (78.6%) earned ¥2,000 (about $250) or less per month.

Regarding student participants, 37.9% of them were the children of parents who were farmers, while 61.5% of the children’s parents were non-farmers. However, the researcher did not know to whom students referred to, their fathers, their mothers, or even both, when they answered this question about their parents’ career. In addition, 62.6% of student participants did not have a position in class, which was normal.

**Objective 1: Enablers**

The first objective of this study is: Investigate the enablers of providing both practical skills and technical skills education for elementary school students in rural Zhejiang, China.

**Enabler Focus Group Findings and Discussion**

On the whole, teacher and parent participants agreed on the importance of providing practical skills education to rural elementary school students and showed their willingness to contribute to and participate in this study and potential subsequent projects. They recognized that only technical skills education was not enough, because the development of the market economy in China requires students to have both technical skills and practical skills. One parent commented, “I hope my child not only performs well on exams but also develops into an all-round person, having good health and all the skills she needs to live in the society.” One teacher participant also pointed out the importance of teaching students practical skills, According to some paper I read, the knowledge our students will use in their whole life only accounts for 15% of what they have learned in schools, which means that our students have learned enough knowledge [i.e., technical skills]. In order to live a successful life nowadays, our students need to learn more life skills [i.e., practical skills].

In addition, parents and teachers indicated that they would take an active part in providing practical skills education to their children and/or students if they were given the opportunity. One parent stated, “I am willing to help my children to learn all life skills [i.e., practical skills] if there are such kind of opportunities,” and teachers made similar comments.
Student participants were not directly asked questions about technical and practical skills education. However, they reported that they favored the teaching methods informed by the educational theory that supports the providing of both technical and practical skills education. Specifically, during focus groups, students described their willingness to learn if the lesson was taught in such a way that they could make meaning of their everyday life experiences instead of merely being dictated to by teachers. A student participant stated, “I like classes that are taught through our everyday life experiences, so that I can actually practice instead of just listening to the teachers to repeat the textbook.” Considering the fact, which has been discussed in Chapter 2, that confluent education theory, requires the employment of experiential learning and that the learning of practical skills occurs when experiential learning is employed (Morris, 1996), the researcher concluded that students would enjoy learning practical skills together with technical skills.

**Enabler Survey Findings and Discussion**

According to the survey, most parent and teacher participants did not believe that a university degree alone was enough for their children and/or students to live in a market economy. Reflected in statistics, 95.7% of the parent participants and 70.8% of the teacher participants held this opinion. Consequently, 93.7% of parent participants and 96.5% of teacher participants supported providing practical skills together with technical skills to their children and/or students. In addition, findings from the survey indicated that parents and teachers were willing to volunteer to help their children and/or students learn practical skills if there were such kind of educational programs available, as shown in Table 2.

<table>
<thead>
<tr>
<th>Table 2. Parent and teacher participants’ responses about volunteering to help rural students learn practical skills together with technical skills</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Teacher responses</td>
</tr>
<tr>
<td>Parent responses</td>
</tr>
</tbody>
</table>
The student participants, just like their counterparts in focus groups, were not asked any specific questions about the provision of practical skills together with technical skills. Instead, they were asked questions on experiential learning, which were created based on findings from focus groups. It was found that, of all student participants, 89% indicated that they like classes being taught through everyday life experiences. Similarly, 87% of the student participants thought that they learned better when they had interests, which implied that students would apply a deep learning approach if teachers could teach the subject matter in such a way that stimulated students' interests and intrinsic motivation in learning. These findings echoed those from focus groups. Thus the researcher drew the same conclusion she got from focus groups; that is, students would enjoy learning practical skills together with technical skills.

**Summary of Enabler Findings**

According to findings from both focus groups and the survey, there are three main enablers of providing practical skills education in confluence with technical skills education for elementary school students in rural Zhejiang, China, as shown in Table 3. The existence of these enablers provides the first step toward introducing educational programs that provide both technical and practical skills education in rural Chinese public schooling.

<table>
<thead>
<tr>
<th>Table 3. Enablers of providing practical skills education in confluence with technical skills education for elementary school students in rural Zhejiang, China</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Both parents and teachers agreed on the importance of providing practical skills education in addition to technical skills education.</td>
</tr>
<tr>
<td>2. Both parents and teachers showed their willingness to participate in and contribute to providing both technical and practical skills to their children and/or students if there were such kind of educational programs.</td>
</tr>
<tr>
<td>3. Students would enjoy learning practical skills together with technical skills because of their preference on the learning practice that is informed by the educational theory that supports the providing of both skills.</td>
</tr>
</tbody>
</table>

However, recognizing the importance of providing practical skills education to rural elementary school students does not equal actually providing such a combination of skills in reality. In addition to the misunderstanding of the interdependent relationship between
technical skills and practical skills discussed in Chapter 2, there are also some practical barriers to the providing of practical skills to rural students together with technical skills, which explain why practical skills education is not provided in China even though its importance has been acknowledged. The researcher will discuss these barriers through the findings of the second objective of this study in the following paragraphs.

**Objective 2: Barriers**

The second objective for this study is: Investigate the barriers of providing both practical skills and technical skills education for elementary school students in rural Zhejiang, China.

Based on findings of focus groups and the survey, the researcher identified three major barriers to the providing of practical skills education together with technical skills education to rural primary school students in Zhejiang, China. The barriers discussed here are:

Barrier 1. The traditional exam-oriented educational philosophy in China.

Barrier 2. Schools are the only institution responsible for providing education.

Barrier 3. Financial issues are a barrier to providing both practical and technical skills education for elementary school students in rural Zhejiang, China.

**Barrier 1 Statement**

The traditional exam-oriented educational philosophy in China is a barrier to providing both practical and technical skills education for elementary school students in rural Zhejiang, China.

**Barrier 1 Focus Group Findings and Discussion**

Findings from focus groups indicated that traditional exam-oriented education had an emphasis on technical skills education. One teacher commented, “Under the exam-oriented education, the most important thing is the score on exams of technical knowledge [i.e., technical skills]. Parents and teachers care the most about scores. For example, the math scores of their children and/or students.” One parent participant stated, “The present education system is problematic...both teachers and parents only care about students’ performance on exams of technical skills.” As a result, according to parent and teacher participants, not only students, but also teachers, were assessed by students’ scores on exams of technical skills. One parent commented, “Under the present education system [exam-oriented education], the whole society emphasizes scores. Schools lack life skill education....Now the quality of teachers is evaluated by students’ scores.”
This focus of formal school education made practical skills an add-on to technical skills; as a result the teaching of practical skills was conditioned by the teaching of technical skills in formal school education. During focus groups, both parents and teachers expressed their willingness to the providing of practical skills to their children and/or students only if it wouldn’t negatively influence their children’s and/or students’ scores on exams of technical skills. One parent participant said, “If our children still have high scores after they are provided practical skills education, then we support it.” Similarly, one teacher participant stated, “If students can not pass exams to go to senior high school and universities after a school provides practical education, then the headmaster of the school will be fired.”

Findings from focus groups also indicated that, under the exam-oriented educational philosophy, personal success in China was accredited to high scores and high degrees. During focus groups, parent and teacher participants indicated that passing a series of exams to finally enter university became the main purpose of education. One teacher stated, “Parents hope their children have high scores and then go to the university, which they think represents success. And this is the only and highest hope they have for their children that they think can be realized through education.” This purpose of education was also reflected by the findings of student focus groups. Almost all student participants mentioned that their parents hoped that they would go to university and then find a good job. One student stated, “Parents want us to go to a good university in Beijing, especially Beijing University and QingHua University, so that we can find good jobs and make good money, and therefore lead a good life.” Teachers were the same from the perspective of students, “They are the same as parents. If you can go to the university, they feel happy that they educate you.”

**Barrier 1 Survey Findings and Discussion**

Traditional exam-oriented education philosophy can be described as “teaching to the test,” which includes two distinctive characteristics, “having high scores” and “going to the university.” Students who have high scores on exams can go to higher level schools and finally go to the university. In the survey, first of all, the practical purpose of education was identified. According to the survey, most parent participants agreed that passing a series of exams and finally going to the university was the reason for their children to get an education. As shown in Table 4, 65.5% of parent participants held this opinion and 84% of teacher participants thought that parents held this opinion. In addition, 62.6% of the parent
participants thought that university degree was more important for rural youth because it will help them leave rural areas. With regard to the teacher participants, 51.5% of teachers agreed that exam-oriented education philosophy has made the end of education as going to universities, while 34.7% of them disagreed with this statement.

Table 4. Parents’ opinions on the purpose of education from the perspective of both teacher and parent participants

<table>
<thead>
<tr>
<th>Parents regard the purpose of education as going to the university</th>
<th>Agree</th>
<th>Disagree</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher responses</td>
<td>84%</td>
<td>6.4%</td>
<td>9.6%</td>
</tr>
<tr>
<td>Parent responses</td>
<td>65.5%</td>
<td>18.6%</td>
<td>15.9%</td>
</tr>
</tbody>
</table>

There was a discrepancy existing in students’ answers to two questions with different wording both created to ask the same thing, as shown in Table 5. Specifically, in responding to the statement, “my parents want me to go to university as a result of having education,” only 58.5% of students agreed with this statement. However, when they were asked another question regarding high scores, 91.1% of them agreed that their parents wanted them to have high scores. Similarly, as shown in Table 6, while 44% of student participants thought that teachers want them to go to the university as a result of being educated, 74.2% of them agreed that their teachers want them to have high scores.

Table 5. Parents’ opinions on the purpose of education from the perspective of student participants

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Disagree</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>My parents want me to go to the university</td>
<td>58.5%</td>
<td>25.0%</td>
<td>16.5%</td>
</tr>
<tr>
<td>My parents want me to have high exam scores</td>
<td>91.1%</td>
<td>3.1%</td>
<td>5.8%</td>
</tr>
</tbody>
</table>

Table 6. Teachers’ opinions on the purpose of education from the perspective of student participants

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Disagree</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>My teachers want me to go to the university</td>
<td>44.0%</td>
<td>37.9%</td>
<td>18.1%</td>
</tr>
<tr>
<td>My teachers want me to have high exam scores</td>
<td>74.2%</td>
<td>11.1%</td>
<td>14.7%</td>
</tr>
</tbody>
</table>
As mentioned earlier, having high scores and going to the university are the two characteristics of the exam-oriented education philosophy in China. Having high scores is less distinct compared to “going to the university” in terms of being the manifestation of the exam-oriented education system. In practice, parents and teachers may not directly tell their children and/or students that the purpose of education is going to universities. But this doesn’t mean that parents and teachers do not want their children and/or students to go to the university; instead, they indirectly express this wish by asking their children and/or students to have high scores, which is the prerequisite for going to the university. Therefore, the researcher concluded that parents and teachers wanted their children and/or students to get an education because they wanted them to have high scores and finally to go to universities.

This conclusion could be reinforced by students’ response to another statement, which was concerned with the meaning of success under the exam-oriented education system. Relatively more students (51.2%) agreed that parents and teachers thought their children and/or students were successful if they had high scores and went to the university; 34.8% of the students disagreed with this statement. Similarly, 48.2% of the student participants agreed that their teachers thought that students were successful when they had high exam scores and then went to the university; 31.5% of the students disagreed with this statement. These findings seem to confirm that under the present system, the purpose of education is having high scores and going to universities and the pervasive, entrenched social norm that personal success is having achieved high scores and university degrees.

Second, findings from the survey also indicated that the focus of exam-oriented education was technical skills. In the survey, 72.4% of the parent participants and 66.3% of the teacher participants agreed that exams their children and/or students take were designed to test their mastery of technical skills education only. Even though some of the teacher and student participants agreed that what teachers were teaching in the class was not just what will be tested by exams, instead, there were certain practical skills being taught, as a whole, practical skills education was still regarded as an add-on to the teaching of technical skills and was conditioned by the teaching of technical skills. Reflected in the survey, 72.8% of the teacher participants and 79.7% of the parent participants claimed that they supported the providing of practical skills education only if it did not negatively influence the academic performance
(i.e. the performance on technical skills) of their students and/or children. What’s more, according to the survey, the kind of practical skills teachers were teaching were very limited.

**Summary of Barrier 1 Findings**

Findings from the survey support the idea that emerged from the focus groups: exam-oriented education philosophy is a barrier to the providing of practical skills to rural elementary school students in Zhejiang, China. Under this education system, the focus of education is technical skills education and the purpose of education becomes passing exams and then going to the university, which guarantees a good career and a good life. This practical purpose of education can be traced back to Confucius, who “had a pragmatic orientation to learning” (Tweed & Lehman, 2002, p. 92). According to him, “An acceptable goal of learning, in addition to personal reform, is to competently conduct oneself within a civil service job (13:5)” (Tweed & Lehman, 2002, p. 92).

