





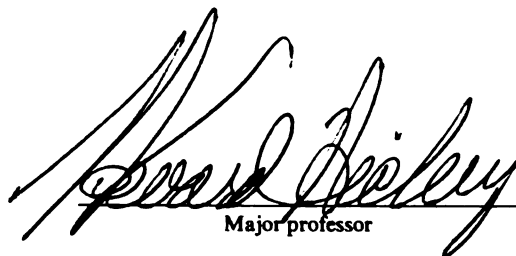
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 The Perceptions of Teachers, Instructors  
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 Programs at Guangxi TV University of the  
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Xiaozhen Meng

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**THE PERCEPTION OF TEACHERS, INSTRUCTORS AND PLANNERS  
ON USING ANDRAGOGICAL LEARNING APPROACHES IN  
TEACHERS' IN-SERVICE EDUCATION PROGRAMS AT  
GUANGXI TV UNIVERSITY OF THE  
PEOPLE'S REPUBLIC OF CHINA**

**By**

**Xiaozhen Meng**

**A DISSERTATION**

**Submitted to  
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**DOCTOR OF PHILOSOPHY**

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**1993**



## **ABSTRACT**

**THE PERCEPTIONS OF TEACHERS, INSTRUCTORS AND PLANNERS  
ON USING ANDRAGOGICAL LEARNING APPROACHES IN  
TEACHERS' INSERVICE EDUCATION PROGRAMS AT  
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**Xiaozhen Meng**

The purpose of this study was to assess the perceptions of teachers, instructors, and planners on using andragogical learning approaches in teachers' inservice education programs at Guangxi TV University of the People's Republic of China. A survey method using a questionnaire was employed to collect the data for this study. A representative sample of teachers, instructors, and planners was chosen from Guangxi TV University in Nanning Region. Data analysis included cross-tabulations, frequency distributions, Chi-square tests of association, rank-order correlations, t-tests for comparisons and a one-way analysis of variance. The hypothesis test of significance was based on the 0.05 level.

The results of the analysis indicate that all the participant groups agree on the importance of practicing the six andragogical learning approaches in the teachers' inservice education programs. There are statistically significant difference in participants' perceptions regarding the extent to which these six andragogical learning approaches (the beliefs of A Self-directed Learner, Characteristics of the Learning Experience, Management of Learning Experience, Small Group Work, Teacher Initiated Inservice Education Programs, and Relationship Between Educators and Students) were preferred in the teachers' inservice education programs. It was clear that the mean rating for male participants was higher than female participants. Male participants agreed more strongly on the use of andragogical learning approaches than did female participants. Younger and older groups agreed more with andragogical learning approaches than did participants in the age groups of 30 to 50. Participants with less schooling agreed more strongly with andragogical learning approaches than did those who had more schooling. Instructors who participated in this study agreed more strongly on the use of andragogical learning approaches in teachers' inservice education programs than did the planners and teachers.

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## **CHAPTER I**

### **INTRODUCTION**

**China, the second largest country in the world in territory, has the largest population at 1.2 billion people. Adult education plays a very important role in the life of Chinese people, and is considered to be an important and integral part of the nation's education. One reason for the importance of adult education is that the uninterrupted development in the productive forces demands that the educational level and technical skills of the labor force continue to rise. This is, in fact, one of the main theoretical bases for the development of adult education in China.**

**Since 1978, China's adult education has made great leaps forward in the diversity of the schools, the students served, and the quality of programs. There are eight types of adult higher education recognized by the Ministry of Education in China:**

- 1. Radio and television universities**
- 2. Correspondence departments of regular institutions**

3. Evening colleges attached to regular institutions
4. Workers' colleges
5. Independent study examinations
6. Inservice colleges for administrative staff
7. Inservice teacher-training college
8. Peasant colleges.

According to Wang (1988), "There are more than 1,200 adult higher education institutions, over 4,000 secondary technical schools, 300,000 staff-worker schools, and 3,500 county-run peasant technical schools. There are 900,000 university and two-year- college adult graduates and 1.4 million secondary technical school adult graduates" (p. 7). Higher education offers varied programs in adult education. Each university plans programs in the fields of adult and continuing education to meet the needs of people.

A good example is the Central Radio and TV University which offers different programs in adult education. The Central Radio and TV University (now it is called TV University) was jointly established by the Ministry of Education and the Central Administration for Broadcasting in China and was formally inaugurated in February, 1979, after a year's preparation. Subsequently, in quick succession, 28 additional provincial radio and TV universities were set up. These

29 institutions form a network that administers long-distance teaching by combining the advantages of radio and TV broadcasting with guided study of printed materials, and sometimes supplemented by both correspondence teaching and face-to-face tutorials. In Adult Education, 36% of all the participants are studying for credit in adult education programs at the university level through the Central Broadcasting and TV University. In 1980, 420,000 students nationwide were registered in the TV University, but the target for 1990 was almost 2 million. The TV University now offers a variety of courses directed to different studies, including Chinese, English, Physics, electronics, basic mechanical engineering, economics, and management science. These programs are transmitted nationwide in 28 locally administered TV Universities. In long-distance education, the adult education systems allow for flexibility and control at the local level, but at the same time, the system strives for quality control as well as standardization.

In recent years, the number of teachers in the TV university has rapidly increased. Obviously, teachers play a key role in education as their professional quality will, to a certain degree, determine the quality and standards of China's adult higher education. Teachers in TV University were transferred or graduated

from regular universities. They took with them to TV University the experience of working and learning in the regular educational system. According to their age, teachers in TV University can be generally divided into three groups: first are those over 45 years of age and transferred from the regular education system. These teachers have been through more than ten years of education and teaching experience in the regular education system. Although they may be qualified in the subject matter, they have had no formal training in teaching and working with adults. Their knowledge and skills need to be updated. Second are those who are around 30 years of age and are 1977 and 1978 graduates. Some of these are graduate students who are still studying in their respective programs. These teachers possess broader and more up-to-date professional knowledge, but they lack teaching experience. Third are those who are new graduates from college who have had no prior work experience. Therefore, inservice training for all three age groups of TV University teachers is necessary. How to train these TV University teachers to become qualified adult educators is a very important issue for China's adult education.

### Statement of the Problem

This study identified the approaches that teachers, instructors, and planners in TV universities prefer in inservice education programs in the People's Republic of China. Comprehensive and well-designed inservice education programs for teachers as adult learners are not yet available in China. Teachers who are now inservice need to acquire more skills and keep up with new developments and changes in their fields. The purpose of inservice education is to raise the individuals' productive abilities and efficiency.

TV University is the largest university in China. Of its students, 70% are currently employed while they are in school. It is the biggest adult education institution in the world with an enrollment of two million students. However, the number of educational specialists in China who really understand adult learning theory and practice is insufficient. Among the most pressing problems facing TV University is the scarcity of qualified teachers. To improve teachers' quality, The Central TV University and the provincial TV Universities have established full-time and part-time inservice training programs for teachers. Yet, many are not effective because these programs do not consider teachers to be adult learners. In order to enhance adult students' learning, educators could allow the

inservice education program for teachers to be more student centered. Strategies can be developed, such as utilizing diverse teaching approaches, respect for adult individuality, equality of teaching and learning relationships, alternative modes of assessment, more individual attention rather than mass education, and an altogether more liberal and human approach to stimulate active learning. Elsey (1989) pointed out that:

There was a great deal of criticism and cynicism of traditional methods in China's adult education, especially lecturing which adult students called "duck feeding." These and other features of conservatism in Chinese adult education stemmed from the exclusive "top-down" approach, reinforced by the lack of professional knowledge and training concerned with the education of adults (p. 9).

Brim and Tollett (1974) did a research project on how teachers felt about in-service education in Tennessee. The findings showed that 73% of the teachers they surveyed said inservice education often was not relevant to their needs. Moreover, these programs did not consider the specific characteristics of teachers as adult learners.

As a well-known advocate for "andragogy," Malcolm Knowles, and other theorists in the adult field, stated that there are differences between teaching children and adults as learners (Elias, 1979; Knowles, 1978, 1980, 1984; Randall, 1980). It was assumed by this researcher that most of the andragogical approaches are applicable



to teachers in China as adult learners in inservice education programs. Thus, there is a need for improvement of inservice education programs in China.

The research literature showed that most planners and instructors who participated in inservice educational programs in the United States do not take into account the characteristics of teachers as adult learners. If planners of inservice educational programs would consider teachers to be treated as adult learners, then they would need to consider the characteristics of adults in order to make the programs more effective. Consequently, the andragogical theory and its implications would be an appropriate model to provide for inservice education planners in China. In this study, participants were asked to identify the professional inservice needs to consider the students as adult learners.

Therefore, it would be helpful to have effective and well-planned inservice education programs in China for teachers. Planners of inservice education programs should apply andragogical principle in inservice education programs. Results of this study would provide the educational authorities in China with a framework for understanding the needs of teachers as adult learners when planning for inservice education program in the People's Republic of China. The model is likely

to be more effective than most present practices because it recognizes that teachers are adult learners who have characteristics different from less mature learners.

### Purpose of the Study

The purposes of the study were as follows:

1. To describe the purposes of China's present teacher inservice education programs.
2. To assess the perceptions of teachers, instructors, and planners regarding the extent to which they preferred to use andragogical learning approaches in TV University teachers inservice education programs in China.
3. To make recommendations for the improvement of inservice education programs in TV University of China based on the study's findings.

### Importance of the Study

This study was important for the following reasons. First, this was the first study on TV University teachers' in-service education programs in the People's Republic of China. This study could provide information to the planners of TV University teachers' inservice education programs in China about the needs of teachers as adult learners. Therefore, this information will be used as an aid for planning comprehensive and

well-designed inservice programs for teachers of adults in China.

Second, this study showed how teachers approach andragogy. It allowed teachers identify those instructional methods and strategies necessary and appropriate for the improvement of their learning in inservice education programs in China.

Third, the main concern of this study was the needs of teachers as adult learners. Therefore, this study provided valuable data about andragogical needs of teachers as adult learners. This data could also help the decision-makers for Chinese inservice education programs in applying andragogical implications in planning and implementing inservice education programs for teachers.

Finally, the findings of this study could be important to directors of inservice education programs in China in terms of planning the content materials and teaching strategies for teachers as adult learners.

### Research Questions

#### Research Question 1:

To what extent do TV University teachers agree or disagree with andragogical approaches to inservice education programs in China?

**Research Question 2:**

To what extent do TV University program instructors agree or disagree with andragogical approaches to inservice education programs in China?

**Research Question 3:**

To what extent do TV University program planners agree or disagree with andragogical approaches to inservice education programs in China?

**Research Question 4:**

What differences exist in the perceptions among the educators who participate in this study regarding andragogical approaches in inservice education program in China?

**Research Question 5:**

Do perceptions of the andragogical learning approaches differ according to the study participants with regard to the demographic variables of gender, age, level of education, teaching and working experience?

**Assumptions**

The following were assumed by this researcher.

**Assumption 1:**

There is a need for improvement of inservice education program in TV University of China.

**Assumption 2:**

Participants in the study will be able to identify the professional inservice education needs of teachers as adult learners.

**Assumption 3:**

The plans for inservice education programs of teachers can be based on needs identified by the participants.

**Assumption 4:**

Results of this study would provide the Chinese educational authorities with a framework for understanding the needs of teachers as adult learners in China when planning for inservice education programs.

**Delimitations of the Study**

The study was conducted in Guangxi TV University, which is located in Guangxi Province of the People's Republic of China. The study sample, therefore, included teachers in that province which may limit

extrapolation to other parts of the country. Therefore, results of the study can be generalized to other teacher groups only to the extent that these groups are similar to teachers in Guangxi Province.

#### **Limitations of the Study**

1. Data for this study were collected via a questionnaire developed to meet the purpose of the study. The conclusions and recommendations were based on results of the questionnaire utilized in this study.

2. The selection of the sample and the administration of the questionnaire depended upon the cooperation of the teachers and department of education in the province.