In one sense, there is nothing wrong with this practical purpose of education. However, the problem is the focus on technical skills education, under which, in order to help students realize the practical educational purpose, what teachers teach and what students learn are technical skills only. There is little or no space for the teaching and learning of practical skills in the formal school education at all. Therefore, the researcher regarded exam-oriented educational philosophy as a barrier to the providing of practical skills. Even though there are certain practical skills being taught in schools under the exam-oriented education system, they are very limited and not taught in a systematic way, depending a lot on students’ performance on exams of technical skills. Just like a teacher participant stated during focus groups, “Exam-oriented education is like the conductor of an orchestra, under the guidance of which there is not space for practical skills education in school education.”

**Barrier 2 Statement**

Schools are the only institution responsible for providing education is a barrier to providing both practical and technical skills education for elementary school students in rural Zhejiang, China.

**Barrier 2 Focus Group Findings and Discussion**

Findings from focus groups indicated that schools were the only providers of education in rural Zhejiang, China. Both parent and teacher participants thought that schools were taking full responsibility for education, even though they thought that families and other social
members should also participate. The rationale for the lack of parents’ actual participation, given by parent participants, was that parents lacked the knowledge and time to educate their children. One parent participant commented, “The first issue is related to our academic level. If our children need our help with some math problems, we can’t do it because we don’t have the education. The second issue is time.” Another parent participant gave further explanations, “We are busy making money to support the family and our children’s education. We don’t have time to help them with their school work. Even if we had time, we don’t have enough education to help.” In addition, parents thought that their children didn’t want to learn from them. One parent participant stated, “My child doesn’t want to learn from me because I don’t know the school work. He prefers learning from the teacher.” As a result, some parents even concluded that their responsibility was to make money to meet their children’s basic survival needs, while the responsibility of teachers was to educate their children. According to one parent participant, “As parents, we provide assistance to our children in terms of financial and basic life needs. It is the responsibility of schools and teachers to educate our children.”

Although some parent participants of focus groups did mention that sometimes they helped with their children’s school work, the researcher concluded that this kind of help was very limited. First, as mentioned by parents themselves, most of them did not have enough knowledge to help with their children’s education. One parent participant said, “Most rural parents do not have a high education level, which restricts their ability to help with their children’s school work.” Second, according to parents, even if parents were capable, schools were not willing to share the responsibility of education with parents. One parent commented, “There is almost no opportunity for parents to participate in school activities with their children.” As a result, parents could only help with their children’s education to a limited extent.

As for teacher participants, they complained about being totally responsible for education during focus groups. One of them commented, “In China, education is regarded as the responsibility of schools only….However, schools alone can not shoulder all the responsibility. It’s too much for schools”. At the same time, however, teachers also indicated their concern about parents’ ability to share the responsibility of education with schools by stating that parents lacked academic knowledge and time. “Most rural parents do not have
enough education themselves.” “Rural parents are busy. In order to improve their living standard, most of them have to work very hard everyday. They do not have time to help with their children’s school work.” As a result, teachers thought that parents were not capable enough to share the responsibility of education with schools.

What’s more, teachers claimed that even if parents were given the opportunity to assist in the education of their children, they were not willing to become involved. One teacher commented,

Now the love given by parents to their children is rudimentary. They only care about meeting the basic needs of their children, such as having food to eat and having clothes to wear. They haven’t thought about education at all.

As a result, “Some parents tell their children that parents’ duty is to make money, teachers’ duty is to educate, and children’s duty is to study”, as stated by one teacher participant. To support this argument, one of the teacher participants gave an example of one of her students’ fathers. She mentioned that this father had never come to the parents’ meetings. Nor had he ever contacted the teacher regarding his child’s education. As a result, he didn’t know the teacher even though the teacher had taught his child for 3 years.

Contrary to what parents and teachers thought, student participants showed their confidence in their parents’ participation in education. One student commented, “All parents care about their children. As children, you can’t say that your parents don’t care about your education only because they don’t have enough education or time.” In addition, student participants also expressed their willingness to learn from their parents or other family members. When asked to whom they would refer if they had something important they wanted to talk about, most students actually mentioned either parents or other family members.

Even though the researcher did not conduct focus groups with members of other groups, based on comments from parents, teachers, and students, the researcher concluded that other social members played a very minor role in education. During focus groups, parent and teacher participants stated that other social members did not have the expertise schools have in terms of providing education. One parent stated, “They [other social members] are not the organization that is responsible for education, so, compared to schools, they are not capable to participate in the education enterprise.” As a result, even though other social members did
participate in education in terms of providing financial aids or organizing extra-curricular activities, their participation was very limited. According to one teacher, “Schools invited other social members to organize educational programs; they [other social members] will do it once or twice. It has never lasted long.” Another teacher stated, “Other social members may give schools some money during certain holidays, but, more often than not, this is usually an once-in-a-lifetime thing. It is not easy for schools to get continual financial support from them.” As a whole, schools were taking full responsibility for education, just like what was stated by one teacher participant, “The whole society, even the government, doesn’t attach importance to education.”

In addition to the above findings, which indicated that schools were the only institution responsible for education, the researcher also identified a theme from focus groups, which is the lack of communication between parents and teachers as well as parents and students in terms of providing education. As a result, teachers, parents, and students misunderstood each other. For example, during focus groups, teacher participants thought that parents were not willing to educate their children because they didn’t care about their children’s education. “What they care about is how much money they can make.” However, from the perspectives of parents, they love their children and would love to help schools educate their children; however, schools did not provide opportunities to encourage them to do so. One parent commented, “If schools organize activities and ask us to help our children to learn practical skill education, we support it.” Similarly, parents reported that they thought that their children did not need their help with education, while their children showed their willingness to learn from parents.

**Barrier 2 Survey Findings and Discussion**

Based on findings from the survey, there were discrepancies between answers of teachers and answers of students and parents regarding the role parents/families played in education. Specifically, as shown in Table 7, 79.3% of the parent participants claimed that they took an active part in their children’s education, while only 37.8% of the teacher participants agreed with this statement. At the same time, 81.5% of the student participants agreed that their parents helped with their education and 79.1% of them agreed that their parents talked with them about their school work. In addition, 62.3% of students indicated that they want their parents to help them with their education, while 68.1% of parent participants agreed that their
children want their help with education. And 57.5% of student participants stated that they enjoyed learning from their parents, and 74.9% of them thought that they could always learn something from their parents.

Parents and students shared the same opinion regarding the role parents/families played in education, while teachers thought differently. The question then was who provided the most accurate answer, parents, teachers, or students? Based on the survey findings regarding the theme that was identified from focus groups, the researcher concluded that all of them did. The reason for the above discrepancy among their answers was the lack of communication especially between parents and teachers. As a result, parents and teachers held different opinions regarding sharing the responsibility for education, which in turn led to the situation that parents’ participation in education was not recognized by teachers. This will be discussed in the following paragraphs.

Table 7. The role parents are playing in their children’s education from the perspective of teacher participants and parent participants

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Disagree</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher responses</td>
<td>37.8%</td>
<td>47.6%</td>
<td>14.6%</td>
</tr>
<tr>
<td>Parent responses</td>
<td>79.3%</td>
<td>16.4%</td>
<td>4.3%</td>
</tr>
</tbody>
</table>

According to the results of the survey, schools usually organize parents’ meetings once in a semester. 54.7% of the parent participants, 67% of the teacher participants, and 62% of the student participants agreed that parents’ meeting was organized once in a semester. This is quite normal in China. Considering the fact that the parents’ meeting is the only official meeting time for parents and teachers to discuss their children’s and/or students’ education, there is the limitation of the amount of time teachers spend in talking with each parent. It’s quite possible that teachers do not have personal conversations with every parent. However, the researcher couldn’t make a conclusion regarding the communication situation between parents and teachers just based on this estimation. Thus the researcher asked parent participants, teacher participants, and student participants respectively the frequency of proactive communications between parents and teachers in addition to the parents’ meeting.
The frequency of parents’ proactive communication with teachers

In the survey, the answers given by parent and student participants with regard to the frequency of parents’ proactive communication with teachers on their children’s education were quite evenly distributed, while a few more teacher participants indicated that parents proactively communicate with them more than twice in a semester in addition to the parent meeting, as shown in Table 8. However, as a whole, the researcher thought that answers given by parents, teachers, and students regarding the frequencies of proactive communications parents made with teachers were quite comparable.

Table 8. The frequency of parents’ proactive communication with teachers in addition to the parents meeting in one semester (1)

<table>
<thead>
<tr>
<th>The frequency of parents’ proactive communication with teachers in addition to the parents meeting in one semester</th>
<th>Not even once</th>
<th>One time</th>
<th>Two times</th>
<th>More than two times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student responses</td>
<td>24.0%</td>
<td>22.6%</td>
<td>16.1%</td>
<td>31.3%</td>
</tr>
<tr>
<td>Parent responses</td>
<td>25.0%</td>
<td>23.7%</td>
<td>17.3%</td>
<td>30.3%</td>
</tr>
<tr>
<td>Teacher responses</td>
<td>10.5%</td>
<td>19.2%</td>
<td>9.6%</td>
<td>38.8%</td>
</tr>
</tbody>
</table>

With the relatively evenly dispersed answers, it seemed to the researcher that some parents proactively communicated with teachers while others didn’t. However, considering the fact that there are about 5 months in a semester in China, two instances of communication in a semester is actually not a lot. Thus, the researcher rearranged the above answers and put them into two groups, which were “more than twice in a semester” and “twice or less than twice in a semester,” as shown in Table 9.

More student and parent participants agreed that parents proactively communicate with teachers “twice or less than twice in a semester”. However, the difference between the responses of teacher participants to these two groups of communication frequency was very close, with 38.8% for “twice or less than twice in a semester” and 39.3% for “more than twice in a semester”. It seemed that this finding went against the above findings from parents and students. But the researcher also found that a comparatively large number of teachers,
21.9% of them, chose “others” without further describing whether or not parents proactively communicate with teachers more often or less often. Therefore, the researcher drew the conclusion mainly based on the findings from student and parents participants.

Table 9. The frequency of parents’ proactive communication with teachers in addition to the parents meeting in one semester (2)

<table>
<thead>
<tr>
<th>The frequency of parents’ proactive communication with teachers in addition to the parents meeting in one semester</th>
<th>Two or less than two times</th>
<th>More than two times</th>
<th>other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student responses</td>
<td>62.7%</td>
<td>31.9%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Parent responses</td>
<td>66.0%</td>
<td>30.3%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Teacher responses</td>
<td>38.8%</td>
<td>39.3%</td>
<td>21.9%</td>
</tr>
</tbody>
</table>

The frequency of teachers’ proactive communication with parents

In the survey, 38.5% of the parent participants indicated that teachers did not proactively communicate with them “even once in a semester”, while only 1.8% of the teacher participants selected the same response. And when 24.4% of the parent participants claimed that teachers proactively communicate with them “more than twice in a semester”, that percentage for teacher participants was 55.8%. As shown in Table 10, a similar discrepancy still exists after the researcher put the answers in two groups as she did before. For example, 72% of the parent participants indicated that teachers proactively communicate with them “twice or less than twice in a semester”, while the percentage of teachers who chose this frequency was only 22.1%.

Table 10. The frequency of teachers’ proactive communication with parents in addition to the parents meeting in one semester.

<table>
<thead>
<tr>
<th>The frequency of teachers’ proactive communication with parents in addition to the parents meeting in one semester</th>
<th>Two or less than two times</th>
<th>More than two times</th>
<th>other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent responses</td>
<td>72.0%</td>
<td>24.2%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Teacher responses</td>
<td>22.1%</td>
<td>55.8%</td>
<td>22.1%</td>
</tr>
</tbody>
</table>
The researcher employed the theory of action put forward by Argyris and Schön to analyze this discrepancy. According to Argyris and Schön, each individual has two theories of action, espoused theory (i.e., what people think or say that they will do) and theory-in-use (i.e., what people actually do), and there is always a mismatch existing between these two theories (Shen & Jones, 2005). For example, Managers “typically see themselves as rational, open, concerned for others, and democratic, not realizing that their actions are competitive, controlling, and defensive” (Bolman & Deal, 1997, p.145). A person’s theory-in-use can be manifested by their behaviors towards others, and therefore can be disclosed by others (Argyris & Schön, 1978). Applied in this study, teachers espoused themselves as proactively communicating with their students’ parents; however, their actual theory-in-use, according to parents, was to the contrary. The researcher thus might be able to draw the conclusion that teachers did not often proactively communicate with their students’ parents.

Based on the above discussion of the frequency of proactive communications between parents and teachers, the researcher could conclude that there was not much communication between teachers and parents. As a result, teachers and parents held different opinions regarding the role parents/families played in education. The lack of communication between teachers and parents also led to other misunderstandings between them. For example, teachers claimed that parents were not willing to share the responsibility of education with schools. In the survey, of all teacher participants who thought that parents did not take an active part in their children’s education, most of them claimed that parents thought the education was the responsibility of schools. However, 91% of the parent participants said that they were willing to help their children with their education.