3. The researcher was forced to utilize studies conducted in other countries because of the scarcity of studies available on the perception of teachers as adult learners in inservice education programs in China.

4. Because all items in the questionnaire were written in a positive manner, this may have produced a bias.

#### **Definition of Terms**

The following key terms were defined in the context in which they were used throughout this study.

**Inservice Education:**

Any planned program of learning opportunities afforded staff members of schools for the purpose of improving the performance of the individual in already assigned positions (Harris, 1980, p. 21).

**Adult Education:**

A process whereby persons whose major social roles are characteristic of adult status undertake systematic and sustained learning activities for the purpose of bringing about changes in knowledge, attitudes, values, or skills (Darkenwald & Merriam, p. 9). It has also been defined as the philosophy and the process by which an institution, organization, or agency, through a qualified instructional staff provides organized learning activities designed to meet the educational needs and goals of persons beyond compulsory school age (Continuing Education Task Force, 1202 Commission, 1977; Adult Education Pennsylvania State Plan 1980-1982; Deaux, 1989, p. 22).

**Adult Education:**

More pertinent to this study is the following definition with respect to China: intended for people who are employed at a job and who are engaged

in study, either part-time or full-time, to help them improve their work. Participants remain at their original places of employment when they have completed their studies (Deaux, 1989, p. 22).

#### Andragogy:

From the Greek word aner with the stem andr-, (meaning "man") and agogos (meaning "leading"). It is defined, therefore, as the art and science of helping adults learn (Knowles, 1970, p. 38).

#### Pedagogy:

From the Greek stem paid- (meaning "child") and agogos (meaning "leading"). Pedagogy is defined, therefore, as the art and science of teaching children (Knowles, 1970, p. 37).

#### Self-directed Learning:

A process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes (Knowles, 1970, p. 18).



For the purpose of this study planners, instructors, and teachers were interpreted as the following:

**Planners:**

Educational staff who organized and administered the teachers' inservice education programs in TV Universities.

**Instructors:**

Professors or experienced teachers who gave lectures and instructions directly to the TV University Teachers in teachers' inservice education programs.

**Teachers:**

They are currently teaching in a TV University and also receiving training as students in teachers' inservice education programs.

**Summary and Overview**

Chapter I included an introduction, a statement of the problem, the purpose of the study, the importance of the study, research questions, assumptions, delimitations and limitations of the study, definition of terms, and summary and overview of this study.

Chapter II reviewed selected literature and research related to the main concern of this study.

Chapter III described methodology and procedures utilized in this study, including type of design, the population, selection of the sample, research instrument, translation of the instrument, pilot testing of the instrument, data collection procedures, descriptive data, data analysis procedures and summary.

Chapter IV reported findings drawn from the data.

Finally, Chapter V summarized the study and included a discussion of conclusions and recommendations for further study.

## **CHAPTER II**

### **REVIEW OF SELECTED LITERATURE AND RESEARCH**

**Selected literature and research for this study is divided into six major topic areas. These provided a format for presentation in this chapter as follows:**

- 1. The characteristics of adults as learners.**
- 2. Andragogy**
- 3. The reason adults seek learning opportunities**
- 4. Inservice education**
- 5. Inservice Education programs in the People's Republic of China.**
- 6. Summary**

#### **Characteristics of Adults as Learners**

##### **Differences Between Adults and Children**

**The data bases searched through computer facilities included psychological abstracts and ERIC. In addition, literature that has been presented in various forums, and not yet published, has also been included. The descriptions used were Andragogy, Self-directed**

**Learning, Adult Characteristics, Adult Learning, Adult Education, and Adult Educators.**

The results of the search revealed 619 articles and documents on adult education and 49 articles and documents on andragogy. The viewpoints of adult education students of the andragogical model was also included in the literature review.

Minix (1981) studied teachers' perceptions of andragogy as a model of inservice education. His research showed that respondents to his survey agreed with the andragogical theory for inservice education.

A great deal has been written about the characteristics of adult learners and how they are different from children. One of the best known-authors is Malcolm Knowles who is viewed as a major contributor to the field of adult education. Knowles is generally credited as the one who made the word andragogy popular (i.e., the art and science of teaching adults) to distinguish it from pedagogy (i.e., the art and science of teaching children). Knowles (1970) postulated:

1. As a person matures, his or her self-concept moves from one of being a dependent personality toward one of being a self-directing human being.
2. The mature person accumulates a growing reservoir of experience that becomes an increasing resource for learning.
3. The readiness of the mature person to learn becomes oriented increasingly to

the developmental tasks of his or her social roles.

4. The time perspective of the mature person changes from one of postponed application of knowledge to immediacy of application, and accordingly his orientation toward learning shifts from one of subject-centeredness to one of problem centeredness (p. 39).

In a comparison of the assumptions and designs of pedagogy and andragogy, Knowles provided five continuums of andragogy versus pedagogy shown in Table 2.1.

Knowles' work has also served to spark interest by additional authors in the area of adult learning. For example, Wood and Thompson (1980) reviewed important aspects of adult learning as they relate to effective staff development.

1. Adults will learn when the goals and objective of the learning activity are considered realistic and important to the issue at hand.
2. Adults will learn,, retain, and use what they perceive is relevant to their personal and professional needs.
3. Adults need to see the results of their efforts and have accurate feedback about progress toward their goals.
4. Adult learning is ego-involved.
5. Adults come to any learning experience with a wide range of previous experiences, knowledge, and skill.
6. Adults want to be the origins of their own learning and involved in the selection of objectives, content , activities and so forth.

7. Adults will resist any learning experience which they believe is an attack on their competence.
8. Adults reject descriptions by others for their learning.
9. Adults' motivation is produced by the learner and not from any external source (p. 376).

### Barriers to Adult Learning and Appropriate Teaching Methods to Adults

The individual has specific reasons for participating in an adult educational program. The needs of these learners vary, depending on their age, social status, financial situation, family and social responsibilities, as well as personal attitude toward education. Adult learners are most frequently motivated by the desire to use or apply the newly-acquired knowledge or skill.

Teachers who are students in adult educational programs represent diverse backgrounds. Although some have been teachers for traditional (regular schools age) students, administrators in other field, others are new graduates from universities, but few are properly trained or licensed to teach adults.

The assumptions and characteristics of andragogy (shown in Table 2.1) should provide the planners and instructors some important insights into the ways inservice education programs should be planned and

carried out. For example, the fact that adults tend to place great importance on the extent to which a learning experience addresses immediate problems suggests to the principal that activities should be directed at least toward potentially answering the perennial questions of practitioners (Daresh, 1985, p. 222).

The emphasis between assumptions and characteristics of andragogy varies according to whether or not the approach to learning is teacher-centered or learner-centered. This distinction corresponds to what Bruner (1974) described as the expository approach to teaching-learning, in which the decisions concerning the mode, pace, and style of exposition are principally determined by the teacher as expositor and the students are the listeners and in a cooperative position.

Programs for adult learners should emphasize the needs of adults and the importance of involvement in designing the programs to become more effective participants in the process of teaching learning situation (A. Rogers, 1986, p. 134).

## Andragogy

### Introduction

Andragogy, as defined by Knowles, is the art and science of helping adults learn (1970, p. 38). Knowles' concept of education makes a distinction between the teaching of children and the teaching of adults.

Andragogy, developed by Knowles, is based on five main

assumptions that are different from those ascribed to traditional students.

1. **Change in Self-Concept:** Andragogy assumes that when a person psychologically becomes an adult he or she becomes a more self-directed individual as opposed to being directed by others.
2. **Role of Experience:** Andragogy assumes that the adult is a source for learning and therefore his or her experience should be involved in the learning process.
3. **Readiness to Learn:** Andragogy assumes that as individuals mature they desire to learn those things that they need to know because of their various life roles.
4. **Orientation to Learning:** Andragogy assumes that adults have a problem-centered orientation to learning. They desire to learn those things that will help them now.
5. **Motivation to learn:** Andragogy assumes that adults are internally motivated to learn (Knowles, 1973, p. 45-49).

By contrast, Knowles assumed that children need to be directed by others in their learning process; they must depend on the experiences of others; they are taught things that they will need to know in the future; it is believed that academic subjects are what they should study rather than studying how to solve problems (1973, pp. 45-49). Because of these differences the proper design of adult education as described by Knowles consists of seven elements:



1. Climate: Andragogy provides an atmosphere of mutual respect; one that is informal, and collaborative between the student and the teacher.
2. Planning: Andragogy provides for mutual planning between the teacher and the student.
3. Diagnosis of needs: Andragogy provides for mutual self-diagnosis between the teacher and the student.
4. Formulation of objectives: Andragogy provides for mutual negotiation between the teacher and the student as to what objectives should be accomplished.
5. Design: Andragogy provides for the design of the process to be determined by the readiness of the student.
6. Activities: Andragogy provides for learning activities to be experiential in nature, allowing inquiry of those involved.
7. Evaluation: Andragogy provides for an evaluation that allows the teacher and the student to evaluate the program and rediagnose learner needs (Knowles, 1973, p. 104; Campbell, p. 14).

#### Contribution to Adult Education

In a statement that seems to acknowledge the contribution of andragogy, Cross stated the following.

Andragogy identifies some characteristics of adult learners that deserve attention. It has been far more successful than most theory in gaining the attention of practitioners, and it has been moderately successful in sparking debate (Cross, pp. 227-228).

Different Ideas on Andragogy  
as a Theory of Adult Education

Knowles advocates andragogy and points to the assumptions and educational process as the bases for adult education which aroused attention in the field of adult education. However, not everyone agreed with him. For example, Knowles credits Houle as having had some impact on his ideas concerning adult learners (1984, p. 5). Houle, however, does not share Knowles' optimism toward andragogy since he does not recognize a difference between ages and the learning process. According to Houle, it does not matter when or where learning occurs; its basic design is the same (Houle, 1961, p. 5).

Elias (1979) rejects the theory of andragogy on the basis of the lack of scientific research on the subject. He believes that Knowles' assumptions are not enough to make a distinction between pedagogy and andragogy; further, he does not believe that andragogy can gain support as a theory of adult education because it does not have empirical evidence (p. 252). However, support for the theory can be found among writers in the field. As Campbell (1986) pointed out, Newton agreed that andragogy provides direction when dealing with adults in literacy programs and Laird acknowledged that andragogy

may provide the answer for adult education programs (p. 15).

### Andragogy and Student-centered Education

Some critics of Knowles have point out that the andragogy and pedagogy debate is really over student-centered vs. instructor-centered instruction. Debates had been going on for years about which teaching strategies are better student-centered (self-direction) or instructor-centered (dependency). Greeson's (1988) study with a comparative analysis of student-centered and teacher-centered instruction in two undergraduate college courses in educational psychology supported findings regarding learning and attitudinal differences favoring student-centered course sections over teacher-centered sections. The non-traditional sections were student-centered, involving personal goal setting and monitoring conference, and informal group discussion tests. The traditional sections were teacher-centered, involving a lecture format, formal tests and assignments, and comparative grades. His study indicated that students in the non-traditional course section asked significantly more questions, shared more information, and generated more ideas than students in the more traditional teacher-centered course. In another study, Kagan (1987) did research on four

separate studies of kindergarten teachers, graduate students, elementary teachers, and pre-service teachers which measured the relationships between individual cognitive style and preferred instructional environment (student-centered or teacher centered). He stated the following.

The result is that our brightest teachers may tend to encourage dependency rather than self-direction in their students. Apparently students themselves are also conditioned to perceive student-centered instruction and discussion as a waste of time--the brighter they are, the more they appear to prefer to be lectured at (p. 400).

Kagan expressed some concern that more intelligent subjects preferred teacher-centered.

#### A Need to Put the Theory of Andragogy into Practice

If educators want to know how to help a learner learn, they need to know how teachers should behave in order to facilitate adult learning. Andragogy suggests that we do need a theory of teaching adults, or at least a theory to facilitate adult learning (Cross, 1981, p. 227). Whether or not andragogy can be used as a theory of teaching adults still needs a strong research base. Cross also stated that: "If andragogy can serve as the foundation for a unifying theory of adult education remains to be seen" (1981, p. 227). If andragogy is believed as a theory, then it should be put into

practice. Theory and practice must be constantly interactive because theory without practice is empty, and practice without theory is blind.