As for the role other social members played in education, 62.6% of the parent participants thought that other social members did take an active part in education, and 83.7% of student participants thought that other social members also organize different kinds of educational activities together with schools. The difference between the percentage of teachers who agreed and disagreed with the statement was very close, 43.9% agreed that other social members took an active part in education versus 37.3% who disagreed. It seemed that the researcher could conclude that other social members did share the responsibility of education with schools. However, it was not that simple. First of all, there were 18.9% of teacher participants who chose to be neutral about the role other social members played in education.
The researcher was not quite sure of the reason. It could happen that all these 18.9% of teachers chose to disagree that other social members took an active part in education. Second, the researcher did not ask any follow-up questions with regard to the specific activities other social members took to share the responsibility for education, nor did she ask about the extent of other social members’ involvement in education.

However, the researcher did find support for the findings of focus groups regarding the role other social members played in terms of organizing extra-curricular activities for students. As shown in Table 11, in the survey, 69.2% of the parent participants, 60% of the teacher participants, and 65.9% of the student participants claimed that students took part in extra-curricular activities organized by other social members. Therefore, the researcher probably couldn’t conclude that other social members took an active part in education; she could, at least, conclude that other social members did take an active part in organizing extra-curricular activities.

Table 11. Students’ participation in extra-curricular activities organized by other social members

<table>
<thead>
<tr>
<th>Students participate in extra-curricular activities organized by other social members</th>
<th>Agree</th>
<th>Disagree</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student responses</td>
<td>65.9%</td>
<td>17.0%</td>
<td>17.1%</td>
</tr>
<tr>
<td>Parent responses</td>
<td>69.2%</td>
<td>13.8%</td>
<td>17.0%</td>
</tr>
<tr>
<td>Teacher responses</td>
<td>60.0%</td>
<td>10.5%</td>
<td>29.5%</td>
</tr>
</tbody>
</table>

Summary of Barrier 2 Findings

Findings from the survey support findings from focus groups. As a whole, schools were still the only providers of education, even though both parent and teacher participants thought that families and other social members should share the responsibility of education with schools. Due to the lack of knowledge (i.e., technical skills) and/or time, the roles parents played in sharing the responsibility for education, if there were any, were too limited to be recognized by schools. The researcher couldn’t conclude whether or not other social members actively shared the responsibility of education with schools. However, the
researcher could conclude that other social members took part in education to some extent by organizing extra-curricular activities for students.

Schools being the only institution responsible for education is a barrier to providing of practical skills, which can be explained with barrier one. Findings from barrier one indicated that, under exam-oriented education philosophy, all formal educational efforts were targeted on technical skills education to help students pass exams and survive the education system. There was little or no space for practical skills in formal education. Thus, as long as schools continue to be the only institution responsible for providing education and the exam-oriented education philosophy is dominant, technical skills will continue to be the only education students receive. Therefore, the researcher regarded schools being the only institution responsible for providing education as a barrier to the providing of practical skills together with technical skills under the exam-oriented education philosophy.

In addition to this barrier, the researcher also identified a theme; that is the lack of communication especially between teachers and parents. This lack of communication resulted from this barrier and, at the same time, reinforced this barrier. Because teachers and parents did not communicate with each other, they misunderstood and suspected each other, which prohibited the cooperation between them. This in turn led to the lack of role identification between teachers and parents in terms of providing education. According to the role theories, “different people are better than others at some of [the] tasks” of a group, thus, different members of a group should play different roles (McCrimmon, 1995, p.35). “The more a group and its members agree on individual members’ roles, the more productive the group is” (Gettinger & Guetschow, 1998, p. 39). In the case of this study, the more teachers and parents understand each other’s role, the more efficient the education system that aims to provide both practical skills and technical skills will be.

Even though findings of the survey indicated that communications might exist between parents and their children regarding education and the researcher agreed that students’ opinions of parents’ role in education was very important, she had to admit that this does not help much with this study. The reason is that under the traditional education philosophy in China, teachers’ recognition and understanding of parents’ role is more important than those of students. Thus the researcher concluded that the lack of communication between teachers and parents was a very important theme to this study.
Barrier 3 Statement

Financial issues are a barrier to providing both practical and technical skills education for elementary school students in rural Zhejiang, China.

Barrier 3 Focus Group Findings and Discussion

As discussed early in chapter two, the gaining of practical skills can be realized by experiential learning practice. Such learning calls for more financial input compared to the traditional teaching method of technical skills; that is, lecturing or other teaching methodologies that view students as passive receivers of information as opposed to active developers of meaning. During focus groups, parent and teacher participants were all concerned about this issue. They indicated that “money” would be a barrier to the providing of practical skills along with technical skills especially through experiential learning practice. One parent stated, “First of all, money is a problem. We are in rural areas and everyone is still working hard to make a living. We won’t invest in practical skills education if the basic educational needs and life needs haven’t been met.” Teachers had similar opinions, “Government invests too little in rural education.” Without enough financial support even for the technical skills education, how can you expect for the teaching of practical skills to happen in schools. In summary, parents and teachers both thought that providing practical skills education through experiential learning couldn’t be realized if the financial issue couldn’t be solved.

Barrier 3 Survey Findings and Discussion

According to findings from the survey, as shown in Table 12, more teacher and parent participants agreed that lack of money will prevent parents from helping their children learn practical skills. Similarly, as shown in Table 13, more teacher and parent participants agreed that lack of money would prevent schools from providing practical skills education to rural students.

Summary of Barrier 3 Findings

As a whole, findings from the survey supported findings obtained from focus groups with respect to the financial barrier. Lack of money would restrict the ability of both parents and teachers to provide practical skills to their children and/or students. From the perspective of parents, they did not have enough money for both technical and practical skills education. Under the exam-oriented education philosophy, parents would care more about the basic
formal school education (i.e., technical skills) their children would get instead of practical skills. Thus they chose to invest money on technical skills education. From the perspective of teachers, they recognized the importance of practical skills. However, under the present education system, they had to set technical skills as the priority and spent all the money on the teaching and learning of technical skills. What’s more, the financial aid they got was not even enough for the providing of technical skills.

Table 12. Parents’ financial ability to help their children learn practical skills from the perspective of both parent and teacher participants

<table>
<thead>
<tr>
<th>Lack of money will prevent parents from helping their children learn practical skills</th>
<th>Agree</th>
<th>Disagree</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher responses</td>
<td>77.5%</td>
<td>10.6%</td>
<td>11.9%</td>
</tr>
<tr>
<td>Parent responses</td>
<td>46.3%</td>
<td>32.4%</td>
<td>21.3%</td>
</tr>
</tbody>
</table>

Table 13. Schools’ financial ability to help rural students learn practical skills from the perspective of both parent and teacher participants

<table>
<thead>
<tr>
<th>Lack of money will prevent schools from helping rural students learn practical skills</th>
<th>Agree</th>
<th>Disagree</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent responses</td>
<td>80.9%</td>
<td>11.1%</td>
<td>8.0%</td>
</tr>
<tr>
<td>Teacher responses</td>
<td>52.4%</td>
<td>22.9%</td>
<td>24.7%</td>
</tr>
</tbody>
</table>

Objective 3: Program Design

The third objective of this study is: Provide suggestions on the design of an appropriate educational program to provide practical skills education in confluence with technical skills education to elementary school students in rural Zhejiang, China, based on the results from the investigation of enablers and barriers.

Based on findings and discussions of the first two objectives, the researcher suggests that the exam-oriented education system was the main barrier to the providing of practical skills to rural elementary school students in Zhejiang, China. Under this education system,
education was equal to technical skills education, and schools were made the only providers of education. Families and other social members shared the responsibility of education with schools to a very limited extent. There was little or no space for the teaching and learning of practical skills. Therefore, if China modified or even eliminated the exam-oriented education system, the problem, or at least the major component of the problem, that would prohibit the providing of practical skills to rural students would be addressed. However, in reality, it is not that easy.

**Program Design Focus Group Findings and Discussion**

During focus groups, even though teacher and parent participants admitted that exam-oriented education was the biggest barrier to the providing of practical skills along with technical skills, they recognized that it was not wise to eliminate or reform the whole exam-oriented education system overnight. According to the participants, the exam-oriented education system had existed and been operated in China for centuries, it still had appropriateness under certain economic, political and social environments in China. One teacher said, “It’s not reasonable to eradicate the exam-oriented education system as there is no better way to help China with a large student population and a small number of universities.” As a result, both teacher and parents participants agreed that the reform of the exam-oriented education system should be taken gradually, which requires a transformation process.

However, teacher and parent participants also indicated that gradual reform doesn’t necessarily mean that practical skills education should be provided to rural students after the completion of the reform. They agreed that formal school education was restricted by the exam-oriented education system; but there was still nonformal education, which could be employed in this gradual reform process to supplement formal school education in terms of providing practical skills education. Participants of focus groups thought of extra-curricular learning activities as one possible way. “Extra-curricular learning activity will be accepted as a good way to provide practical skills to rural students because it does not occupy formal school time.” In addition, parent and teacher participants agreed with the importance of involving other social members in addition to schools to work with schools to provide practical skills education to rural elementary school students through nonformal education.
programs. One teacher stated, “Other social members can help schools, at least by providing more money to organize extra-curricular learning activities.”

**Program Design Survey Findings and Discussion**

According to findings from the survey, most teacher and parent participants agreed that practical skills could be taught through nonformal education programs (such as extra-curricular educational activities) instead of formal school education under the exam-oriented education practice. Reflected in statistics, as shown in Table 14, 62.4% of the teacher participants and 53.9% of the parent participants chose to agree with this statement. Survey findings also showed that students were taking part in extra-curricular learning activities organized by both schools and other social members. In the survey, as shown in Table 15, most students took part in these extra-curricular learning activities organized by schools. Similar findings were found with regard to students’ participation in extra-curricular learning activities organized by other social members, as shown in Table 11, 69.2% of parent participants, 60% of the teachers, and 65.9% of the students claimed that students participated in extra-curricular learning activities organized by other social members. And the number one reason for students to participate in extra-curricular learning activities is their personal interests. Reflected in statistics, 71.6% of the students stated that the reason for them to participate in extra-curricular learning activities was their personal interests. Similarly, 74.9% of the students claimed that they took part in extra-curricular learning activities organized by other social members because they had personal interests.

Findings from the survey also showed that both parent and teacher participants supported the idea that it takes a village to educate a child. Even though in reality schools took the full responsibility of education, most teacher and parent participants thought that parents/families and other social members should also take an active part in education. Reflected in statistics, 75.2% of the parent participants and 91.6% of the teacher participants did not think that education should only be the responsibility of schools. In addition, 90.4% of parent participants thought that families should participate in education and 78.4% of them thought that other social members should participate in education. With regard to teacher participants, 92.5% of them agreed that parents should take an active part in education and 90.7% of them agreed that other social members should take an active part in education.
Table 14. Parent and teacher participants’ opinions about teaching practical skills through nonformal educational programs

<table>
<thead>
<tr>
<th>Practical skills can be taught through nonformal educational programs</th>
<th>Agree</th>
<th>Disagree</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent responses</td>
<td>53.9%</td>
<td>23.8%</td>
<td>22.3%</td>
</tr>
<tr>
<td>Teacher responses</td>
<td>62.4%</td>
<td>20.6%</td>
<td>17.0%</td>
</tr>
</tbody>
</table>

Table 15. Students’ participation in extra-curricular learning activities organized by schools from the perspective of student and parent participants

<table>
<thead>
<tr>
<th>Students participate in extra-curricular learning activities organized by schools</th>
<th>Agree</th>
<th>Disagree</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent responses</td>
<td>90.0%</td>
<td>2.0%</td>
<td>8.0%</td>
</tr>
<tr>
<td>Teacher responses</td>
<td>84.7%</td>
<td>10.9%</td>
<td>4.4%</td>
</tr>
</tbody>
</table>

**Summary of Program Design Findings**

Based on findings from both focus groups and the survey, the researcher concluded that the reform of the exam-oriented education system overnight was not feasible, as agreed by both teacher and parent participants. Instead, according to parent and teacher participants, practical skills might be provided to rural students through nonformal education programs, specifically extra-curricular learning activities, with the participation of schools, families, and other social members. On one hand, providing practical skills through extra-curricular learning activities was considered a feasible way under the exam-oriented education system. Findings from both focus groups and the survey showed that many students participated in extra-curricular learning activities organized by schools and other social members based on their personal interests.

On the other hand, findings from focus groups and the survey also indicated that one of the reasons for schools being the only providers of education was the misunderstanding of education among schools, families, and other social members. All of them regarded education as technical skills education only, which restricted the role families and other social members could play in education. However, giving the opportunity to families and
other social members to provide practical skills through extra-curricular learning activities
together with schools would initiate the cooperation among them and schools. As a result,
families and other social members might share the responsibility for education with schools.
This in turn would gradually lead to the education system proposed under the ITV
philosophy.
Chapter 5 Conclusion

This chapter has 2 sections, recommendations and implications and suggestions for future research.