### The Reason Adults Seek Learning Opportunities

The research completed by Tough, Abbey, and Orton revealed many facts concerning adults and how they undertake learning projects. His findings indicated that adults engaged in self-directed learning activities on numerous occasions and for a variety of reasons. Some of the activities are of major significance, while others are not. Some activities, according to Tough et al., may be as diverse as to learn a subject such as history, or to learn how to refinish furniture (Campbell, 1986, p. 21).

The reasons that adults may seek change include many different aspects of their life. Tough et al., reports, "He may want to increase his skill in teaching, raising children, supervising, or in some other major task" (1979, p. 110). Adult motivation to participate in learning was studied by Houle, as well as Tough et al., Mastain, Smart, and Cross, to name a few.

Cross (1981) suggested that adults come to an adult education program in the hope of seeking information and skills which help them to solve their problems, or help them to cope with the objectives of their life.

Houle (1961) in his study, *The Inquiring Mind*, explained some of the reasons adults participate in learning programs. He categorized them into three subgroups.

1. Goal-oriented learners--for this group, learning is a series of episodes, each beginning with the identification of a need or an interest.
2. Activity-oriented learners--they participate in learning for the sake of the activity itself rather than to develop a skill or learn subject matter.
3. Learning oriented learners--these learners pursue learning for its own sake. They seem to possess a fundamental desire to know and to grow through learning, and their activities are constant and lifelong (Cross, 1981, p. 82).

In 1974, Morstain and Smart found six factors that motivated adults to learn in their study, "Reasons for Participation in Adult Education Courses: A Multivariate Analysis of Group Differences." The factors are listed by Cross (1981) as follow.

#### **Factor I. Social Relationships**

- o To fulfill a need for personal associations and friendship.
- o To make new friends.
- o To meet members of the opposite sex.

#### **Factor II. External Expectations**

- o To comply with instructions from someone else.
- o To carry out the expectations of someone with formal authority.

- To carry out the recommendation of some authority.

### **Factor III. Social Welfare**

- To improve my ability to serve mankind.
- To prepare for service to the community.
- To improve my ability to participate in community work.

### **Factor IV. Professional Advancement**

- To give me higher status in my job.
- To secure professional advancement.
- To keep up with competition.

### **Factor V. Escape/Stimulation**

- To get relief from boredom.
- To get a break in the routine of home or work.
- To provide a contrast to the rest of my life.

### **Factor VI. Cognitive Interest**

- To learn just for the sake of learning.
- To seek knowledge for its own sake.
- To satisfy an inquiring mind.

(Adapted in Cross's book, *Adults as Learners*, p. 86).

Cross summarized these studies and indicated that Houle classified groups of people, whereas Morstain and Smart identified clusters of reasons. The implication from Houle's typology is that people are consistently motivated by characteristic orientations to learning throughout their lives, whereas the Morstain and Smart approach made more room for multiple reasons to exist

within the same individual and for motivations to change from time to time. The Morstain and Smart data fit Tough's findings of Multiple motivations, but it would be interesting to test Houle's assumption that people have characteristic orientations to learning that remain fairly consistent over time and across learning activities (Morstain & Smart, 1974, p. 8788)

A study reported by Campbell investigated teachers and the use of andragogical methods as a way to help them become more selfactualized. The findings indicated that the andragogical process enabled teachers to develop a process of learning which would, in turn, enabled them to meet their own learning needs throughout their lifetime (Campbell, 1986,p.22).

### Inservice Education

Inservice education is essential for the professional development of practitioners in all fields. It may be even more important for those who are involved with schools. Harris and Bessert (1969) stated four fundamental reasons why inservice education is important.

1. Pre-service preparation of professional staff members is rarely ideal and may be primarily an introduction to professional preparation rather than professional preparation as such.



2. Social and educational change makes current professional practices obsolete or relatively ineffective in a very short period of time. This applies to methods and techniques, tools, and substantive knowledge itself.
3. Coordination and articulation of instructional practices require changes in people. Even when such instructional staff member is functioning at a highly professional level, employing an optimum number of the most effective practices such as instructional programs, might still be relatively uncoordinated from subject to subject and poorly articulated from year to year.
4. Other factors argue for inservice education activities of rather diverse kinds. Morale can be stimulated and maintained through inservice education, and is a contribution to instruction in itself, even if instructional improvement of any dynamic kind doesn't occur (Harris & Bessert, 1969, pp. 3-4).

Hass (1957) gave a number of factors which support the need for inservice education.

1. The continuing cultural and social changes which create the need for curriculum change.
2. Pre-service education can not adequately prepare members of the public school professional staff for their responsibilities.
3. Increase in pupil enrollment.
4. The present and continuing increase in the number of teachers.
5. The present and continuing shortages of adequately prepared teachers.
6. The present and continuing need for improved school leaders (Hass, 1957, pp. 13-14).

Professional development for school teachers and administrators is a continuing process because knowledge acquisition is a continuing process. This is clearly articulated in the following statement.

As long as knowledge about education continues to increase, there are undoubtedly new topics for teachers to learn, regardless of his/her degree or years of experience. The continuum of preparation can, therefore, cover the teacher's entire career (Smith et al., 1969, p. 151).

Inservice Educational Programs in  
the People's Republic of China

According to the data given by China: A Country Study (1988), in 1986 there were about 8 million primary and middle school teachers in China, but many lacked professional training. To improve teacher quality, the State Education Commission established full-time and part-time inservice training programs. Primary school and preschool inservice teacher training programs devoted 84% of the time to subject teaching, 6% to pedagogy and psychology, and 10% to teaching methods. Inservice training for primary school teachers was designed to raise them to a level of approximately two years' post-secondary study, with the goal of qualifying most primary school teachers by 1990. Secondary school inservice teacher training was based on a unified model, tailored to meet local conditions, and offered on a spare time basis. Of its curricula, 95% was devoted to

subject teaching, 2 to 3% to pedagogy and psychology, and 2 to 3% to teaching methods. There was no similar large-scale inservice effort for technical and vocational teachers, most of whom worked for enterprises and local authorities.

By 1985 there were more than 1,000 teacher-training schools, an indispensable tool in the effort to solve the acute shortage of qualified teachers in China. These schools, however, were unable to supply the numbers of teachers needed to attain modernization goals through 1990 (China: A Country Study, 1988, p. 176).

By 1990, it was estimated that 4.3 million secondary and vocational school teachers would be required to be college or university graduates, which means 3.5 million new teachers must be trained. Such a huge task of training cannot be fulfilled by relying solely on conventional colleges and universities within a limited time scale. TV University provides television teaching programs for teachers inservice training. These programs are transmitted by China Education Television via satellite covering China's vast territory of 9.6 million kilometers. Taking into account the number of students and their geographical distribution, China's TV university is one of the best means to fulfil the goal of training 4.3 million school teachers who need to be qualified in the near future.

Most of the teachers in TV Universities are chosen to be teachers because they have talent in their chosen subject matters and most of their formal education consists of training in their subject matter. Most learn to teach on the job, following the model of senior faculty. In order to improve the teachers' performance, TV University organized training programs for its teachers in the forms of lectures, seminars, summer courses emphasis on subject teaching and teaching methods. Unfortunately, there is no research on the effectiveness of these programs.

#### Summary

The review of the literature focused on five major topics. First, the characteristic of adults as learners. Second, andragogy was explained. Third, it examined the reason adults seek learning opportunities. Fourth, the importance and the purpose of the inservice education were reviewed. Fifth, the achievements, limitations and the needed improvements for inservice education program in the People's Republic of China were examined.

In the following chapter, the design and methodology of the present study was explained.

## **CHAPTER III**

### **STUDY DESIGN AND METHODOLOGY**

The primary purpose of this study was to assess the perceptions of teachers, instructors, and planners of using andragogical learning approaches in teachers' inservice education programs at Guangxi TV University, the People's Republic of China. The methods and procedures employed in conducting the study and analyzing the data are described in this chapter. Included are descriptions of the type of research, the target population and sample selection. Also the data collection instrument were described in terms of its construction, translation, pilot testing, as well as the data collection procedure and the methods employed for data analysis.

#### **Type of Design**

Survey research was the most appropriate procedure to follow for the problem being considered. The intent of this study was to identify the perceptions of teachers, instructors, and planners concerning andragogical learning approaches for inservice education

programs in Guangxi TV University of the People's Republic of China. Turney and Robb (1971) indicated that "one type of descriptive research is survey. The survey is an attempt to analyze, interpret, and report the status of an institution, group or area in order to guide practice in the immediate future" (p. 63).

### Population

The target population for this study consisted of planners administrators), instructors (acting as teachers in teachers' inservice education programs), and teachers (acting as students in teachers' inservice education programs) in Guangxi TV University in Nanning Region which is located in the South of China. Nanning Region has a total population believed to exceed 5.2 million. TV University, the main university in Beijing, is an open university having branch schools and a network which reaches to every city and county of the country. According to the Guangxi TV University statistical report of 1991, there are 20 branch universities and 110 work stations in Guangxi province.

### Sample Selection

In order to conduct this study, a random stratified sample was used which was obtained by separating the population elements into non-overlapping groups, called

strata, and then selecting a simple random sample from each stratum (Scheaffer, Mendenhall, & Ott, 1986). According to Borg, one of the major advantages of a stratified sampling procedure is that it assures the researcher that the sample will be representative of the population in terms of certain critical factors that have been used as a basis for stratification. It also assures adequate cases for subgroup analysis (1983, p. 249).

Research subjects are recent participants in the inservice program in Guangxi TV University and are currently teaching in the university. This sample was drawn from available name lists provided by the university and approved by the program director in the Guangxi TV University. The samples were randomly selected by the researcher from the name list. The population of the study were participants classified into six strata: (1) female program planners (administrators), (2) male program planners, (3) female instructors, (4) male instructors, (5) female teachers (students who are teachers in TV Universities), and (6) male teachers. The total number of planners selected was 30, instructor 50, and students 120.

### The Research Instrument

A two-section questionnaire was used as the primary instrument for collecting data for this study. In the first section of the instrument, a set of five questions was designed to provide data regarding participants' general characteristics. Information relating to subjects' age, gender, years of experience, and level of education was collected in this section as independent variables which would have an effect on the respondents' perception of the andragogical approaches to inservice education programs in China.

In section one of the instrument, a set of five questions was designed to collect demographic and personal data about the respondents. The demographic variables included the following:

1. Gender: Two categories were included: male and female.
2. Age: This variable contained four categories: (20-30), (31-40), (41-50), and (51 and older) years.
3. Present responsibility: This variable contained three categories: teacher, instructor, and planner.
4. Experience in teaching and working: This variable contained four categories: (1-5), (6-10), (11-15), and (16 and over) years.



5. Highest level of educational achievement (degree): This variable contained five categories: high school, associate degree, bachelor's degree, master's degree, and other.

Section two included 27 items which were constructed to collect the desired data for the major purpose of this study; that is, to investigate the perceptions of teachers, instructors, and planners who would like to use andragogical learning approaches in teachers' inservice education programs.

After an extensive review of the literature on inservice education programs for teachers, instructors, and planners who use andragogical learning approaches, the investigator developed and modified 27 items from Hadley's instrument (1975) and Minix's instrument (1981) (Appendix A). These two instruments have been used several times in different studies concerning the needs of teachers as adult learners by such authors as Hadley (1975), Minix, (1981), Alshehri (1986), and Affash (1989). The researcher obtained permission to use the instruments from Dr. Minix on February 14, 1992, in a telephone conversation. Although the researcher was unable to locate Herschel N. Hadley, he has been given full credit.

The respondents were asked to indicate their preferences for andragogical approaches in inservice

education programs in China on a Likert-type scale of five points (1-5) in which 1 represented "strongly agree" with the statement as being a need for professional development, and 5 represented "strongly disagree" with the statement as being a need for inservice education. Therefore, the respondents were required to respond to the items in this section in one of the following five ways: strongly agree, agree, not sure (agree/disagree), disagree, and strongly disagree.

Minix (1981) reported that the reliability of his instrument, determined by the test-retest method, was .85. The content validity was judged by submitting the selected items to such experts in the area of andragogy as Malcolm Knowles, Herschel Hardly, and John Ingalls. The validity was judged to be satisfactory.

The instrument used for this study consisted of 27 statement items which were randomly arranged on the questionnaire to avoid creating a response set among participants. For the purpose of analysis, the 27 items in the questionnaire were grouped into six approaches according to their commonality and the researcher's logical interpretation as follow.

1. The beliefs of a self-directed learner (six items from Minix 8, 9, 10, 16, 17, 23). The numbers of items below are those which appear in the questionnaire for this research.

Item 8: I am capable of directing my own professional development.

Item 15: I should be permitted to direct my own learning experiences.

Item 19: Inservice programs should provide options for teachers who don't want to follow the planned program.

Item 20: Each teacher should be responsible for his/her professional development.

Item 25: Teachers should be treated as adults in inservice education programs.

Item 27: Teachers should be treated as professionals at inservice education programs.

2. Characteristics of the learning experience (five items from Hadley 6, 18, 33, 51, 55).

Item 1: Effective inservice learning occurs most often when teachers actively participate in deciding what it is to be learned and how.

Item 6: A trainer's primary responsibility is helping teachers choose and develop their own directions for learning.

Item 9: It is better for teachers to create their own learning activities and materials than for the trainer to provide them.

Item 14: The goals teachers set for themselves are the basis of effective learning, not the trainer goals.

Item 16: Without a cooperative climate encouraging teachers to risk and experiment, significant learning is unlikely.

3. Management of learning experience (five items from Hadley 8, 22, 47, 49, 59).

**Item 3:** Organization of the content and sequence of inservice learning activities should grow out of teachers' needs with their participation.

**Item 4:** Assignments by a trainer tend to restrict teachers' significant learnings.

**Item 23:** Emphasizing efficiency in inservice education often blocks development of an effective learning climate.

**Item 26:** The primary concern of a trainer should be the immediate needs of teachers.

**Item 10:** Planning units of work should be done by teachers and trainer together.

4. **Small group work** (three items from Minix 18, 29, 30, and one item from Hadley 57).

**Item 2:** I believe teachers should group themselves according to their interests and needs at inservice program.

**Item 5:** To use teachers' experiences and resources for learning requires group activities rather than such methods as lecture.

**Item 17:** I prefer working with small groups of teachers to listening to lectures.

**Item 13:** Small groups should be created to solve problems at inservice education programs.

5. **Teacher initiated inservice education programs** (two items from Minix 4, 14).

**Item 22:** Teachers should be permitted to design their own inservice programs.

**Item 21:** Teachers should be allowed to set their own goals at inservice programs.

**Item 24: Teachers are quite competent to choose and carry out their own projects for learning.**

- 6. Relationship between educator and students (trainers and teachers of TV universities), and among students (four items from Hadley 11, 26, 38, 45).**

**Item 11: Competition among students encourages keen learning.**

**Item 12: Inservice education programs which tell how really help teachers learn.**

**Item 18: A trainer should discuss his/her blunders and learnings with teachers.**

**Item 7: A trainer should provide opportunities for warm relationships with teachers and among teachers.**

**Respondents to the questionnaire were asked to indicate the degree of needs for inservice teachers education programs in the specified areas on a Likert-type scale of five points (1-5). The responses for the extent of agreement were given the following values: strongly agree=1, agree=2, agree/disagree=3, disagree=4 and strongly disagree=5. On the questionnaire, the teachers were instructed to respond according to the perceptions of their own personal-professional needs, while the instructors and planners were asked to respond according to their perceptions of inservice education needs among teachers.**

### Translation of the Questionnaire

The researcher initially translated the questionnaire from English into Chinese. The back translation method was used to translate the questionnaire. Two native speakers of Chinese who have an excellent command of English independently translated the instrument from English into Chinese. Subsequently, two other Chinese students who have an excellent command of English independently translated the instrument from Chinese back into English. On April 1, 1992, the instrument translated into Chinese was reviewed by Dr. Lin Yen-Hwei, Assistant Professor of Chinese Language in Linguistics Department at Michigan State University. She agreed that the translation of the cover letter and the questionnaire from English into Chinese was accurate, reliable, and consistent with the English original in both format and content.

### Pilot Testing of the Instrument

Fox (1969) identified the purposes of a pilot test as: (1) testing of the collection instrument for revisions, and (2) providing data to estimate the instrument's reliability. The instrument was administered to a sample group of 20 graduate students from China who are students at Michigan State University. This pilot test sample was not part of the

study's sample. However, they were essentially similar in culture to the sample in China. This test was conducted to determine whether or not the questionnaire items yielded the kind of information needed. No important differences in the interpretations of the meaning of items were reported. Based on the data from direct responses to the instrument, as well as written and verbal comments by the respondents, it was determined that the items were interpreted as intended. On the basis of pilot test results, some minor revisions in wording and in item arrangement were made to the instrument. After these minor revisions were made, the researcher gave two doctoral students at Michigan State University the revised Chinese questionnaire and requested that they identify confusing or difficult items. The results of the responses indicated that the questionnaire items were clear. The average length of time it took to complete the questionnaire was 20 minutes.

#### Data Collection Procedures

The researcher's doctoral committee approved the proposal of this study in the Fall of 1991. The University Committee on Research Involving Human Subjects (UCRIHS) was provided two copies of the proposal and was asked to review the material in order

to grant approval to conduct the study. The approval was granted (Appendix B). Data for this study were collected during the summer of 1992.

Two set of questionnaires, with a cover letter, were mailed separately to the subjects with return address and stamped envelopes included. The subjects mailed each part of the questionnaires back to a neutral party in China, in the hope of increasing the percentage of returned questionnaires. The researcher sent the questionnaire and the needed material to the individual respondent from the available list of names. The total number of distributed questionnaires was 200, divided between the potential three groups of respondents in the following manner: 120 questionnaires to teachers, 50 to instructors, and 30 to planners (administrators).

The questionnaire consists of two parts, the demographic personal data and survey. To assure confidentiality, the sets of two parts were sent to the subjects separately with a code word used by the researcher to match the two sections when they were returned. Only the researcher has the key to this code system. The purpose of the study had been explained to the respondents. All the participants/respondents were informed that their participation was on a voluntary basis and that confidentiality was provided to all



subjects (Appendix A). Names of the participants were not used in the written report of the findings.

The percentage of usable returned forms was 68%. Out of 120 questionnaire sent to the teachers, 96 (or 80%) of them were sent back to the researcher. Out of 50 questionnaire sent to instructors, 29 (or 58%) of them were sent back. Out of 30 questionnaire sent to the planner, maybe due to their positions which was farther away from the instructional process, the planners only sent back 11 (or 36%) of the questionnaire. Table 3.1 indicates the number of questionnaires distributed to the sample and number of completed responses.

### Descriptive Data

One of the purposes of this study was to describe the history and practices of the present China TV University inservice education programs. Data for this purpose was collected from Chinese newspapers, magazines, dissertations and articles on China education, as well as the United Nations Educational Scientific and Cultural Organization (UNESCO). Information on the subject was scarce since only a few documents were found.

Therefore, the descriptive section in Chapter II of this study was based on the available literature.

### Data Analysis Procedures

Questionnaire responses were coded, key punched, and then verified. Data were analyzed at the Michigan State University Computer Center using the statistical package for the social science (SPSS-X) which included descriptive and inferential statistics. Frequencies and percentage were used to describe the demographics and personal data. Means and standard deviations were used to describe the perception of the teachers, instructors, and planners regarding andragogical learning approaches. A T-Test was used to compare whether or not there existed significant differences in the three groups (teachers vs. instructors, teachers vs. planners, and instructors vs. planners). In addition to descriptive statistics, a one-way analysis of variance (ANOVA) was used to determine if there were significant differences exist in respondents' perceptions regarding andragogical approaches between and among demographic variable levels.

Data analysis for research questions 1, 2, 3, 4, 5, and 6 was based on the aggregate mean ratings for the teachers', instructors' and planners' perceptions on the six andragogical learning approaches. The mean ratings were based on the responses to the five-point, ordinal Likert-type scale items which were described previously. Analysis of research question 5 utilized the teachers'

**Table 3.1**

**Number of Questionnaires Distributed and Number of Completed Responses**

| <b>Role Group</b>  | <b>Number of Mailed Questionnaires in Sample</b> | <b>Number of Returned Responses</b> | <b>Percentage of Responses</b> |
|--------------------|--|-------------------------------------|--------------------------------|
| <b>Teachers</b>    | <b>120</b>                                       | <b>96</b>                           | <b>80</b>                      |
| <b>Instructors</b> | <b>50</b>  | <b>29</b>                           | <b>58</b>                      |
| <b>Planners</b>    | <b>30</b>  | <b>11</b>                           | <b>36</b>                      |

responses to the two items which provided the teachers' perceptions on whether or not teachers should participate in deciding what is to be learned and how. Statistical tools used in the presentation and analysis of data for each of the six research questions are given below.

**Research Question 1: To what extent do TV University teachers agree or disagree with andragogical approaches to inservice education programs in China.**

On a five-point ordinal Likert-type scale means and standard deviations for the six andragogical learning approaches were computed for the teachers. The extent to which TV University teachers agree or disagree with

andragogical learning approaches to inservice education programs in China was evaluated using the interpretation of the mean ratings given by,

1.00 - 1.49: Strongly agree

1.50 - 2.49: Agree

2.50 - 3.49: Agree/disagree

3.50 - 4.49: Disagree

4.50 - 5.00: Strongly Disagree

This choice of intervals to analyze mean scores allows the midpoint of each interval to coincide with the whole number choices for the respondents to select. For example 1.50 - 2.49 (agree) clusters about 2.00, the number a respondent could choose to represent agree.

**Research Question 2:** To what extent do TV

University program instructors agree and disagree with andragogical learning approaches which should be practiced in inservice education programs in China?

Means and standard deviations for the responses on the five-point ordinal Likert-type scale were computed. Based on the aggregate mean ratings for each of the six andragogical learning approaches, ranks were also determined. The extent to which the andragogical approaches of TV University program instructors in

teachers' inservice education programs agree to use was evaluated using the interpretation of the mean ratings as given in research question 1.

**Research Question 3:** To what extent do TV University program planners agree and disagree with andragogical Learning approaches which should be practiced in inservice education programs in China?

Means and standard deviations for the responses on the five-point ordinal Likert-type scale were computed. Based on the aggregate mean ratings for each of the six andragogical learning approaches, ranks were also determined. The extent to which the andragogical approaches of TV University program planners in inservice education programs was evaluated using the interpretation of the mean ratings as given in research question 1.

**Research Question 4:** What differences exist in the perceptions among the educators who participated regarding andragogical Learning approaches in inservice programs in China?

A T-Test was used to compare whether or not there existed significant differences in the three groups

(teachers vs. instructors, teachers vs. planners, and instructors vs. planners). On a five-point ordinal Likert-type scale means and standard deviations, the observed T-value and corresponding significance level for the six andragogical learning approaches were computed for the planners, instructors and teachers. The extent to which the participants differ in their perceptions regarding andragogical learning approaches in teachers' inservice programs in China was computed.

Research Question 5: Do perceptions of the andragogical learning approaches differ according to the study participants with regard to the demographic variables of gender, age, level of education, teaching and working experiences?

Based on the aggregate mean responses for the teachers' perceptions on the extent to which andragogical learning approaches were preferred in the inservice teacher education programs, a one-way analysis of variance (ANOVA) was utilized to determine whether or not there existed significant differences in teachers' perceptions among and between levels of these demographic variables.