Recommendations and Implications

As indicated previously, the research findings have led the researcher to propose that a system be developed which fundamentally alters the Chinese public school system. As clarified throughout the dissertation, China’s historic and current focus rests solidly on the two major ideas that are, in a very real sense, holding back educational reform that could be a major factor enabling China to maintain the noteworthy economic advancement it has enjoyed for the past couple of decades. Specifically those two ideas are 1) the exam-oriented educational philosophy which facilitates primarily technical skill development, at the expense of practical problem-solving skills, and 2) the idea that learning and education are limited to schoolwork (i.e., technical skills only), thereby the sole responsibility of Chinese schools. The researcher calls for a societal-wide system that combines practical skills and technical skills through the marriage of school-based technical skill development and a community-based practical skills development. In other words, before the exam-oriented education system is reformed in China, under which schools are the primary provider of education, specifically, technical skills education, there is a need to set up a unit/organization outside of schools as a complement to the formal school education to teach practical skills education to rural students.

The researcher suggests that this new design be approached through what is described as the *it takes a village* philosophy. Such a philosophy calls for a redefinition of educational responsibilities that place the locus of learning facilitation across several social institutions in addition to the formal school system especially for the teaching of practical skills. Initially the researcher calls for a much greater involvement from the parents and families of Chinese students in the learning process. She posits that such reform will require much greater two-way communication and cooperation between parents and teachers than is currently evident. She then extends the idea of greater communication and cooperation to all the social members in the society. In addition, as a starting point for such reform, the researcher suggests utilizing the U.S. 4-H Youth Development Program as a model from which to proceed.
As “one of the oldest and largest nontraditional educational efforts in public education in the United States” (Ladewig & Thomas, 1987, p. 1), the 4-H Youth Development Program “focuses on building lifelong leaning skills that develop youth’s potential (USDA, 1994, p. 1)” (as cited in Morris, 1996, p. 13). Developed through the utilization of a model of cooperation, the 4-H Youth Development Program involves many contributors in the society in sharing the responsibility of education, including schools, parents, universities, and other members in the community. What’s more, all the practical skills are taught to students in confluence with technical skills through learning-by-doing practice, which, according to Hendricks (1998), produces high-quality youth development experiences. These two features make the 4-H Youth Development Program a prefect model for rural China to utilize as a guide in terms of providing students practical skills through extra-curricular learning activities based on the ITV philosophy.

The researcher recognizes that the introduction of the U.S. 4-H Youth Development Program to rural China cannot be a process of mere copy or imitation; instead it should be a process of learning-by-doing. Nonformal education programs designed to facilitate the development of practical skills in rural youth should be tailored and piloted in accordance with the specific situation of rural China. Implied from findings of this study, the researcher suggests that the key to the development of a 4-H type program in rural China is to create a cooperative education system. Such a system might take a similar format as the Cooperative Extension System in the U.S. which involves multiple social partners in addition to schools in sharing the responsibility of education. The fact is schools cannot shoulder all the load of education in any society. Currently the agricultural extension system in China does not contribute to rural youth education and development at all.

Unlike the U.S., the extension system in China is characterized by the separation of agriculture schools and/or universities, other social members (e.g. some government-owned science and technology development departments), and the government bureau that is in charge of Extension (Reng & Qi, 1998). Extension is the responsibility of government-owned extension units. In addition, under this extension system, most of the activities have a focus on the transfer of technology. There is nothing related to rural youth education and development. (Reng & Qi, 1998). As a result, rural students have not been provided the opportunity to learn practical skills. At the same time, there are lots of resources in addition
to schools existing in the society that can be of great importance to helping rural students learn about practical skills education, for example, families. However, these resources are not made good use of. There is a need to bring all these resources together by setting up a cooperative education system, which is similar to the Cooperative Extension System in the U.S., with a purpose of helping rural students to learn practical skills. What’s more, the researcher believes that this kind of education system will also be a good model for urban education.

This cooperative education system should be different from the “walking on two legs” policy in China, which, as mentioned earlier in Chapter One, was issued to enable other social members to run schools as a complement to public school system (Ahmed et al., 1991). Under this policy, other social members became nothing but part of the formal school education system. They were schools. In this sense, other social members did not really participate in education, or only participated in a superficial way. The researcher believes that the cooperative education system should also mean something more than what was found in this study. As discussed in Chapter Four, findings from both focus groups and the survey indicated that one of the ways for other social members to participate in education was through organizing various extra-curricular learning activities. For example, one of the teacher participants of focus groups mentioned that there is an English-learning program organized by other social units, which is called Cambridge English. The purpose of this kind of program is to help children speak better English. Even though the researcher did not inquire further with regards to other social members’ involvement, beyond the family, in education in this study, she is confident, first of all, that many of this kind of so-called “interest programs” for children are not designed to teach practical skills. Parents sent their children to some extra-curricular learning activities, for instance, dancing class, because these learning activities can help their children earn extra exam scores (Lu, 2000).

Second, the researcher also believes that the current level of involvement by other social members’ in education is not adequate to develop the ITV philosophy. There is little or no cooperation between schools and other social members in terms of organizing extra-curricular learning activities. Take the above English-learning program for example again; some parents had their children participate this program in addition to what was taught in schools. However, teachers complained that these children would not pay attention in class
because they were already ahead of the rest of the class. Just like what Ahmed et al. (1991) stated, “...practices and styles in education in both China and India are not sufficiently supportive of meaningful participation of interested parents and community members...” (p. 129). Therefore, to successfully set up the cooperative education system, the researcher recommends that families and other social members should be involved in designing, managing, setting goals, and evaluating programs with regards to education. According to Ahmed et al. (1991), meaningful involvement can be realized only if other social members are included in such manner. Consequently, all the members of the education system will recognize their common stake in education. Most important of all, having co-ownership of the education program will enable them to relate the inputs and outputs of education more directly with their own benefits. This, no doubt, will encourage them to proactively share the responsibility of education with schools. Otherwise, according to Ahmed et al. (1991),

The lack of opportunity for meaningful participation reinforces the phenomenon of pervasive apathy on the part of the majority of citizenry, especially the poor and the disadvantaged, which originates in the first place from a non-participatory political and civic culture. (p. 129-130)

This is the case of rural China.

Problematic is establishing the cooperative education system to involve all the members in the society in designing, managing, setting goals, and evaluating programs with regards to education. The researcher recognizes the need to address two important issues. **First of all,** the role the government should play in this education system. The researcher recommends establishing a government-owned office or organization or a certain government bureau responsible for coordinating the cooperation among all members in the education system, schools, families, and other social members in order to realize the confluence of practical and technical skills education. Just like in any other system, for example, the orchestra, it is necessary for the education system to have a conductor or director to coordinate efforts of all members in the system to produce system synergy. On the other hand, findings of both focus groups and the survey in this study implied that it is not feasible for schools, families, or other social members other than the government to take this responsibility, because each of them has their own limits that restrict them from effectively coordinating the cooperation inside the education system. Most important of all, in a society like China that values
hierarchal relationship, ideas or suggestions from the government, the higher-level institution, would be received more easily compared to those from someone on the same level, which, in this case, are schools, families, or other social members. For example, teachers could not make parents communicate with schools regarding their children’s education. The best they can achieve is to invite parents to communicate with them. Similarly, schools can ask for financial inputs from other social members, however, they are not guaranteed to receive any. Therefore, the researcher recommends the involvement of the government as the coordinating organization for the education system.

Specifically, the researcher recommends the setting-up of a government office under the Ministry of Education, which is responsible for developing, coordinating, implementing, and evaluating the extra-curricular learning activities that are designed to provide students practical skills education. Because the government has the authority to issue certain policies to encourage and facilitate the cooperation among schools, families, and other social members of the education system, this government-owned office should take the leadership in the cooperative education system through setting up sub-offices in each province in China. Because there is the All China Youth Federation in China, which is a youth organization responsible for youth development, the researcher specifically recommends the inclusion of this organization in such a way that their expertise and experiences with youth development can be retained and employed for future programs.

In addition, the researcher also recognizes the important role agriculture universities will play in the cooperative education system, because many of the extra-curricular learning activities for rural students will be designed based on certain agriculture-related topics, similar to 4-H programs, to help rural students learn the content as well as the skills. In particular, agriculture-related departments can provide expertise for the teaching of the content, i.e., the technical skills of certain subject; while agriculture education department can provide theoretical support to the teaching of practical skills in confluence with technical skills. Agriculture education departments can also provide training for elementary schools teachers and volunteers in terms of teaching practical skills together with technical skills through extra-curricular learning activities. What’s more, agriculture education departments can promote the continual improvement of the extra-curricular learning activities through providing professional scholarship and most updated development and achievement in the
area of agriculture education. Currently there are no agriculture education departments in
China. The researcher recommends either initiating agricultural education departments or
assigning the responsibility to the general education department. Most important of all, the
researcher recommends having experts from agriculture education share the leadership in the
government office that is responsible for practical skills.

In addition to facilitating the cooperative education system, the government must also
play an important role in promoting the reform of the exam-oriented education philosophy.
Even though the set up of this cooperative education system does not really challenge the
exam-oriented education system, through direct involvement in this system, the government
will obtain a better understanding of the problems caused by the exam-oriented education
philosophy. This will enable the government to be aware of the need of reforming the exam-
oriented education system. Also, through its supervising role in this cooperative education
system, the government also will be able to recognize the problems and challenges of the
new education system. As a result, the government can develop the capacity to change the
situation by issuing certain laws and/or documents while other social members in the
community do not have the ability to do that.

A second issue which must be addressed in order to establish a cooperative education
system to the standard of the it takes a village (ITV) philosophy concerns the development of
a clearer understanding of the nature of education among all members in the system.
According to the researcher, truly meaningful education must involve something more than
just technical skills. It should include both technical and practical skills. However, based on
findings from this study, it was clear that most teachers and parents regarded education as
technical skills education and thought of learning as a process of working on schoolwork.
This actually was one of the reasons for the formation of barrier two that was identified in
this study; that is, schools are viewed as the only provider of education. Equating education
to technical skills no doubt restricts the role families and other social members can play in
education because, with such ends in mind, typically they do not have the necessary expertise
to deliver technical skills learning.

The researcher believes that families and other social members actually do have expertise
in terms of practical skills and sometimes even technical skills. For example, some parents
know everything about raising rabbits. At the same time, they have certain practical skills.
However, the problem is that parents are not aware of the fact that what they know is part of the education their children should have. Therefore, the researcher suggests that if families and other social members understood that education includes not only technical skills, but also practical skills, they would feel more confident in sharing the responsibility of education with schools. In view of this, the researcher recommends promoting the idea of technical and practical skills education at the beginning stage of establishing the cooperative education system in China. What’s more, the researcher suggests that the government should take the leadership in this promoting process. Of course, parents also face the challenge of combining these two things together in such a way that they can teach their children both technical and practical skills, which again provide the rationale of employing the expertise in the areas of agriculture education.

In addition to the above recommendations regarding the establishment of the education system, there are recommendations for some specific areas of the development of 4-H type programs in rural China. First is the issue of volunteerism. Volunteerism is essential to the success of the U.S. 4-H youth development programs. It is the love of those caring adults that keep the programs going successfully. However, volunteering is not a popular theme in China especially at present under an economic-driven values system. On the other hand, findings from this study do indicate that parents would be willing to help their children learn practical skills if there were such programs being made available. An old axiom in volunteerism goes, “people will volunteer for free....but not for nothing (B. L. Jones, personal communication, April 15, 2003). In the case of parents in rural China, they probably would not volunteer for nothing, but they would volunteer for their children’s healthy and successful development. The researcher thus recommends that much attention should be paid to making good use of parents’ love for their children when recruiting parent volunteers for the non-formal educational programs to enhance student learning.

Specifically, the researcher recommends the establishment of the parents’ organization under the leadership of the local government office that is responsible for providing rural student practical skills education. This organization can be used as a venue for parents to share their expertise with each other, as a result of which parents get a better understanding of what their children can learn from others. For example, one parent is good at carpentry while s/he knows nothing about fishing. However, his/her child is interested in learning more
about fishing. Then this parent can send his/her child to another parent who is good at fishing while teaching other children who are interested in carpentry. In addition, this organization can also serve as the training center for parents to learn how to teach and share their expertise with their children, especially that of practical skills. The expertise that parents lack really is how to teach their children practical skills through the teaching of certain technical skills. At the same time, by participating in the parents’ organization, parents will also be provided opportunities for involvement in decision-making in terms of providing their children practical skills.

Secondly, as a follow-up to the first issue, recruiting parents as well as other social members as volunteer teachers for the 4-H type non-formal educational programs requires the providing of necessary training especially in the area of experiential learning. Thus the researcher recommends experts in the area of experiential learning to research the needs of parents and other social members as teachers, and then develop, deliver, and evaluate curricula for providing training to parents as well as other volunteers to ensure the quality of education. Other volunteers might include grandparents or elder youth who would require the aforementioned training as well. Because agriculture educators are the faithful supporters and practitioners of experiential learning, agriculture education departments again will play an important role in meeting this training need. This recommendation also brings up the third issue, which is the promoting of the employment of learning-by-doing practice among school teachers.