**Summary**

The methods and procedures used in conducting and analyzing the data were explained in this chapter. The design of type study, the target population of the study, the selection of the sample, the research instrument, translation and pilot testing were described. Data collection procedures and statistical analysis methods were also described. The results of the data analysis performed in this study were reported in Chapter IV.

## **CHAPTER IV**

### **PRESENTATION AND ANALYSIS OF DATA**

#### **Introduction**

The primary purpose of this study was to assess the perceptions of teachers as adult learners, compared to the perceptions of planners and instructors regarding inservice teacher education programs in the People's Republic of China. The study was conducted to provide answers for the research questions presented in Chapter I. Findings to these questions are presented in four sections. The first described the respondents who participated in the study in terms of their distribution among the demographic variables: gender, age, level of education, years of teaching (training, planning) experience. The second reported findings regarding respondents' perceptions concerning the andragogical approaches which should be practiced in teacher inservice education programs in China. The third compared findings among three groups regarding the respondents' perceptions concerning the andragogical approaches which should be practiced in inservice education. The fourth reported findings for the



relationship among all the respondents' perceptions regarding andragogical learning approaches and certain demographic variables.

### Analysis of Respondents' Information

A total of 136 educators were involved in this study of whom 11 were program planners, 29 instructors, and 96 teachers. Of the 11 planners who participated in this study, 3 (27.3%) were male and 8 (or 72.7%) were female. Of 29 instructors who participated in this study, 21 (72.7%) were male and 8 (or 27.6%) were female. Of the 96 teachers involved in this study, 52 (54.2%) were male and 44 (or 45.8%) were female. The majority of the planners who participated in this study were 41 years of age and older, while most of the instructors were 51 years or older.

The majority of the teachers were between the ages of 31 and 40 years. Table 4.1 showed the distribution of teachers by both age groups and gender. Table 4.1 also indicated that of the 96 teachers who indicated their age, 44 (or 45.8%) were 31 to 40 years, 24 (or 25%) were 20 to 30 years, and another 24 (or 25%) were 41 to 50 years, while only 4 (or 4.2%) were 51 years or older. Among these teachers, 52 (or 54.2%) were male and 44 (or 45.8 %) were female.

Table 4.2 indicated that of the 11 planners who indicated their age, all were 41 years or older. Four (or 36.4%) were 41 to 50 years, and 7 (or 63.6%) were 51 years or older. Among these planners, 3 (or 27.3 %) were male and 8 (or 72.7%) were female.

Table 4.3 indicated that of the 29 instructors who indicated their age, only 4 (or 13.8%) were 40 years or younger, but 25 (or 86.2%) were 41 years or older. Among these instructors 21 (or 72.4%) were male and 8 (or 27.6%) were female.

The level of working and teaching experience among the respondents ranged from one year to 16 years and more. Table 4.4 showed the distribution of the participants by the number of years in working and teaching experience in education. From Table 4.4, it is clear that the majority of the respondents 82 (or 60.3%) had been working or teaching at educational institutions for 6 to 15 years, while 27 (or 19.9%) had been working or teaching in educational institutions between 1 and 5 years. Another 27 (or 19.9%) had been working or teaching in educational institutions 16 years or more.

The respondents were asked to indicate their highest education level. Table 4.5 showed the distribution of the participants by the highest level of education attained. Table 4.5 shows that out of 11 planners 6 (or 54.5%) had associate degrees (two years of college), 4

**Table 4.1****Distribution of Teachers by Age Group and Gender Group**

| <u>Age Group</u> | <u>Female</u> |             | <u>Male</u> |             | <u>Total</u> |              |
|------------------|---------------|-------------|-------------|-------------|--------------|--------------|
|                  | <u>No.</u>    | <u>%</u>    | <u>No.</u>  | <u>%</u>    | <u>No.</u>   | <u>%</u>     |
| 20 - 30          | 9             | 20.5        | 15          | 28.8        | 24           | 25.0         |
| 31 - 40          | 21            | 47.7        | 23          | 44.2        | 44           | 45.8         |
| 41 - 50          | 12            | 27.3        | 12          | 23.1        | 24           | 5.0          |
| 51 and older     | 2             | 4.5         | 2           | 3.8         | 4            | 4.2          |
| <b>Total</b>     | <b>44</b>     | <b>45.8</b> | <b>52</b>   | <b>54.2</b> | <b>96</b>    | <b>100.0</b> |

**Table 4.2****Distribution of Program Planners by Age Group and Gender Group**

| <u>Age Group</u> | <u>Female</u> |             | <u>Male</u> |             | <u>Total</u> |              |
|------------------|---------------|-------------|-------------|-------------|--------------|--------------|
|                  | <u>No.</u>    | <u>%</u>    | <u>No.</u>  | <u>%</u>    | <u>No.</u>   | <u>%</u>     |
| 20 - 30          | 0             | 0           | 0           | 0           | 0            | 0            |
| 31 - 40          | 0             | 0           | 0           | 0           | 0            | 0            |
| 41 - 50          | 4             | 50.0        | 0           | 0           | 4            | 36.4         |
| 51 and older     | 4             | 50.0        | 3           | 100.0       | 7            | 63.6         |
| <b>Total</b>     | <b>8</b>      | <b>72.7</b> | <b>3</b>    | <b>27.3</b> | <b>11</b>    | <b>100.0</b> |

(or 36.4%) planners had bachelor degrees, and 1 (or 9.1%) had a master's degree. Of 96 teachers, 30 (or 31.3%) indicated that they did not attain the bachelor's degree and 66 (or 68.8 %) had a bachelor's degree. There were 20 (or 69.0%) instructors who had a bachelor's degree, 9 (or 31.0%) had a master's degree. However, none had the doctorate.

Table 4.3

**Distribution of Instructors by Age Group and Gender Group**

| <u>Age Group</u> | <u>Female</u> |             | <u>Male</u> |             | <u>Total</u> |              |
|------------------|---------------|-------------|-------------|-------------|--------------|--------------|
|                  | <u>No.</u>    | <u>%</u>    | <u>No.</u>  | <u>%</u>    | <u>No.</u>   | <u>%</u>     |
| 20 - 30          | 1             | 12.5        | 1           | 4.8         | 2            | 6.9          |
| 31 - 40          | 2             | 25.0        | 0           | 0           | 2            | 6.9          |
| 41 - 50          | 3             | 37.5        | 4           | 19.0        | 7            | 24.1         |
| 51 and older     | 2             | 25.0        | 16          | 76.2        | 18           | 62.1         |
| <b>Total</b>     | <b>8</b>      | <b>27.6</b> | <b>21</b>   | <b>72.4</b> | <b>29</b>    | <b>100.0</b> |

Table 4.4

**Distribution of Participants by Occupations and Experiences**

| <u>Experience in Years</u> | <u>Teachers</u> |             | <u>Instructors</u> |             | <u>Planners</u> |            | <u>Total</u> |              |
|----------------------------|-----------------|-------------|--------------------|-------------|-----------------|------------|--------------|--------------|
|                            | <u>No.</u>      | <u>%</u>    | <u>No.</u>         | <u>%</u>    | <u>No.</u>      | <u>%</u>   | <u>No.</u>   | <u>%</u>     |
| 1 - 5                      | 24              | 25.0        | 3                  | 10.3        | 0               | 0.0        | 27           | 19.9         |
| 6 - 10                     | 44              | 45.8        | 1                  | 3.4         | 4               | 36.4       | 49           | 36.0         |
| 11- 15                     | 24              | 25.0        | 6                  | 20.7        | 3               | 27.3       | 33           | 24.3         |
| 16 +                       | 4               | 4.2         | 19                 | 65.5        | 4               | 36.4       | 27           | 19.9         |
| <b>Total</b>               | <b>96</b>       | <b>70.6</b> | <b>29</b>          | <b>21.3</b> | <b>11</b>       | <b>8.1</b> | <b>136</b>   | <b>100.0</b> |

**Presentation of Research Findings**

The research findings in relation to the six research questions are presented in this part of Chapter IV. A general table of data was presented to illustrate the overall findings. Then each research question was

Table 4.5

**Distribution of Participants by Occupations and Education Level**

| <b>Education Level</b> | <b>Teachers</b> |             | <b>Instructors</b> |             | <b>Planners</b> |            | <b>Total</b> |              |
|------------------------|-----------------|-------------|--------------------|-------------|-----------------|------------|--------------|--------------|
|                        | <b>No.</b>      | <b>%</b>    | <b>No.</b>         | <b>%</b>    | <b>No.</b>      | <b>%</b>   | <b>No.</b>   | <b>%</b>     |
| High School            | 0               | 0           | 0                  | 0           | 0               | 0          | 0            | 0            |
| Associates             | 30              | 31.3        | 0                  | 0           | 6               | 54.5       | 36           | 26.5         |
| Bachelor's             | 66              | 68.8        | 20                 | 69.0        | 4               | 36.4       | 90           | 66.2         |
| Master's               | 0               | 0           | 9                  | 31.0        | 1               | 9.1        | 10           | 7.4          |
| <b>Total</b>           | <b>96</b>       | <b>70.6</b> | <b>29</b>          | <b>21.3</b> | <b>11</b>       | <b>8.1</b> | <b>136</b>   | <b>100.0</b> |

restated, followed by a presentation of the research findings in connection with the research question.

**Participants' Perceptions Concerning Andragogical Approaches**

Respondents were asked to rate the extent to which they perceived that andragogical approaches should be practiced in the inservice education programs, on a five-point Likert-type scale, ranging from (1) strongly agree to (5) strongly disagree. Means and standard deviations for the six andragogical learning approaches were computed for the participants in the study. (For the number and percentage of responses to each item level, see Appendix D). Data analysis based on these aggregate mean ratings of the participants' perceptions was presented for each of the six andragogical learning approaches. Separate mean ratings were also computed for participants within each of the three groups. The

mean score for all andragogical approaches was on a continuum, ranging from the minimum 1.00 to the maximum 2.36. The fact that no mean near 5.00 was observed implies that most respondents did not select the "strongly disagree" category. As a result, the following five categories of the mean ratings were adopted throughout the research: 1.00-1.49 = strongly agree; 1.50-2.49 = agree; 2.50-3.49 = agree/disagree; 3.50-4.49 = disagree; 4.50-5.00 = strongly disagree.

Table 4.6 showed the means and standard deviations for the six andragogical learning approaches for each of the three participating groups. As shown in the table, the means for the six andragogical learning approaches range from 1.98 to 2.13. The participants agreed with all of the six andragogical approaches: (1) A self-directed Learner (mean=1.98 or agree) (2) Characteristics of Learning Experience (mean=2.12 or agree), (3) Management of Learning Experience (mean=2.12), (4) Small Group Work (mean=2.13), (5) Teacher Initiated Inservice Programs (mean=2.04), and (6) relationships Between Educators and Students (mean=2.01).