The researcher recognizes that some of the teachers in schools might also need training. Perhaps this could be provided through pre-service and in-service education programs to enhance their understanding of teaching through learning-by-doing. Most important of all, students learn better if what they learn outside of the classroom echoes or complements what they learn inside of the classroom in terms of both content and the teaching and learning process. However, findings from the study indicate that, under the exam-oriented education philosophy, the main teaching method employed in China is generally classroom-based lecture. At the same time, students indicated that they learn better through experiential learning practices. Even though some teacher participants of this study claimed that they were using experiential learning to teach, they couldn’t give any concrete examples of their practice, which implies that they might not quite understand the benefit and the essence of
experiential learning practice. Thus, when the content of the extra-curricular learning activities complement the school education, there is also the need for bringing the teaching and learning experiences of both formal and nonformal education to the same horizon.

The fourth issue concerns the organization of the extra-curricular learning experiences. 1) The researcher recommends that communications between schools and other social members be greatly enhanced in terms of the kind of extra-curricular learning experiences each of them might become involved with in leadership capacities. There may be some good extra-curricular learning experiences existing, which, with minor adjustments, can be used as the pilot programs to teach rural students practical skills. In addition, enhanced communications will facilitate the cooperation between other social members and schools, so that they can organize nonformal educational programs to teach rural students practical skills as well as reinforce technical skills. As a result, parents and teachers will not disagree with the participation of their children and/or students. 2) Extra-curricular learning experiences should be designed according to rural students’ interests. According to the findings from this study, rural students participated in various extra-curricular activities organized by schools or other social members because they were interested in the subject they would learn from these nonformal educational programs. 3) There is the time issue. Based on findings from this study, the researcher would recommend 4-H type extra-curricular learning experiences be held during summer vacations. When schools are still busy with providing technical skills education to their students, it would be more feasible for students to participate in these extra-curricular learning experiences when they do not have to worry about their schoolwork. This is especially important with the existence of the exam-oriented education system.

Finally, the researcher recommends seeking seed funding to facilitate the implementation of the pilot programs and extra-curricular learning experiences, which are designed to provide practical skills together with technical skills. Based on findings from both focus groups and the survey, the financial problem for most families and schools was actually caused by the competition between the investment in technical skills and that on practical skills. Thus, the researcher recommends providing the programs to rural students free of charge at the beginning. When the value of the practical skills is proven or supported by the outcomes of the educational programs, schools, families, other social members, and even the government will be more willing to invest in the teaching and learning of practical skills.
Suggestions for Further Research

In addition to the above recommendations and implications derived from the findings of this study, the researcher also has some suggestions in terms of the research design for future study. In this study, the researcher mainly focuses on the perspectives of certain members in the potential cooperative education system. To successfully design and implement the nonformal education program that provides Zhejiang rural youth practical skills in confluence with technical skills, more research should be conducted among other members of the ITV philosophy. First of all, there is the need to investigate the barriers and enablers of providing practical skills together with technical skills to rural students from the perspectives of the government before actually involving them in the process of establishing and operating the education system. Similarly, studies should also be carried out with members of other social groups to get their opinions on the barriers and enablers. Specifically, a point for additional investigation would be whether or not other social members communicate with schools regarding extra-curricular learning activities. Do they promote such activities as valid and useful learning experiences with the potential of developing practice skills outside the classroom? Do they envision the communication potential between other social members and schools? Further research might facilitate the design and implementation of the cooperative education system. What’s more, research concerning the kind of employees needed in the workplace should also be conducted, particularly among companies and organizations likely to become the future employers of rural students. Relevant results of such inquiry would be quite useful information in the government’s decision-making process for changing certain educational policies to reflect the importance of practical skills.

The researcher also recommends that similar studies should be conducted before introducing and implementing the nonformal educational program that provides both skills education to other provinces in China. The rationale is that, as one of the biggest countries in the world, China has 23 provinces, all of which are different in terms of demography, economic development level, and even cultural background. It is quite possible that what works in one province may not work in another province especially in terms of different economic development levels. As mentioned earlier in this dissertation, the researcher believes that the economic development level is a big index for the implementation of the 4-H type extra-curricular learning activities to teach rural students practical skills. Specifically,
rural students in some poor areas in China will not be able to afford to learn practical skills. For example, in 1994, per capita annual income of Zhejiang province was about 300 US dollars, while that for Guizhou Province, one of the poorest provinces, was only about 75 US Dollars (China Statistics Yearbook, 1995). And the disparity tends to enlarge. With widespread low income, rural students in some poor areas in China can not even afford to learn technical skills, how can they be expected to spend money to learn about practical skills? However, this does not mean that rural students in poor areas can not learn about practical skills. On the contrary, the researcher believes that rural students in poorer areas will need practical skills, if not more than, at least as much as their counterparts in richer areas, to improve their lives. Thus the researcher recommends conducting studies in these poor areas to facilitate the design of appropriate educational programs to teach practical skills to rural students in poor areas.

Finally, the researcher has four specific recommendations for conducting similar research in the future in other areas in China, which might also be useful to the carry-out of repetitive study in Zhejiang Province. First, the researcher would highly recommend pilot testing focus groups if the researcher does not have any former experiences. In this study, the researcher had some former experiences in conducting focus groups. However, the researcher still found some problems during focus groups. For example, during focus groups, some of the participants did not understand her questions. She then had to take time providing explanations, some of which she felt might have been leading participants to give answers to certain direction. As a result, the researcher had to figure out some other similar questions to ask about the same thing again. Thus, she thinks that it is important to pilot focus groups among people who share similar characteristics of future participants to help eliminate this potential bias.

Second, the researcher recommends the use of interview among parent participants if time and finance are not greatly restricted. Focus groups work fine with teachers and students. However, with parent participants, the researcher found that some of the parents especially those who has lower education level did not talk a lot or just followed others’ opinions. They felt shy about sharing their opinions because they were not confident about their own ideas in front of other parents. The researcher had to work very hard to encourage them to talk and issue their own ideas. Sometimes it still did not work. Therefore, the
researcher recommends the employment of one-on-one interview in the future research especially among parent participants.

Third, the researcher highly recommends the use of the researcher assistant during focus groups. During this study, the researcher had her own assistant, helping with recording, writing notes, and debriefing results. There is just no way that the researcher herself can do all the things by herself. Most important of all, the research assistant is majoring in curriculum development for elementary schools students, as a result she understood the background and always gave the researcher good suggestions. Fourth, the researcher recommends the follow-up face to face interviews of some of the survey participants. The researcher did one follow-up focus group with a few teacher and student participants of the survey, which proved very important in helping the researcher understand some of the answers given by the survey participants. Because of limited time and finances, the researcher did not do any other follow-up interviews. However, the researcher would highly recommend conducting follow-up interviews for future study especially when time and money are not big problems.
References


Simon & Schuster.
at the CREST Conference, Benchmarks for Accountability: Are We There Yet? UCLA, Los Angeles, CA.


Ladewig, H. & Thomas, J.K. (1987). *Assessing the impact of 4-H on former members*. The Texas A&M University, College Station.


challenges [electronic version]. *Education + Training, 41*(8), 348-358.


for rural development in Asia: Experiences and policy lesson (pp. 53-75). Bangkok: Thailand.


Appendix A. Human Subjects Materials

TO: Difei Shen
FROM: Ginny Austin, IRB Administrator

PROJECT TITLE: "The Barriers and Enablers of Providing "Professional Practice Skills" education in rural China"

RE: IRB ID No.: 04-176

APPROVAL DATE: March 29, 2004 REVIEW DATE: March 24, 2004

LENGTH OF APPROVAL: 1 year CONTINUING REVIEW DATE: March 28, 2005

TYPE OF APPLICATION: ☑ New Project ☐ Continuing Review

Your human subjects research project application, as indicated above, has been approved by the Iowa State University IRB #1 for recruitment of subjects not to exceed the number indicated on the application form. All research for this study must be conducted according to the proposal that was approved by the IRB. If written informed consent is required, the IRB-stamped and dated Informed Consent Document(s), approved by the IRB for this project only, are attached. Please make copies from the attached "masters" for subjects to sign upon agreeing to participate. The original signed Informed Consent Document should be placed in your study files. A copy of the Informed Consent Document should be given to the subject.

If this study is sponsored by an external funding source, the original Assurance Certification/Identification form has been forwarded to the Office of Sponsored Programs Administration.

The IRB must conduct continuing review of research at intervals appropriate to the degree of risk, but not less than once per year. Renewal is the PI's responsibility, but as a reminder, you will receive notices at least 60 days and 30 days prior to the next review. Please note the continuing review date for your study.

Any modification of this research project must be submitted to the IRB for review and approval, prior to implementation. Modifications include but are not limited to: changing the protocol or study procedures, changing investigators or sponsors (funding sources), including additional key personnel, changing the Informed Consent Document, an increase in the total number of subjects anticipated, or adding new materials (e.g., letters, advertisements, questionnaires). Any future correspondence should include the IRB identification number provided and the study title.
You must promptly report any of the following to the IRB: (1) all serious and/or unexpected adverse experiences involving risks to subjects or others; and (2) any other unanticipated problems involving risks to subjects or others.

Your research records may be audited at any time during or after the implementation of your study. Federal and University policy require that all research records be maintained for a period of three (3) years following the close of the research protocol. If the principal investigator terminates association with the University before that time, the signed informed consent documents should be given to the Departmental Executive Officer to be maintained.

Research investigators are expected to comply with the University’s Federal Wide Assurance, the Belmont Report, 45 CFR 46 and other applicable regulations prior to conducting the research. These documents are on the Human Subjects Research Office website or are available by calling (515) 294-4566.

Upon completion of the project, a Project Closure Form will need to be submitted to the Human Subjects Research Office to officially close the project.

C: Ag Ed & Studies
B. Lynn Jones
TO: Difei Shen  
FROM: Human Subject Research Compliance Office  
PROJECT TITLE: The barriers and enablers of providing "Professional Practice Skills" in Rural China  
RE: IRB ID No.: 04-176  
TYPE OF APPLICATION: Modification  
APPROVAL DATE: April 18, 2005  
REVIEW DATE: April 18, 2005  
CONTINUING REVIEW DATE: March 28, 2006  

Your human subjects research project application, as indicated above, has been approved by the Iowa State University IRB #1 for recruitment of subjects not to exceed the number indicated on the application form. All research for this study must be conducted according to the proposal that was approved by the IRB. If written informed consent is required, the IRB-stamped and dated Informed Consent Document(s), approved by the IRB for this project only, are attached. Please make copies from the attached "masters" for subjects to sign upon agreeing to participate. The original signed Informed Consent Document should be placed in your study files. A copy of the Informed Consent Document should be given to the subject.  

If this study is sponsored by an external funding source, the original Assurance Certification/identification form has been forwarded to the Office of Sponsored Programs Administration.  

The IRB must conduct continuing review of research at intervals appropriate to the degree of risk, but not less than once per year. Renewal is the PI's responsibility, but as a reminder, you will receive notices at least 60 days and 30 days prior to the next review. Please note the continuing review date for your study.  

Any modification of this research project must be submitted to the IRB for review and approval, prior to implementation. Modifications include but are not limited to: changing the protocol or study procedures, changing investigators or sponsors (funding sources), including additional key personnel, changing the Informed Consent Document, an increase in the total number of subjects anticipated, or adding new materials (e.g., letters, advertisements, questionnaires). Any future correspondence should include the IRB identification number provided and the study title.  

You must promptly report any of the following to the IRB: (1) all serious and/or unexpected adverse experiences involving risks to subjects or others; and (2) any other unanticipated problems involving risks to subjects or others.  

HSRO/ORC 9/02
Your research records may be audited at any time during or after the implementation of your study. Federal and University policy require that all research records be maintained for a period of three (3) years following the close of the research protocol. If the principal investigator terminates association with the University before that time, the signed informed consent documents should be given to the Departmental Executive Officer to be maintained.

Research investigators are expected to comply with the University's Federal Wide Assurance, the Belmont Report, 45 CFR 46 and other applicable regulations prior to conducting the research. These documents are on the Human Subjects Research Office website or are available by calling (515) 294-4566.

Upon completion of the project, a Project Closure Form will need to be submitted to the Human Subjects Research Office to officially close the project.