There was general agreement among all participants who agreed at all levels that andragogical learning approaches should be practiced in the teachers' inservice education programs. Teachers perceived that

**Table 4.6**  
**Means and Standard Deviations of Participants' Perceptions Regarding**  
**Andragogical Learning Approaches**

| Andragogical<br>Approaches                        | Teachers |           | Instructors |           | Planners |           | All |           |
|---|----------|-----------|-------------|-----------|----------|-----------|-----|-----------|
|   | N        | Mean Sd   | N           | Mean Sd   | N        | Mean Sd   | N   | Mean Sd   |
| A Self-<br>directed<br>Learner                    | 96       | 2.24 .666 | 29          | 1.31 .241 | 11       | 1.47 .277 | 136 | 1.98 .703 |
| Character-<br>istics of<br>Learning<br>Experience | 96       | 2.20 .619 | 29          | 1.90 .357 | 11       | 2.05 .429 | 136 | 2.12 .570 |
| Management<br>of Learning<br>Experience           | 96       | 2.15 .623 | 29          | 1.92 .482 | 11       | 2.33 .392 | 136 | 2.12 .588 |
| Small<br>Group<br>Work                            | 96       | 2.14 .497 | 29          | 2.01 .465 | 11       | 2.36 .465 | 136 | 2.13 .492 |
| Teacher<br>Initiated<br>Inservice<br>Programs     | 96       | 2.29 .840 | 29          | 1.37 .411 | 11       | 1.64 .526 | 136 | 2.04 .840 |
| Relation-<br>ships                                | 96       | 2.24 .716 | 29          | 1.38 .36  | 11       | 1.61 .258 | 136 | 2.01 .728 |
| Overall   | 96       |           | 29          |           | 11       |           | 136 |           |

Note: Mean ratings are interpreted as follows

- 1.00 - 1.49 = strongly agree
- 1.50 - 2.49 = agree
- 2.50 - 3.49 = agree/disagree
- 3.50 - 4.49 = disagree
- 4.50 - 5.00 = strongly disagree

all of the approaches should be practiced. On the other hand, instructors strongly agreed to three of the approaches as should be practiced. Those were a Self-directed Learner (mean=1.31), Teacher Initiated Inservice Programs (mean=1.37), and Relationships (mean=1.38). The rest of the three Characteristics of Learning Experience (mean=1.90), Management of Learning Experience (mean=1.92), and Small Group (mean=2.01) which the instructors agreed should be practice. However, there was one general agreement between instructors and planners on Self-directed Learners (Instructors' mean=1.32, Planners' mean=1.47) which both of the instructors and planners strongly agreed should be practiced. The andragogical approaches on which all three groups agreed were Characteristics of Learning Experience (Teachers' mean=2.20, Instructors' mean=1.90, and Planners' mean=2.05), Management of Learning Experience (Teachers' mean=2.15, Instructors' mean=1.92, and Planners' mean=2.33), and Small Group Work (Teachers' mean=2.14, Instructors' mean=2.01, and Planners' mean=2.36) which three groups agreed should be practice.



**Teachers' Perceptions Concerning Andragogical Approaches which should Be Practiced in the Inservice Education Programs in China**

**Research Question 1: To what extent do TV University teachers agree or disagree with andragogical approaches to inservice education programs in China.**

Teachers were asked to rate the extent to which they agreed andragogical approaches should be practiced in the teachers' inservice educational programs in China. Means, standard deviations and ranks were presented according to their responses on a five-point Likert-type scale computed. (For the number and percentage of respondents' responses to each item level, see Appendix D).

Table 4.7 showed the aggregate means, standard deviations and ranks for the six andragogical learning approaches as agreed to by the teachers. Teachers were asked to rate on an ordinal Likert-type scale, the extent to which they agree andragogical approaches should be practiced in the teachers' inservice educational programs in China. Means and standard deviations were computed on all the six andragogical learning approaches. (For the number and percentage of respondents to each item level, see Appendix D). The mean ratings were interpreted as in Research Question 1.

Table 4.7

Number, Means, Standard Deviations and Rank of Teachers' Perceptions Regarding Andragogical Learning Approaches

| <u>Andragogical<br/>Approaches</u>     | <u>N</u> | <u>Teachers</u> |           | <u>Rank</u> |
|--|----------|-----------------|-----------|-------------|
|  |          | <u>Mean</u>     | <u>Sd</u> |             |
| A Self-directed Learner                | 96       | 2.24            | .666      | 4           |
| Characteristics of Learning Experience | 96       | 2.20            | .619      | 3           |
| Management of Learning Experience      | 96       | 2.15            | .623      | 2           |
| Small Group Work                       | 96       | 2.14            | .497      | 1           |
| Teacher Initiated Inservice Programs   | 96       | 2.29            | .840      | 6           |
| Relationships                          | 96       | 2.24            | .716      | 5           |
| Overall                                | 96       |                 |           |             |

Note: Mean ratings are interpreted as follows

1.00 - 1.49 = strongly agree

1.50 - 2.49 = agree

2.50 - 3.49 = agree/disagree

3.50 - 4.49 = disagree

4.50 - 5.00 = strongly disagree

As shown in Table 4.7, teachers (mean=2.143) agreed that Small Groups should be practiced. Mean ratings and ranks for the other andragogical learning approaches are as follows: Small Group work (mean= 2.143, Rank=1), Management of Learning Experience (Mean= 2.154, Rank= 2), Characteristics of Learning Experience (Mean= 2.197,

Rank= 3), A Self-directed Learner (mean=2.241, rank=4), Relationships (Mean=2.244, Rank=5), and Teacher Initiated Inservice Programs (mean=2.288, Rank=6). Here again, the differences between means were small (Rank 1 mean=2.143 and rank 6 mean=2.288), while standard deviation varied from .497 to .840.

**Instructors' Perceptions Concerning  
Andragogical Approaches which  
Should be Practiced**

**Research Question 2: To what extent do program instructors agree or disagree with andragogical approaches to inservice education programs in China.**

Instructors were asked to rate, on an ordinal Likert-type scale, the extent to which they agree andragogical learning approaches should be practiced in inservice program in China. Means and standard deviations were computed on all the six andragogical learning approaches. (For the number and percentage of respondents to each item level, see Appendix D). The mean ratings were interpreted as in Research Question 1. Table 4.8 showed the mean, standard deviations and ranks of the six andragogical learning approaches as perceived by Instructors.

As shown in Table 4.8, the instructors considered a Self-directed Learner (mean=1.32) preferred and, thus,

**Table 4.8**

**Number, Means, Standard Deviations and Rank of  
Instructors' Perceptions Regarding Andragogical Learning  
Approaches**

| <b><u>Andragogical<br/>Approaches</u></b>             | <b><u>N</u></b> | <b><u>Instructors</u></b> |                  | <b><u>Rank</u></b> |
|---|-----------------|---------------------------|------------------|--------------------|
|   |                 | <b><u>Mean</u></b>        | <b><u>Sd</u></b> |                    |
| <b>A Self-directed<br/>Learner</b>                    | <b>29</b>       | <b>1.32</b>               | <b>.241</b>      | <b>1</b>           |
| <b>Characteristics<br/>of Learning<br/>Experience</b> | <b>29</b>       | <b>1.90</b>               | <b>.357</b>      | <b>4</b>           |
| <b>Management of<br/>Learning<br/>Experience</b>      | <b>29</b>       | <b>1.92</b>               | <b>.482</b>      | <b>5</b>           |
| <b>Small Group Work</b>                               | <b>29</b>       | <b>2.01</b>               | <b>.465</b>      | <b>6</b>           |
| <b>Teacher Initiated<br/>Inservice Programs</b>       | <b>29</b>       | <b>1.37</b>               | <b>.411</b>      | <b>2</b>           |
| <b>Relationships</b>                                  | <b>29</b>       | <b>1.38</b>               | <b>.363</b>      | <b>3</b>           |
| <b>Overall</b>  | <b>29</b>       |                           |                  |                    |

**Note: Mean ratings are interpreted as follows**

**1.00 - 1.49 = strongly agree**

**1.50 - 2.49 = agree**

**2.50 - 3.49 = agree/disagree**

**3.50 - 4.49 = disagree**

**4.50 - 5.00 = strongly disagree**

**should be practiced. Mean ratings and ranks for the  
other andragogical learning approaches are as follows:**

**A Self-directed Learner (mean=1.32, Rank=1), Teacher  
Initiated Inservice Program (Mean=1.37, Rank=2),  
Relationship (Mean=1.38, Rank=3), Characteristics of**

Learning Experience (mean=1.90, Rank=4), Management of Learning Experience (Mean=1.92, Rank=5), and Small Group Work (mean=2.01, Rank=6). The differences between means was (Rank 1 mean=1.32 and rank 6 mean=2.01), while standard deviation varied from .241 to .465.

Planners' Perceptions Concerning  
Andragogical Approaches which  
Should be Practiced

Research Question 3: To what extent do program planners agree or disagree with andragogical approaches to inservice education programs in China.

Planners were asked to rate, on an ordinal Likert-type scale, their perceptions regarding instructional delivery methods they preferred for inservice program in China.

Means and standard deviations were computed on all the six andragogical learning approaches. (For the number and percentage of respondents to each item level, see Appendix D). The mean ratings were interpreted as in Research Question 2. Table 4.9 showed the mean, standard deviations, and ranks of the six andragogical learning approaches as perceived by planners.

As shown in Table 4.9, the planners agreed with a Self-directed Learner (mean=1.47) and, thus, feel it should be practiced. Mean ratings and ranks for the

**Table 4.9**

**Number, Means, Standard Deviations, and Rank of  
Planners' Perceptions Regarding Andragogical Learning  
Approaches**

| <b><u>Andragogical<br/>Approaches</u></b>             | <b><u>N</u></b> | <b><u>Planners</u></b> |                  | <b><u>Rank</u></b> |
|---|-----------------|------------------------|------------------|--------------------|
|   |                 | <b><u>Mean</u></b>     | <b><u>Sd</u></b> |                    |
| <b>A Self-directed<br/>Learner</b>                    | <b>11</b>       | <b>1.47</b>            | <b>.277</b>      | <b>1</b>           |
| <b>Characteristics<br/>of Learning<br/>Experience</b> | <b>11</b>       | <b>2.05</b>            | <b>.429</b>      | <b>4</b>           |
| <b>Management of<br/>Learning<br/>Experience</b>      | <b>11</b>       | <b>2.33</b>            | <b>.392</b>      | <b>5</b>           |
| <b>Small Group Work</b>                               | <b>11</b>       | <b>2.36</b>            | <b>.465</b>      | <b>6</b>           |
| <b>Teacher-Initiated<br/>Inservice Programs</b>       | <b>11</b>       | <b>1.64</b>            | <b>.526</b>      | <b>3</b>           |
| <b>Relationships</b>                                  | <b>11</b>       | <b>1.61</b>            | <b>.258</b>      | <b>2</b>           |
| <b>Overall</b>  | <b>11</b>       |                        |                  |                    |

**Note: Mean ratings are interpreted as follows**

**1.00 - 1.49 = strongly agree**

**1.50 - 2.49 = agree**

**2.50 - 3.49 = agree/disagree**

**3.50 - 4.49 = disagree**

**4.50 - 5.00 = strongly disagree**

**other andragogical learning approaches are as follows:**

**Self-directed Learner (mean=1.47, Rank=1), Relationship**

**(Mean=1.64, Rank=2, Teacher Initiated Inservice program**

**(Mean=1.61, Rank=3), Characteristics of Learning**

**Experience (mean=2.05, Rank=4), Management of Learning**

**Experience (Mean=2.33, Rank= 5), and Small Group Work**

(mean=2.36, Rank=6). The differences between means was (Rank 1 mean=1.47 and Rank 6 mean=2.36), while standard deviation varied from .277 to .465.

**Educators' Different Perceptions  
Concerning Andragogical Approaches  
in Inservice Programs in China**

**Research Question 4: What differences exist in the perceptions among the educators who participated in this study regarding andragogical approaches in inservice programs in China?**

A T-Test was used to compare if significant differences existed among the three groups' (Teachers vs. Instructors, Teachers vs. Planners, and Instructors vs. Planners).

Table 4.10 showed the means, standard deviations, the observed T-value and corresponding significance level for the six andragogical learning approaches between teachers and instructors. As shown in Table 4.10, there were statistically significant differences at the 0.05 level in the perceptions of the participants regarding the andragogical learning approaches: A Self-directed approaches: A Self-directed Learner ( $T=-2.89$ ,  $p<0.05$ ), Teacher Initiated Inservice Programs ( $T=-2.51$ ,  $p<0.05$ ), and Relationships ( $T=-2.89$ ,  $p<0.05$ ), Learner ( $T=-7.32$ ,  $p<0.05$ ), Characteristics of Learning

Table 4.10

**T-test Results Comparing Teachers' and Instructors' Perceptions of Andragogical Learning Approaches for Extent of Agreement**

| <b>Andragogical<br/>Approaches</b>            | <b><u>Teachers</u></b> |           | <b><u>Instructors</u></b> |           | <b><u>T-Val.</u></b> | <b><u>P-Val.</u></b> |
|---|------------------------|-----------|---------------------------|-----------|----------------------|----------------------|
|   | <b>Mean</b>            | <b>Sd</b> | <b>Mean</b>               | <b>Sd</b> |                      |                      |
| <b>A Self-directed Learner</b>                | 2.24                   | .666      | 1.32                      | .241      | -7.32                | .000*                |
| <b>Characteristics of Learning Experience</b> | 2.20                   | .619      | 1.90                      | .357      | -2.49                | .014*                |
| <b>Management of Learning Experience</b>      | 2.15                   | .623      | 1.92                      | .483      | -1.88                | .062                 |
| <b>Small Group Work</b>                       | 2.14                   | .497      | 2.01                      | .465      | -1.30                | .197                 |
| <b>Teacher Initiated Inservice Programs</b>   | 2.29                   | .840      | 1.37                      | .412      | -5.69                | .000*                |
| <b>Relationships</b>                          | 2.24                   | .716      | 1.38                      | .364      | -6.25                | .000*                |

\* Denote: significance at 0.05 level

**Experience (T=-2.49,  $p<0.05$ ), Teacher Initiated Inservice Programs (T=-5.69,  $p<0.05$ ) and Relationships (T=-6.25,  $p<0.05$ ).**

Table 4.11 showed the means, standard deviations, the observed T-value and corresponding significance level for the six andragogical learning approaches between teachers and planners.



Table 4.11

**T-test Results Comparing Teachers' and Planners' Perceptions of Andragogical Learning Approaches for Extent of Agreement**

| <b>Andragogical Approaches</b>                | <b>Teachers</b> |           | <b>Planners</b> |           | <b>T-Val.</b> | <b>P-Val.</b> |
|---|-----------------|-----------|-----------------|-----------|---------------|---------------|
|   | <b>Mean</b>     | <b>Sd</b> | <b>Mean</b>     | <b>Sd</b> |               |               |
| <b>A Self-directed Learner</b>                | 2.241           | .666      | 1.469           | .277      | -3.79         | .00*          |
| <b>Characteristics of Learning Experience</b> | 2.197           | .619      | 2.054           | .430      | -.75          | .457          |
| <b>Management of Learning Experience</b>      | 2.154           | .623      | 2.327           | .393      | .90           | .371          |
| <b>Small Group Work</b>                       | 2.143           | .497      | 2.363           | .466      | 1.40          | .164          |
| <b>Teacher Initiated Inservice Programs</b>   | 2.288           | .840      | 1.636           | .526      | -2.51         | .014*         |
| <b>Relationships</b>                          | 2.244           | .716      | 1.613           | .259      | -2.89         | .005*         |

\* Denote: significance at 0.05 level

As shown in Table 4.11, there were statistically significant differences at the 0.05 level in the perceptions of the participants regarding the andragogical learning

Table 4.12 shows the means, standard deviations, the observed T-value and corresponding significance level for the six andragogical learning approaches between

planners and instructors. As shown in Table 4.12, there were statistically significant differences at the 0.05 level in the perceptions of the participants regarding the andragogical learning approaches: Management of Learning Experiences ( $T=2.51$ ,  $p<0.05$ ), Small Group Work ( $T=2.15$ ,  $p<0.05$ ).

**Table 4.12**

**T-test Results Comparing Planners' and Instructors' Perceptions of Andragogical Learning Approaches for Extent of Agreement.**

| <b>Andragogical<br/>Approaches</b>                          | <b><u>Planners</u></b> |                  | <b><u>Instructors</u></b> |                  | <b><u>T-Val.</u></b> | <b><u>P-Val.</u></b> |
|---|------------------------|------------------|---------------------------|------------------|----------------------|----------------------|
|   | <b><u>Mean</u></b>     | <b><u>Sd</u></b> | <b><u>Mean</u></b>        | <b><u>Sd</u></b> |                      |                      |
| <b>Self-directed<br/>Learner</b>                            | 1.47                   | .277             | 1.32                      | .241             | 1.73                 | .092                 |
| <b>Character-<br/>istics of<br/>Learning<br/>Experience</b> | 2.05                   | .430             | 1.90                      | .357             | 1.18                 | .245                 |
| <b>Management<br/>of Learning<br/>Experience</b>            | 2.33                   | .393             | 1.92                      | .483             | 2.51                 | .016*                |
| <b>Small Group<br/>Work</b>                                 | 2.36                   | .466             | 2.01                      | .465             | 2.15                 | .032*                |
| <b>Teacher<br/>Initiated<br/>Inservice<br/>Programs</b>     | 1.64                   | .526             | 1.37                      | .412             | 1.71                 | .096                 |
| <b>Relation-<br/>ships</b>                                  | 1.61                   | .259             | 1.38                      | .364             | 1.95                 | .058                 |

\* Denote: significance at 0.05 level

**Relationship of Respondents' Perceptions  
Concerning Andragogical Approaches  
and Demographic Variables**

**Research Question 5: Do the perceptions of the andragogical learning approaches differ according to the study participants with regard to the demographic variables of gender, age, level of education, teaching and working experiences?**

**A one-way analysis of variance (ANOVA) was used to determine if significant differences existed in respondents' perceptions regarding andragogical learning approaches between male and female respondents. Table 4.13 shows the means, standard deviations, the observed F-value and the corresponding significance level for the six learning approaches.**

**As shown in Table 4.13, there were no statistically significant differences at the  $p=0.05$  level in the perceptions of female and male respondents regarding the andragogical learning approaches.**

**Research Question 5.2: What is the relationship of age on the participants' perceptions regarding andragogical learning approaches in the inservice education programs in China?**

Table 4.13

ANOVA Results for the Difference in the Perceptions of Andragogical Learning Approaches Between Male and Female Participants.

| Andragogical<br>Approaches             | Females |      | Males |      | T-Val. | P-Val. |
|--|---------|------|-------|------|--------|--------|
|  | Mean    | Sd   | Mean  | Sd   |        |        |
| A Self-directed Learner                | 2.01    | .661 | 1.96  | .739 | .154   | .695   |
| Characteristics of Learning Experience | 2.15    | .499 | 2.10  | .624 | .256   | .614   |
| Management of Learning Experience      | 2.15    | .597 | 2.09  | .584 | .260   | .611   |
| Small Group Work                       | 2.18    | .545 | 2.10  | .447 | .970   | .326   |
| Teacher Initiated Inservice Programs   | 2.06    | .767 | 2.02  | .898 | .072   | .788   |
| Relationships                          | 2.06    | .717 | 1.97  | .739 | .573   | .450   |

A one-way analysis of variance (ANOVA) was used to determine if significant differences existed in the respondents perceptions regarding andragogical learning approaches among the age groups 20-30, 31-40, 41-50, 51 years and older.

Table 4.14 showed the means, standard deviations, the observed F-value and its corresponding significance level for the six andragogical learning approaches.

Table 4.14 showed that there were statistically significant differences at the  $p=0.05$  level in the perceptions of the participants who were 20-30, 31-40, 41-50, and 51 years or older, regarding the andragogical learning approaches: A Self-directed Learner ( $F=6.250$ ,  $p<0.05$ ), Teacher Initiated ( $F=5.537$ ,  $p<0.05$ ), and Relationships ( $F=4.986$ ,  $p<0.05$ ). For all these three significantly different andragogical learning approaches the older participants (age 51 and over) felt more strongly (or positive) about this andragogical learning approach than younger participants (20-50 years).

**Research Question 5.3: Are there relationships between the amount of schooling the participants had differed on their perceptions regarding andragogical learning approaches in the inservice education programs in China?**

A one-way analysis of variance (ANOVA) was used to determine if significant differences existed in the respondents perceptions regarding andragogical learning approaches among the participants with different levels of education (associate's degree, bachelor's degree and master's degree). Among the 136 participants 36 or 26.5% had associate degrees, 90 or 66.2% had bachelor degrees and 10 or 7.4% had masters degrees.

Table 4.14

ANOVA Results for the Difference in the Perceptions of Andragogical Learning Approaches Between Age Groups.

| Andragogical Approaches                | 20-30 |     | 31-40 |     | 41-50 |     | 51+  |     | P-Value | P-Value |
|--|-------|-----|-------|-----|-------|-----|------|-----|---------|---------|
|  | Mean  | Sd  | Mean  | Sd  | Mean  | Sd  | Mean | Sd  |         |         |
| A Self-directed Learner                | 2.03  | .70 | 2.21  | .65 | 2.01  | .73 | 1.53 | .57 | 6.25    | .001*   |
| Characteristics of Learning Experience | 2.00  | .57 | 2.23  | .59 | 2.15  | .64 | 1.97 | .39 | 1.92    | .129    |
| Management of Learning Experience      | 1.56  | .53 | 2.19  | .58 | 2.18  | .58 | 2.17 | .61 | 2.356   | .075    |
| Small Group Work                       | 2.01  | .57 | 2.13  | .46 | 2.24  | .52 | 2.12 | .42 | 1.138   | .336    |
| Teacher Initiated Inservice Programs   | 2.04  | .77 | 2.28  | .93 | 2.14  | .77 | 1.53 | .62 | 5.537   | .001*   |
| Relationships                          | 1.99  | .63 | 2.20  | .74 | 2.38  | .82 | 1.60 | .48 | 4.986   | .003*   |

\* Denotes: significance at 0.05 level

Table 4.15 showed the means, standard deviations, observed F-value and corresponding significance level for each of the six andragogical learning approaches as perceived by each of the education level groups.

As shown in Table 4.15, statistically significant differences at the  $p=0.05$  level were observed for the andragogical learning approaches: A self-directed Learner ( $F=5.536$ ,  $p<0.05$ ) and Relationships ( $F=4.429$ ,  $p<0.05$ ). For the andragogical learning approaches, A Self-directed Learner, and Relationships the means of those holding associate degrees were significantly higher (or stronger agree) than those who were Bachelor and Master degree holders.

**Research Question 5.4:** What is the relationship of years of teaching and working experiences on the participants perceptions regarding andragogical learning approaches in the inservice education programs in China?

A one-way analysis of variance (ANOVA) was used to determine whether or not there existed significant differences in the respondents perceptions regarding andragogical learning approaches among participants with varying teaching or working experience (1-5 years, 6-10 years, 11-15 years, 16 years or more). Out of 136

Table 4.15

ANOVA Results for the Difference in the Perceptions of Andragogical Learning Approaches Among the Participants with Different Levels of Education.

| Andragogical Approaches                | Associate |      | Bachelors |      | Master |      | F-Value | P-Value |
|--|-----------|------|-----------|------|--------|------|---------|---------|
|  | Mean      | sd   | Mean      | sd   | Mean   | sd   |         |         |
| A self-directed Learner                | 2.20      | .738 | 1.96      | .685 | 1.40   | .274 | 5.536   | .005*   |
| Characteristics of Learning Experience | 2.07      | .436 | 2.18      | .623 | 1.80   | .377 | 2.199   | .115    |
| Management of Learning Experience      | 2.14      | .555 | 2.14      | .601 | 1.84   | .571 | 1.205   | .303    |
| Small Group Work                       | 2.14      | .402 | 2.13      | .535 | 2.10   | .411 | .025    | .976    |
| Teacher Initiated Inservice Programs   | 2.08      | .848 | 2.09      | .855 | 1.43   | .353 | 2.884   | .059    |
| Relationships                          | 2.11      | .639 | 2.04      | .758 | 1.38   | .429 | 4.429   | .014*   |

\* Denote: significance at 0.05 level



participants who responded to the question, 27 or 19.9% had been in the profession between 1 and 5 years, 49 or 36% had been in the profession between 6 and 10 years, 33 or 24.3% had been in the profession between 11 and 15 years, and 27 or 19.9% have been in the profession for 16 years or more. Table 4.16 showed the means, standard deviations, the observed F-value and corresponding significance level for the six andragogical learning approaches. As shown in Table 4.16, there were statistically significant differences at the 0.05 level in the perceptions of the participants regarding the andragogical learning approaches: A Self-directed Learner ( $F=3.986$ ,  $p<0.05$ ), Teacher Initiated Inservice Programs ( $F=5.213$ ,  $p<0.05$ ) and Relationships ( $F=4.871$ ,  $p<0.05$ ).