C: Ag Ed & Studies
   Bert Lynn Jones
Appendix B Cover Letter

Cover Letter for Teachers and Parents

Focus Group Cover Letter

亲爱的研究参与者(家长或老师)，

我诚恳地邀请你参与此项为我的博士论文进行的调查研究。此研究目的是从学生、学生家长及教师的角度出发，调查和发掘在中国农村实行 PPS 教育（即生活技能教育）所具备的推动力和可能会存在的阻力。因为你们是农村小学 5、6 年级学生的家长或老师，所以被选为此研究的参与者。

如果你同意参与此研究，那么整个参与过程是 2 个小时。其中半个小时用来阅读知情同意书并就此研究进行提问（如果你有任何疑问的话），1 个小时用来参与焦点团体访谈。如果研究需要，研究人员（即沈思菲）会进行另外 1 个小时的 1 对 1 面谈，但是她会事先通知并取得你的同意。在 1 个小时的焦点团体访谈中，你与另外 7-11 个研究参与者（跟你一样是学生家长或学生老师）将回答并就研究人员就此研究项目提出的问题进行讨论。对在浙江农村实行 PPS 教育（即生活技能教育）所具备的推动力和可能会遇到的阻力谈谈你的看法。焦点团体访谈提供点心与饮料，同时，研究人员将使用录音机把整个焦点团体访谈过程录下来以备研究分析。

参与此研究你将不会有任何风险，只需负担任何费用。你也不需要承受任何压力，而且研究者会向你及其他参与者所提供的信息会促使教育界对此进行更多更深的研究。从而促进中国政府制定有利政策在中国农村推广 PPS 教育（即生活技能教育）。从长远来看，作为农村学生的家长及教师，你还是间接受益的。

是否参与此研究完全基于自愿。你可以拒绝参与或在研究过程中中止参与，无需为此承担任何责任。

依照法律规定，研究者会对有关显示参与者身份的任何记录进行保密。但是美国联邦政府管理机构及依艾华州立大学的审查机构（专门对从事与人有关的研究进行审查的委员会）可能会对这些记录进行审查或复制拷贝，以便监督并保证研究质量。这些记录可能会包含一些私人信息。

为了保证你在研究过程中所给信息的保密性，研究人员将采取以下的措施：你的名字将由数字代替，你在研究过程中所给的信息只有主要研究人员能阅读。这些信息将以带密码的电脑文件形式保存，而录音带会被锁存在一个文件柜中。在研究人员回到美国前，录音带将被锁存在研究人员父母家中的抽屉里。所有的信息及材料会在 2006 年 5 月 30 日被销毁。但是研究人员会用你所给的信息来撰写博士论文并出版。

如果你有任何问题

请与研究人员沈思菲联系

Agricultural Education and Studies Department
223 Curtiss Hall
Ames, IA, 50011-1050
(美国依艾华州立大学农业与研究系，50011-1050)
Email: dfshen@iastate.edu
家庭电话：(515) 572-4593 (家)，
办公室电话：(515) 294-8447 或(515) 294-4349
或与沈迪非的导师 B. L. Jones 教授联系
Agricultural Education and Studies Department
201 Curtiss Hall
Ames, IA, 50010, USA
(美国依艾华州立大学农业与研究系，50011-1015)
Email: xljones@iastate.edu
办公室电话：(515) 294-0898
如果你对参与者权利有任何问题，请与
主管人为研究对象所进行的研究的办公室联系
美国依艾华州立大学 Beardshear 大楼 2810 室
Email: austingr@iastate.edu
电话：(515) 294-4566
或与研究投诉办公室联系
美国依艾华州立大学 Beardshear 大楼 2810
Email: dament@iastate.edu
电话：(515) 294-3115

谢谢！
沈迪非
亲爱的家长/老师，

我诚恳地请求你同意你的孩子/学生参与我为我的博士论文进行的调查研究。此研究目的是从学生，学生家长及教师的角度出发，调查和发掘在中国农村实行 PPS 教育（即生活技能教育）所具备的推动力和可能会存在的阻力。因为你的孩子/学生农村小学 5、6 年级的学生，所以被选为此研究的参与者。

如果你同意你的孩子/学生参与此研究，那么他们的整个参与过程是 2 个小时。其中半个小时用来阅读知情同意书并就此研究进行提问（如果他们有疑问的话），1 个半小时用来参与焦点团体访谈。如果研究需要，研究人员（即沈迪非）会进行另外 1 个小时的 1 对 1 面谈，但他会事先通知并取得你的同意。在 1 个半小时的焦点团体访谈中，你的孩子/学生会与另外 7-11 个研究参与者（跟他们一样是学生）回答并对研究人员就此研究项目提出的问题进行讨论，对在浙江农村实行 PPS 教育（即生活技能教育）所具备的推动力和可能会存在的阻力谈谈看法。焦点团体访谈提供点心与饮料，同时，研究人员将使用录音机把整个焦点团体访谈过程录下来以便研究分析。

参与此研究他们将不会有任何风险，无需负担任何费用。他们也不会直接受益，但是研究人员相信他们及其他参与者所提供的信息会促使教育界对此问题进行更多更深的研究，从而促进中国政府制定有利政策在中国农村推广 PPS 教育（即生活技能教育）。从长远来看，作为农村学生，他们还是间接受益的。

是否参与此研究完全基于自愿。他们可以拒绝参与或在研究过程中中途参与，并无需为此承担任何责任。

依照法律规定，研究人员会对有关显示参与者身份的任何记录进行保密。但是美国联邦政府管理机构及依艾华州立大学的审查机构（专门对从事与人有关的研究进行审查的委员会）可能会对这些记录进行审查或复制拷贝，监督并保证研究质量。这些记录可能会包含一些私人信息。

为了保证他们在研究过程中所给信息的保密性，研究人员将采取以下的措施：他们的名字将由数字代替，他们在研究过程中所给的信息只有主要研究人员能阅读。这些信息将以带密码的电脑文件形式保存，而录音带将被锁存在一个文件柜中。在研究人员回到美国前，录音带将被锁存在研究人员父母家中的抽屉里。所有的信息及材料会在 2006 年 5 月 30 日被销毁。但研究人员会用他们所给的信息来撰写博士论文并出版。

如果你有任何问题

请与研究人员沈迪非联系

Agricultural Education and Studies Department
223 Curtiss Hall
Ames, IA, 50011-1050, USA
(美国依艾华州立大学农业教育与研究系，50011-1050)
Email: dfshen@iastate.edu
家庭电话：(515) 572-4593（家），
办公室电话：(515) 294-8447 或(515) 294-4349
或与沈迪非的导师 B. L. Jones 教授联系
Agricultural Education and Studies Department
201Curtiss Hall
Ames, IA, 50010, USA
(美国依艾华州立大学农业教育与研究系，50011-1015)
Email: xljones@iastate.edu
办公室电话：(515) 294-0898
如果你对参与者权利有任何问题，请与
主管以人为研究对象所进行的研究的办公室联系
美国依艾华州立大学 Beardshear 大楼 2810 室
Email: austingr@iastate.edu
电话：(515) 294-4566
或与研究投诉办公室联系
美国依艾华州立大学 Beardshear 大楼 2810
Email:dament@iastate.edu
电话：(515) 294-3115

谢谢！
沈迪非
Survey Cover Letter

亲爱的参与者（家长或老师），

我诚恳地邀请你参与此份为我的博士论文进行的调查研究。此研究目的是从学生，学生家长及教师的角度出发，调查和发掘在中国农村实行 PPS 教育（即生活技能教育）所具备的推动力和可能会存在的阻力。因为你们是农村小学 5、6 年级学生的家长或老师，所以被选为此研究的参与者。

如果你同意参与此研究，那么你的整个参与过程会是 1 个半小时。其中半个小时用来阅读这份知情同意书并就此研究进行提问（如果你有疑问的话），1 个小时用来回答问卷。浙江师范大学的一个教授或一个研究生会将问卷寄给你或直接给你。你会有几个星期左右的时间来回答问卷。然后你将问卷放入信封并封口邮寄或当面交给收问卷的人。所有的问题是关于在农村实行 PPS 教育（即生活技能教育）所具备的推动力和可能会存在的阻力。

参与此研究你将不会有任何风险，无需负担任何费用。你也不会直接受益，但是研究人员相信你及其他参与者所提供的信息会促使教育界对此问题进行更多更深的研究，从而促进中国政府制定有利政策在中国农村推广 PPS 教育（即生活技能教育）。从长远来看，作为农村学生的家长及教师，你还是间接受益的。

是否参与此研究完全基于自愿。你可以拒绝参与或在研究过程中中止参与，无需为此承担任何责任。

依照法律规定，研究人会会有关于参与者的身份的任何记录进行保密。但是美国联邦政府管理机构及依艾华州立大学的审查机构（专门对从事与人有关的研究进行审查的委员会）可能会对这些记录进行审查或复制拷贝，以便监督并保证研究质量。这些记录可能会包含一些私人信息。

为了保证你在研究过程中所给信息的保密性，研究人员将采取以下的措施：你的名字不会与问卷放在一起，它们将由数字代替，你在研究过程中所给的信息只有主要研究人员，沈迪非，能阅读。这些信息将以带密码的电脑文件形式保存，而问卷会被锁存在一个文件柜中。在研究人员回到美国前，所有这些信息与材料都将被锁存在研究人员父母家中的抽屉里。所有的信息及材料会在 2006 年 5 月 30 日被销毁。但是研究人员会用你所给的信息撰写博士论文并出版。

如果你有任何问题
请与研究人员沈迪非联系

Agricultural Education and Studies Department
223 Curtiss Hall
Ames, IA, 50011-1050

（美国依艾华州立大学农业教育与研究系，50011-1050）

Email: dfshen@iastate.edu
家庭电话：(515) 292-8664（家）
办公室电话：(515) 294-8447
或与沈迪非的导师 B. L. Jones 教授联系
Agricultural Education and Studies Department
201 Curtiss Hall
Ames, IA, 50010, USA
（美国依艾华州立大学农业教育与研究系，50011-1015）
Email: xljones@iastate.edu

如果你对参与者的权利有任何问题，请与
主管以人为研究对象所进行的研究的办公室联系
美国依艾华州立大学 Beardshear 大楼 2810 室
Email: austingr@iastate.edu
电话：(515) 294-4566
或与研究投诉办公室联系
美国依艾华州立大学 Beardshear 大楼 2810
Email: dament@iastate.edu
电话：(515) 294-3115

谢谢！
沈迪非
亲爱的家长/老师，

我诚恳地求你同意你的孩子/学生参与我为我的博士论文进行的调查研究。此研究目的是从学生、学生家长及教师的角度出发，调查和发掘在中国农村实行 PPS 教育（即生活技能教育）所具备的推动力和可能会存在的阻力。因为你的孩子/学生是农村小学 5、6 年级的学生，所以被选为此研究的参与者。

如果你同意你的孩子/学生参与此研究，那么他们/她的整个参与过程会是 1 个半小时。其中半个小时用来阅读这份知情同意书并就此研究进行提问（如果你有疑问的话），1 个小时用来回答问卷。浙江师范大学的一个教授或一个研究生会将问卷寄给你的孩子/学生或直接给他/她们。他们在 7、8 周左右的时间来回答问卷。然后他们会将问卷放入信封并封口邮寄或当面交给收问卷的人。所有的问题是关于在农村实行 PPS 教育（即生活技能教育）所具备的推动力和可能会存在的阻力。

参与此研究他/她）们将不会有任何风险，无需负担任何费用。他/她）们也不会直接受益，但是研究人员认为他/她）们及其他参与者所提供的信息会促使教育界对此问题进行更多更深的研

究，从而促进中国政府制定有利政策在中国农村推广 PPS 教育（即生活技能教育）。从长远来看，作为农村学生，他/她）们还是因参加的。

是否参与此研究完全基于自愿。他/她）们可以拒绝参与或在研究过程中中止参与，并无需为此承担任何责任。

依照法律规定，研究人员会为有关显示参与者身份的任何记录进行保密。但是美国联邦政府管理机构及依艾华州立大学的审查机构（专门对从事与人有关的研究进行审查的审查委员会）可能会对这些记录进行审查或复制拷贝，并该保存研究质量。这些记录可能会包含一些私人信息。

为了保证他们在研究过程中所给信息的保密性，研究人员将采取以下的措施：他/她）们的名字不会与问卷放在一起，将由数学代替。他/她）们在研究过程中所给的信息只有主要研究人员，

沈迪非，能阅读。这些信息将以带密码的电脑文件形式保存，而问卷会被放在一个文件柜中。

在研究人员回到美国前，所有这些信息与材料将被锁存在研究人员父母家中的抽屉里。所有的信息及材料会在 2006 年 5 月 30 日被销毁。但是研究人员会用他/她）们所给的信息来撰写博士论文并出版。

如果你有任何问题

请与研究人员沈迪非联系

Agricultural Education and Studies Department
223 Curtiss Hall
Ames, IA, 50011-1050
（美国依艾华州立大学农业教育与研究系，50011-1050）
Email: dfshen@iastate.edu
家庭电话：(515) 292-8664 (家)
办公室电话：(515) 294-8447
或与沈迪非的导师 B. L. Jones 教授联系
Agricultural Education and Studies Department
201Curtiss Hall
Ames, IA, 50010, USA
（美国依艾华州立大学农业教育与研究系，50011-1015）
Email: xljones@iastate.edu
办公室电话：(515) 294-0898
如果你对参与者的权利有任何问题，请与
主管以人为研究对象所进行的研究的办公室联系
美国依艾华州立大学 Beardshear 大楼 2810 室
Email: austingr@iastate.edu
电话：(515) 294-4566
或与研究投诉办公室联系
美国依艾华州立大学 Beardshear 大楼 2810
Email: dament@iastate.edu
电话：(515) 294-3115

谢谢!
沈迪非
Cover Letter for Students

Focus Group Cover Letter

知情同意书

研究项目：在浙江农村实行 PPS 教育所具备的推动力和可能会存在的阻力

研究人员：美国依艾华州立大学农业教育与研究系博士研究生沈迪非

以下是美国依艾华州立大学农业教育与研究系博士研究生沈迪非为她的博士论文进行的调查研究。请仔细阅读从而决定你是否愿意参加这个调查研究。如果你对此研究及参与此研究有任何疑问，请马上提出来。

背景介绍

此研究目的是从学生，学生家长及教师的角度出发，调查和发掘在中国农村实行 PPS 教育（即生活技能教育）所具备的推动力和可能会遇到的阻力。因为你们是农村小学 5 年级的在读学生，所以你们被选为此研究的参与者。

研究过程简单介绍

如果你同意参与此研究，那么你的整个参与过程会是 2 个小时。其中半个小时用来阅读这份知情同意书并就此研究进行提问（如果你有疑问的话），1 个半小时用来参与焦点团体访谈。如果研究需要，研究人员（即沈迪非）会进行另外 1 个小时的 1 对 1 面谈，但是她会事先通知并取得你及你父母的同意。在 1 个半小时的焦点团体访谈中，你与另外 7-11 个研究参与者（跟你一样是农村小学 5 年级或 6 年级的学生）会回答并对研究人员就此研究项目提的问题进行讨论，对在浙江农村实行 PPS 教育所具备的推动力和可能会存在的阻力谈谈你的看法。整个焦点团体访谈过程至多持续 1 个半小时。

研究人员将使用录音机把整个焦点团体访谈过程录下来以备研究分析，录音带会在 2006 年 5 月 30 日销毁。

风险及收益

参与此研究你将不会有任何风险，你也不会直接受益，但是研究人员相信你及其他参与者所提供的信息会促使教育界对此问题进行更多更深的研究，从而促进中国政府制定有利政策在中国农村推广 PPS 教育。从长远来看，作为一个农村学生，你还是间接受益的。

费用与补偿

参与此研究你无需承担任何费用，你也不会得到补偿。但是，在整个焦点团体访谈过程研究人员提供点心与饮料。

参与者的权利

是否参与此研究完全基于自愿。你可以拒绝参与或在研究过程中中止参与，无需为此承担任何责
任。

保密措施

依照法律规定，研究人员会对有关显示参与者身份的任何记录进行保密。但是美国联邦政府管理机构及依艾华州立大学的审查机构（专门对从事与人有关的研究进行审查的委员会）可能会对这些记录进行审查或复制拷贝，以便监督并保证研究质量。这些记录可能会包含一些私人信息。

为了保证你在研究过程中所给信息的保密性，研究人员将采取以下的措施：你的名字将由数字代替，你在研究过程中所给的信息只有主要研究人员能阅读。这些信息将由带密码的电脑文件形式保存，而录音带将会被锁在一个文件柜中。在研究人员回到美国前，录音带将被锁存在研究人员父母家中的抽屉里。所有的信息及材料会在2006年5月30日被销毁。但是研究人员会用你所给的信息来撰写博士论文并出版。

如果你有任何问题

请与研究人员沈迪非联系

Agricultural Education and Studies Department
223 Curtiss Hall
Ames, IA, 50011-1050
（美国艾艾华州立大学农业教育与研究系，50011-1050）
Email: dfshen@iastate.edu

家庭电话：(515) 572-4593

办公室电话：(515) 294-8447或(515) 294-4349

或与沈迪非的导师B. L. Jones教授联系

Agricultural Education and Studies Department
201Curtiss Hall
Ames, IA, 50010, USA
（美国艾艾华州立大学农业教育与研究系，50011-1015）
Email: xljones@iastate.edu

办公室电话：(515) 294-0898

如果你对参与者的权利有任何问题，请与

主管以为研究对象所进行的研究的办公室联系

美国艾艾华州立大学 Beardshear 大楼 2810 室
Email: austingr@iastate.edu

电话：(515) 294-4566
或与研究投诉办公室联系
美国依艾华州立大学 Beardshear 大楼 2810
Email:dament@iastate.edu
电话 : (515) 294-3115

参与者签名
你的签名表示你自愿同意参与此研究。你充分了解了此研究，你有足够的时间阅读此文件。同时，你对此研究提出的所有问题都获得了十分满意的回答。在你正式参与此研究前你会收到这份知情同意书的复印件。
参与者姓名（请清楚并整洁地写下你的名字）：
参与者签名：
日期：

参与者家长或监护人或合法代表人签名：
日期：

调查者陈述
我证明我给了参与者充分时间阅读和了解我的研究，同时回答了他们就研究提出的所有问题。我认为研究参与者理解了本研究的目的，了解了在研究中可能会碰到的风险及获得的受益，和整个研究的过程及研究结束后会发生的事。我认为他们自愿同意参加本研究。

调查者签名：
日期：
Survey Cover Letter

知情同意书

研究项目：在浙江农村实行 PPS 教育所具备的推动力和可能会存在的阻力

研究人员：美国依艾华州立大学农业教育与研究系博士研究生沈迪非

以下是美国依艾华州立大学农业教育与研究系博士研究生沈迪非为她的博士论文进行的调查研究。请仔细阅读从而决定你是否愿意参加这个调查研究。如果你对此研究及参与此研究有任何疑问，请马上提出来。

背景介绍

此研究目的是从学生、学生家长及教师的角度出发，调查和发掘在中国农村实行 PPS 教育（即生活技能教育）所具备的推动力和可能会遇到的阻力。因为你们是农村小学 5、6 年级的在读学生，所以你们被选为此研究的参与者。

研究过程简单介绍

如果你同意参与此研究，那么你的整个参与过程会是 1 个半小时。其中半个小时用来阅读这份知情同意书并就此研究进行提问（如果你有疑问的话），1 个小时用来回答问卷。浙江师范大学的一个教授或一个研究生会将问卷寄给你或直接给你。你会有几星期左右的时间来回答问卷。然后你将问卷放入信封并封号邮寄或当面交给收问卷的人。所有的问题是关于在农村实行 PPS 教育（即生活技能教育）所具备的推动力和可能会存在的阻力。

风险及受益

参与此研究你将不会有任何风险，你也不会直接受益，但是研究人员相信你及其他参与者所提供的信息会促使教育界对此问题进行更多更深的研究，从而促进中国政府制定有利政策在中国农村推广 PPS 教育（即生活技能教育）。从长远来看，作为一个农村学生，你还是间接受益的。

费用与补偿

参与此研究你无需负担任何费用，你也不会得到补偿。

参与者的权利

是否参与此研究完全基于自愿。你可以拒绝参与或在研究过程中中止参与，无需为此承担任何责任。

保密措施

依照法律规定，研究人员会对有关显示参与者身份的任何记录进行保密。但是美国联邦政府管理机构及依艾华州立大学的审查机构（专门对从事与人有关的研究进行审查的委员会）可能会对这些记录进行审查或复制拷贝，以便监督并保证研究质量。这些记录可能会包含一些个人信息。

为了保证你在这个过程中所给信息的保密性，研究人员将采取以下的措施：你的名字不会与问卷
放在一起，它们将由数字代替，你所研究过程中所给的信息只有主要研究人员，沈迪非，能阅读。这些信息将由密码的电脑文件形式保存，而问卷会被锁存在一个文件柜中。在研究人员回到美国前，所有这些信息与材料将被锁存在研究人员父母家中的抽屉里。所有的信息及材料会在2006年5月30日销毁。但是研究人员会用你所给的信息来撰写博士论文并出版。

如果你有任何问题，请与研究人员沈迪非联系
Agricultural Education and Studies Department
223 Curtiss Hall
Ames, IA, 50011-1050
(美国依艾华州立大学农业教育与研究系，50011-1050)
Email: dfshen@iastate.edu
家庭电话：(515) 292-8664（家）
办公室电话：(515) 294-8447
或与沈迪非的导师B. L. Jones教授联系
Agricultural Education and Studies Department
201 Curtiss Hall
Ames, IA, 50010, USA
(美国依艾华州立大学农业教育与研究系，50011-1015)
Email: xljones@iastate.edu
办公室电话：(515) 294-0898
如果你对参与者的权利有任何问题，请与
主管以人为研究对象所进行的研究的办公室联系
美国依艾华州立大学 Beardshear 大楼 2810 室
Email: austingr@iastate.edu
电话：(515) 294-4566
或与研究投诉办公室联系
美国依艾华州立大学 Beardshear 大楼 2810
Email: dament@iastate.edu
电话：(515) 294-3115
参与者签名

你的签名表示你自愿同意参与此研究。你充分了解了此研究，你有足够的时间阅读此文件。同时你对此研究提出的所有问题都获得了十分满意的回答。在你正式参与此研究前你会收到这份知情同意书的复印件。

参与者姓名（请清楚并完整地写下你的名字）：

参与者签名：

日期：

参与者家长或监护人或合法代表人签名：

日期：

调查者陈述

我证明我给了参与者充分时间阅读和了解我的研究，同时回答了他们就研究提出的所有问题。我认为研究参与者理解了本研究的目的，了解了在研究中可能会碰到的风险及获得的受益，和整个研究的过程及研究结束后会发生的事。我认为他们自愿同意参加本研究。

调查者签名：

日期：
Cover Letter for all Participants

The following letter was composed by the researcher to explain professional technical skills and professional practical skills to the study participants. It was used by those who made arrangements of focus groups and survey for the researcher when they recruited participants. It was also used by the researcher when she conducted focus groups and survey.

亲爱的参与者，

十分感谢你同意参加我的研究。为了帮助你更好地了解我的研究，从而能准确的理解并回答我的问题，我对我研究中所涉及的两个最根本的概念在此简单地进行解释。

- Professional technical skills: 可以理解为我们常说的应试教育中的基础知识或书本知识。比如说数学，语文。
- Professional practical skills: 指各种生活技能。这些生活技能使得学生能将他们在课堂中所学到的书本知识灵活地运用到现实生活中。生活技能包括：继续学习的能力，独立思考的能力，创新能力，领导能力，与人交流的能力，解决问题的能力，团队合作的能力，关心社会的能力，等等。

这两种教育的总和相当于我们所说的德，智，体全面发展的素质教育。

谢谢！

沈亦非
Appendix C Survey Questionnaires

The Questionnaire for Parents

Part I Background Information:
Name: Gender: Educational Level: Job:
Age: 20-30; 30-40; 40-50; >50
Income Level: < ¥1,000/Month; ¥1,000/Month - ¥2,000/Month;
¥2,000/Month - ¥3,000/Month; ¥3,000/Month - ¥4,000/Month;
¥4,000/Month - ¥5,000/Month; > ¥5,000/Month

Part II Questions
1. I think that my child should learn “PRACTICAL SKILLS” in addition to “TECHNICAL SKILLS” education.
N/A Strongly Disagree Disagree Neutral Agree Strongly Agree
If agree, you think the reason(s) is/are:
   a) It’s necessary for my child to survive in a market economy after they finish schools.
   b) It’s necessary for my child to succeed in a market economy after they finish schools.
   c) Others:
2. I am willing to volunteer to help my child learn “PRACTICAL SKILLS” if there are such kinds of pilot educational programs.
N/A Strongly Disagree Disagree Neutral Agree Strongly Agree
3. My child has been provided “PRACTICAL SKILLS” education in the school in addition to “TECHNICAL SKILLS” education.
N/A Strongly Disagree Disagree Neutral Agree Strongly Agree
If agree, please select from the following items the three most important skills that are taught to your child by the school:
   a) Decision Making
   b) Teamwork
   c) Problem Solving
   d) Leadership
   e) Verbal Communication
   f) Creativity
   g) Initiative Taking
4. I believe that education is the responsibility of the school only.
N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

5. I believe that families should play an as much important role as schools in students’ education.
N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

6. I think that the units/groups/organizations other than schools and families should take an active part in the education enterprise.
N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

7. I take an active part in my child’s education
N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

If disagree, the reason(s) is/are:

a) I don’t have time because I am busy making money to make sure that my child can go to school.

b) My responsibility is to make money to support my child to go to school rather than educating my child.

c) My educational level is not high so that I am not capable of educating my child.

d) I think that education is the responsibility of schools only.

e) The school doesn’t encourage me to participate in my child’s education.

f) Others:

8. The units/groups/organizations other than schools and families do take an active part in the education enterprise.
N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

If disagree, you think the reason(s) is/are:

a) They think that education is the responsibility of schools only.

b) They don’t want to spend money on education because they won’t be able to make profits from it.

c) They think that they are not qualified enough to participate in the education enterprises.
d) Others:

9. School organizes parent meetings
   a) Not even once
   b) Once in a semester
   c) Twice in a semester
   d) More than twice in a semester

10. I communicate with my child’s teacher(s) regarding my child’s education in addition to the parent meetings.
   a) Not even once
   b) Once in a semester
   c) Twice in a semester
   d) More than twice in a semester
   e) Others:

11. The teacher of my child often proactively contacts me regarding my child’s education in addition to the parent meetings.
   a) Not once in a semester
   b) Once in a semester
   c) Twice in a semester
   d) More than twice in a semester
   e) Others:

12. I am willing to help my child with their education.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

13. I don’t think that my child want my help with their education.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

If agree, the reason(s) is/are:
   a) My child thinks that I am not capable because my educational level is not high.
   b) My child thinks that his/her teachers are responsible for helping them with their school work.
   c) My child thinks that my responsibility is to financially support him/her.
   d) Others:
14. I know whether or not my child wants me to help with his/her school work because I communicate with him/her.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

15. Under the exam-orientated education practice, the exams my child is taking are designed to test his/her mastery of “TECHNICAL SKILLS” only.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

16. I believe that high exam scores are enough to prepare my child to be successful in his/her future career.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

17. I believe that the university degree alone is enough to prepare my child in a market economy.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

18. At present, the university degrees alone are enough for rural students in a market economy.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

19. I want my child to get education so that s/he can go to universities.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

20. Under the exam-orientated education system, I support providing “PRACTICAL SKILLS” education if it does not negatively influence my child’s academic performance (i.e., pass the exams).

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

21. I think that “PRACTICAL SKILLS” can be taught through formal school education in China under the exam-orientated educational practice.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

If disagree, you think the reason(s) is/are:

a) My child’s academic performance is assessed by exams of “TECHNICAL SKILLS” only.

b) The professional performance of the teachers is assessed by their students’ scores of the exams of “TECHNICAL SKILLS” only.

c) Others:
22. I think that “PRACTICAL SKILLS” can be taught through nonformal educational programs (such as extra-curricular educational activities) instead of formal school education under the exam-orientated education practice.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

23. Schools provide various extra-curricular activities to my child.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

If agree, please answer question 24, otherwise go directly to question 25.

24. My child participates in these extra-curricular activities.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

If agree, the reason(s) is/are:

a) s/he likes it
b) I require him/her to participate
c) Teachers require him/her to participate
l) It will help add extra scores for the exams s/he will take to go to higher level schools and/or institutions.
m) Others:

25. My child participates in extra-curricular activities organized by the units/groups/organizations other than schools.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

If agree, my child takes part in these extra-curricular activities because:

a) s/he likes it
b) I require him/her to participate
c) Teachers require him/her to participate
d) It will help add extra scores for the exams s/he will take to go to higher level schools and/or institutions.
e) Others:

26. I think that “PRACTICAL SKILLS” is less important for rural children than for urban children.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

If agree, the reason(s) is/are:

a) “PRACTICAL SKILLS” is useless for farming.
b) Most of the employment opportunities in rural areas do not require “PRACTICAL SKILLS”

c) Others:

27. I think that having high exams scores and then going to universities is more important for rural children than urban children.

N/A  Strongly Disagree Disagree Neutral Agree Strongly Agree

If agree, the reason(s) is/are:

a) Rural students can “jump out of the farm gate” if they go to universities.
b) Rural students might have to stay in the rural areas forever if they can’t go to universities.
c) Others:

28. Lack of money will prevent me from helping my child learn “PRACTICAL SKILLS” through extra-curricular activities.

N/A  Strongly Disagree Disagree Neutral Agree Strongly Agree

29. Lack of money will prevent schools from helping students learn “PRACTICAL SKILLS” through extra-curricular activities.

N/A  Strongly Disagree Disagree Neutral Agree Strongly Agree
The Questionnaire for Teachers

Part I Background Information:
Name:  Gender:  Educational Level:  Years of being a teacher:
Subject(s) you are teaching:  Age: 20-30; 30-40; 40-50; >50

Part II Questions
1. I think that my students should learn “PRACTICAL SKILLS”.
   N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree
   If agree, you think the reason(s) is/are:
   a) It’s necessary for my students to survive in a market economy after they finish schools.
   b) It’s necessary for my students to succeed in a market economy after they finish schools.
   c) It will promote students to learn and master “TECHNICAL SKILLS”.
   d) Others:
2. I will volunteer to help my students learn “PRACTICAL SKILLS” if there are such kinds of pilot educational programs.
   N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree
3. My students have been provided “PRACTICAL SKILLS” education in the school in addition to “TECHNICAL SKILLS” education.
   N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree
   If agree, please list the name(s) of the “PRACTICAL SKILLS” that have been provided to your students and a brief description of how they are taught to your students.
4. I believe that education is the responsibility of the school only.
   N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree
5. Education is regarded as the responsibility of the school only by the whole society.
   N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree
6. I think that parents should take an active part in their children’s education.
   N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree
   If disagree, you think the reason(s) is/are:
   a) Parents don’t have time to help educate their children because they are busy making money to make sure that their children can go to school.
   b) Parents think that their responsibility is to make money to support their children to go to schools rather than educating their children.
c) Parents’ educational level is not high so that they are not capable of educating their children.

d) Parents think that education is the responsibility of schools only.

e) Parents don’t want to participate in educating their children.

f) Others:

7. I think that parents should take an active part in their children’s “PRACTICAL SKILLS” education.

N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

If disagree, you think the reason(s) is/are:

a) Parents don’t have time to help their children with “PRACTICAL SKILLS” education because they are busy making money to make sure that their children can go to school

b) Parents think that their responsibility is to make money to support their children to go to schools rather than educating their children

c) Parents’ educational level is not high so that they are not capable of educating their children

d) Parents don’t have “PRACTICAL SKILLS” themselves.

e) Parents think that education is the responsibility of schools only.

f) Parents don’t want to participate in educating their children.

g) Other:

8. I think that parents do take an active part in their children’s education.

N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

If disagree, you think the reason(s) is/are:

a) Parents don’t have time to help educate their children because they are busy making money so that their children can go to school

b) Parents think that their responsibility is to make money to support their children to go to schools rather than educating their children

c) Parents’ educational level is not high so that they are not capable of educating their children

d) Parents think that education is the responsibility of school only.

e) Parents don’t want to participate in educating their children.

f) Other:
9. I think that the units/groups/organizations other than schools should take an active part in education in addition to schools and families.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

10. I think that the units/groups/organizations other than schools do take an active part in the education enterprise in addition to schools and families.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

If disagree, you think the reason(s) is/are:

a) They think that education is the responsibility of schools only.
b) They don’t want to spend money on education because they won’t be able to make profits from it.
c) They think that they are not qualified enough to participate in the education enterprises.
d) Others:

11. School organizes parent meetings:

a) Not even once
b) Once in a semester
c) Twice in a semester
d) More than twice in a semester

12. I communicate with my students’ parents regarding their children’s education in addition to the parent meetings.

a) Not even once
b) Once in a semester
c) Twice in a semester
d) More than twice in a semester

Others:

13. The parents of my students communicate with me regarding their children’s education in addition to the parent meetings.

a) Not even once
b) Once in a semester
c) Twice in a semester
d) More than twice in a semester
e) Others:
14. I think that the parents want to share the responsibility of educating their children with the school.

N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

15. Under the exam-orientated education practice, the exams my students are taking are designed to test their mastery of “TECHNICAL SKILLS” only.

N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

16. I think that “PRACTICAL SKILLS” can be taught through formal school education in China under the exam-orientated educational practice.

N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

If disagree, you think the reason(s) is/are:

a) My students’ academic performance is assessed by exams of “TECHNICAL SKILLS” only.

b) My professional performance is primarily assessed by my students’ scores of the exams of “TECHNICAL SKILLS”.

c) Much of the formal class time has been devoted to the teaching of “TECHNICAL SKILLS”, so that there is not enough time for the teaching of “PRACTICAL SKILLS”.

d) There are too many students per class to teach “PRACTICAL SKILLS” via experience-based teaching methods.

e) Others:

17. What I teach in class is mainly based on the various exams my students will need to take.

N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

18. I believe in experiential learning.

N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

19. I have been teaching my students through experiential learning activities.

N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

If agree, please describe a few experiential learning activities you have been using in your class.

If disagree, the reason(s) is/are:

a) Experiential learning is not necessary for helping students pass the exams.

b) I don’t have enough class time for experiential learning.

c) Some experiential learning involves safety problem, for example, Spring Outing.
d) School can’t afford to provide students hands-on learning opportunities.

e) Others:

20. I believe that high exam scores are enough for my students to be successful in their future career.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

21. I believe that the university degrees alone are enough for rural students in a market economy.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

22. At present, the university degrees alone are enough for rural students in a market economy.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

23. I think that exam-orientated education practice has made the end of education as going to universities.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

24. I think that parents want their children to have high exam scores and finally go to universities.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

25. I will support providing “PRACTICAL SKILLS” to my students only if it does not negatively influence my students’ exam scores under the present exam-orientated educational practice.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

26. I think that “PRACTICAL SKILLS” can be taught through nonformal educational programs (such as extra-curricular activities) instead of formal school education under the exam-orientated education practice.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

27. Our school provides various extra-curricular activities to students.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

If disagree, the reason(s) is/are:

a) Our school doesn’t have the necessary facilities.

b) Students are too busy with their class work.

c) Others:
If agree, my students participate in different kinds of extra-curricular activities because:

a) They have the interests
b) Parents require them to participate
c) Teachers require them to participate
d) It will help them get extra scores for the exams s/he will take to go to higher level schools and/or institutions
e) Others:

28. My students participate in extra-curricular activities organized by other units/groups/organizations other than schools.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

If agree, my students take part in these extra-curricular activities because:

a) They have the interests
b) Parents require them to participate
c) Teachers require them to participate
d) It will help them get extra scores for the exams s/he will take to go to higher level schools and/or institutions
e) Others:

29. I think that “PRACTICAL SKILLS” is less important for rural children than for urban children.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

If agree, the reason(s) is/are:

a) “PRACTICAL SKILLS” are useless for farming.
b) Most of the employment opportunities in rural areas do not require “PRACTICAL SKILLS”
c) Others:

30. I think that having high exams scores and then going to universities is more important for rural children than urban children.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

If agree, the reason(s) is/are:

a) Rural students can “jump out of the farm gate” if they go to universities.
b) Rural students might have to stay in the rural areas forever if they can not go to universities.

c) Others:

31. Lack of money will prevent parents from helping their children learn “PRACTICAL SKILLS” through extra-curricular activities.

32. Lack of money will prevent schools from helping students learn “PRACTICAL SKILLS” through extra-curriculum activities.
The Questionnaire for Students

Part I Background Information:

Name:  Gender:  Grade:  Age:  Parent’s job:

What kind of position you have in your class:

Part II Questions

1. I like classes that are taught through our everyday life experiences.
   N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

2. I learn better when I have an interest.
   N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

3. I like extra-curricular activities.
   N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

4. Our school provides extra-curricular activities.
   N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

If agree, answer question 5 and 6, Otherwise, go directly to question 7.

5. I need to pay to participate in some of the extra-curricular activities organized by the school.
   N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

6. I participate in extra-curricular activities organized by the school.
   N/A  Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

If disagree, I can’t participate in these activities because:

a) My parents can’t afford it.

b) My parents don’t want to pay for the activities.

c) My parents think that the activities will negatively influence my school work.

d) I don’t have time for it because I am busy with my classes.

e) Others:

If agree, I participate in these activities because:

a) I have the interest

b) Parents require me to participate

c) Teachers require me to participate

d) It will help me get extra exam scores when I take exams to go to higher level school and/or institutions.
e) Others:

7. I participate in extra-curricular activities organized by some units/organizations/groups other than schools.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

If agree, I take part in these extra-curricular activities because:

a) I have the interest
b) My parents want me to participate
c) Teachers want me to participate
d) It will help me get extra exam scores when I take exams to go to higher level school and/or institutions.
e) Others:

8. My parents help me with my education.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

9. I want my parents to help me with my education.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

10. I let my parents know that I need their help with my school work.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

11. My parents talk with me about my school work.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

12. I enjoy learning from my parents.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

13. I think that I can always learn something from my parents.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

14. Units/groups/organizations other than schools also organize different kinds of educational activities together with schools.

N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

If agree, please describe how often:

a) Once in a semester
b) Twice in a semester
c) More than twice in a semester
d) Once in a year
15. School organizes parent meetings
   a) Not once in a semester
   b) Once in a semester
   c) Twice in a semester
   d) More than twice in a semester

16. In addition to the parent meetings, my parents communicate with my teacher(s).
   a) Not once in a semester
   b) Once in a semester
   c) Twice in a semester
   d) More than twice in a semester
   e) Others:

17. I think that whether or not I have succeeded is assessed by my exam scores.
   N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

18. My parents think that I am a successful person if I have high exam scores and then go to university.
   N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

19. My teachers think that I am a successful person only if I have high exam scores and go to university.
   N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

20. My parents want me to have high exam scores.
   N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

21. My parents want me to go to university as a result of having education.
   N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

22. My parents only care about my exam scores.
   N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

23. My teacher wants me to have high scores.
   N/A Strongly Disagree Disagree Neutral Agree Strongly Agree

24. My teachers want me to go to university as a result of having education.
25. My teachers only care about my exam scores.

26. What I have learned in classes is designed primarily to help me pass exams.