For these three statistically significant difference andragogical learning approaches, the mean of the participants who had 16 years of experience or more was significantly higher (stronger agree) than the means of the other three groups, which indicated that participants who had more years of experiences felt more strongly about these andragogical learning approaches than those participants who had fewer years of experiences.

Table 4.16

ANOVA Results for the Difference in the Perceptions of Andragogical Learning Approaches Among the Participants with Different Years of Experience.

| Andragogical Approaches                | 1-5  |      | 6-10 |      | 11-13 |      | 15+  |      | P-Value | P-Value |
|--|------|------|------|------|-------|------|------|------|---------|---------|
|  | Mean | Sd   | Mean | Sd   | Mean  | Sd   | Mean | Sd   |         |         |
| Self-directed Learner                  | 2.06 | .662 | 2.13 | .667 | 2.02  | .756 | 1.59 | .624 | 3.986   | .009*   |
| Characteristics of Learning Experience | 2.01 | .553 | 2.27 | .660 | 2.13  | .540 | 1.96 | .372 | 2.212   | .090    |
| Management of Learning Experience      | 1.87 | .517 | 2.23 | .605 | 2.19  | .575 | 2.07 | .589 | 2.602   | .055    |
| Small Group Work                       | 2.05 | .554 | 2.14 | .476 | 2.20  | .529 | 2.12 | .418 | .471    | .703    |
| Teacher Initiated Inservice Programs   | 2.07 | .729 | 2.27 | .956 | 2.09  | .809 | 1.52 | .500 | 5.213   | .002*   |
| Relationships                          | 2.03 | .621 | 2.21 | .777 | 2.05  | .759 | 1.57 | .518 | 4.871   | .003*   |

\* Denote: significance at 0.05 level

Summary

The results of the data analysis were presented in tabular and narrative form in this chapter. A summary of the study, major findings, conclusions, based on the study findings, and recommendations for further research are included in Chapter V.

## **CHAPTER V**

### **SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS**

**This chapter includes a summary of the procedures employed to collect the data, a summary of the research findings, and recommendations for further research.**

#### **Summary**

**This research investigated the perception of teachers, instructors and program planners regarding the extent to which selected andragogical learning approaches should be practiced in China's teacher education programs. Specifically, the study was designed to address the following research questions.**

**Research Question 1: To what extent do TV University teachers agree or disagree with andragogical learning approaches which should be practiced in inservice education programs in China?**

**Research Question 2: To what extent do program planners agree or disagree with andragogical**

learning approaches which should be practiced in inservice education programs in China?

Research Question 3: To what extent do program instructors agree or disagree with andragogical learning approaches which should be practiced in inservice education programs in China?

Research Question 4: What differences exist in the perceptions among the educators who participated regarding andragogical approaches in inservice programs in China?

Research Question 5: Do perceptions of the andragogical learning approaches differ according to the study participants with regard to the demographic variables of gender, age, level of education, teaching and working experiences?

#### Study Population and Sample

The target population for this study was comprised of planners, instructors and teachers in Guangxi TV University in Nanning Region which has a population of 5.2 million. The sample consisted of 96 teachers, 29 instructors and 11 planners.

### Methodology

The survey instrument used was a questionnaire designed for all three study groups (teachers, instructors and planners). The questionnaire consisted of 27 items related to the following six andragogical approaches:

1. Beliefs of a self-directed learner.
2. Characteristics of the learning experience.
3. Management of learning experiences.
4. Small group work.
5. Teacher initiated inservice education programs.
6. Relationship between educators (planners and instructors) and teachers (in real life they were teachers of TV Universities, in teachers' inservice education programs they were students).

In addition to the 27 statement items, several items designed to gather information about the respondents' demographic information were also included in the questionnaire. Simple descriptive statistics which included means, standard deviation, frequencies, percentages and ranks were utilized in addressing some of the research questions. A one-way analysis of variance (ANOVA) was used to determine if significant differences existed in the participants' perceptions regarding the andragogical learning approaches between

and among different levels of demographic variables. A T-Test was used to compare if significant differences existed among the three groups' (Planners vs. Instructors, Planners vs. Teachers and Instructors vs. Teachers) perceptions regarding the andragogical learning approaches. The statistical package for the social sciences (SPSS-X) was used in the computation and analysis of this research.

#### Characteristics of Respondents

A total of 136 respondents participated in this study. Of the total 136 participants 60 (or 44.1%) were female and 76 (or 55.9%) were male. There were 11 (or 8.1%) program planners, 8 (or 72.7%) of them were female and 3 (or 27.3) of them were male. With 29 (or 21.3%) instructors who participated in this study, 8 (or 27.6%) of them were female and 21 (or 72.6%) of them were male. With the 96 (or 70.6%) teachers who participated in this study, 44 (or 45.8%) of them were female and 52 (or 54.2%) were male. The majority of teachers 68 (or 70.8%) were younger than 40 years. While the majority of the instructors 25 (or 86.2%) were 40 years or older. Interesting enough, that no one in the planners group was under 40 years of age.

The level of experience of teachers ranged from 1 to over 16 years. Of the total 96 teachers, 24 (or 25.0%)

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had been in the profession for one to five years, 44 (or 45.8%) six to ten years, 24 (or 25.0%) eleven to fifteen years and 4 (or 4.2%) more than sixteen years. The instructors' experience ranged from one to more than sixteen years. Of the total 29 instructors, 3 (or 10.3%) one to five years, 1 (or 3.4%) six to ten years, 6 (or 20.7%) eleven to fifteen years, and 19 (or 65.5%) more than sixteen years. The planners' experience ranged from six to sixteen years. Of the total 11 planners, 4 (or 36.4%) six to teen years, 3 (or 27.3%) eleven to fifteen years, and 4 (or 36.4%) more than sixteen years.

In terms of the highest educational level attained by the participants, there were two levels for teachers and instructors, and three levels for the planners. Of the 96 teachers, 30 (or 31.3%) had the associate degree, while 66 (or 68.8%) had the bachelor's degree. Of the 29 instructors 20 (or 69.0%) had the bachelor's degree, 9 (or 31.0%) had a master's degree. On the other hand, of the 11 planners, 6 (or 54.5%) had the associate degree, 4 (or 36.4%) had the bachelor's degree, and 1 (or 9.1%) had a master's degree.

#### Summary of Findings

Major findings in relation to the research questions are discussed in this section.

**Research Question 1:** To what extent do TV University teachers agree or disagree with andragogical learning approaches which should be practiced to inservice education programs in China?

### **Major Findings**

Based on the aggregate means, the teachers agreed that all six andragogical approaches should be practiced. There were slight variations in the teachers' perceptions regarding the extent to which all these six andragogical approaches should be practiced. For example A Self-directed Learner mean = 2.241, Characteristics of Learning Experiences mean = 2.197, Management of Learning Experiences mean = 2.154, Small Group Work mean = 2.143, Teacher initiated Inservice Education Programs mean = 2.288, Relationships mean = 2.244 , all scored in the agree range, as described in Chapter IV.

### **Summary**

There was agreement for all the teachers in their perceptions regarding the extent to which andragogical learning approaches should be practiced. The data showed that the teachers agreed the andragogical learning approaches should be used in the inservice education programs in China.

**Research Question 2:** To what extent do program instructors agree or disagree with andragogical learning approaches in the inservice education programs in China?

### **Major Findings**

Unlike the teachers, the program instructors strongly agreed with the following three andragogical learning approaches; A Self-directed Learner, Teacher Initiated Inservice Education Programs, and Relationships. The rest of three andragogical learning approaches which the instructors agreed with the teachers were Characteristics of Learning Experiences, Management of Learning Experiences, and Small Group Works. It is important to note that on Small Group Work all three groups agreed on the andragogical learning approaches in the inservice education programs in China.

### **Summary**

Instructors did not disagree or strongly disagree on using any of the andragogical learning approaches in the inservice teacher education programs. It was clear that the instructors strongly agreed with three the andragogical learning approaches, the rest of the three with which they agreed with other two groups.

**Research Question 3:** To what extent do program planners agree or disagree with andragogical approaches in the inservice education programs in China?

### **Major Findings**

According to the perceptions of the planners as demonstrated by the aggregate means and standard deviations, the planners feel that all the six andragogical learning approaches should be practiced in teachers' inservice education programs. However, they only strongly agreed with one of the andragogical learning approaches; A Self-directed. The other five, Characteristics of Learning Experience, Management of Learning Experience, Small Group Work, Teacher Initiated Inservice Programs, and Relationships were only agreed with.

### **Summary**

The planners agreed that andragogical learning approaches should be practiced in teachers' inservice education programs. They strongly agree with one of the six andragogical learning approaches and agree with the other five.

**Research Question 4:** What differences exist in the perceptions among the educators who participated in this study regarding andragogical approaches in inservice education programs in China?

### **Major Findings**

Based on the T-Test means, standard deviations, the observed T-value, and corresponding significance level for the six andragogical learning approaches between teachers vs. instructors, there were statistically significant differences at the 0.05 level on the following 4 learning approaches: Self-directed Learner, Characteristics of Learning Experiences, Teacher Initiate Inservice Programs and Relationships.

There were some similarities between teachers vs. instructors and teachers vs. planners. As for the teachers vs. planners there were three learning approaches which produced statistically significant differences. They were Self-directed Learner, Teacher Initiate Inservice Programs, and Relationships. There was only one approach Characteristics of Learning Experiences where teachers vs. instructors showed statistically significant differences, but the teachers vs. planners did not show statistically significant differences.

Unlike the above, planners vs. instructors were different. The two andragogical learning approaches which showed statistically significant differences were Management of Learning Experiences and Small Group Work. All the six andragogical learning approaches were statistically significant different in one way or another with certain groups.

### Summary

The means showed that instructors agree more with the use of andragogical learning approaches than did the teachers in all six approaches. Planners agree more with the use of andragogical learning approaches than did the teachers in four out of the six approaches. The two approaches on which the teachers agreed more than the planners were Management of Learning Experience and Small Group Work. The instructors agreed more with the use of andragogical learning approaches than did the planners in all six approaches. In these t-test comparisons, instructor group was the most strongly agreed with using andragogical learning approaches. The planner group was the second, and the teacher group was the third.

Research Question 5: Do perceptions of the andragogical learning approaches differ according to

the study participants with regard to the demographic variables of gender, age, level of education, teaching and working experiences?

### Major Findings

Differences in teachers' perceptions regarding the extent to which andragogical learning approaches should be practiced in the teacher inservice education programs were observed between male and female participants, although there were not any statistical significant differences shown in the table. However, it is clear that the mean rating among male participants was higher than female participants. The data indicated that male participants prefer these andragogical learning approaches more than female participants.

Statistically significant differences in participants' perceptions regarding the extent to which andragogical learning approaches were preferred in the teachers' inservice education programs were observed between age groups (20-30, 31-40, 41-50, and 51 or over) among the participants. The mean ratings for the participants at the age group of 20-30 was significantly higher than the groups of 31-40 and 41-50. The highest mean rating group was at the age of 51 or over for the andragogical learning approaches, such as A Self-directed Learner, Teacher Initiate Inservice

Programs, and Relationships. Therefore, the data suggested that participants at the age groups of 51 or older and 20-30 preferred these andragogical learning approaches more than did the participants at age of 31-50. Due to an insufficient sample size in the age of 20-40 years category among planners, it is not possible to determine if statistically significant differences existed on representing the planners perceptions.

The level of education seemed to play an important role in the perceptions of participants regarding the preference of the andragogical learning approaches, A Self-directed Learner and Relationship demonstrated statistically significant difference in participants' perceptions regarding the agreement of these andragogical approaches which were observed between associate, bachelor, and master degree holders. For the two statistically significant different approaches, the mean ratings among master degree holder participants were significantly higher than the others. Again, due to an insufficient sample in the associate degree level for the instructors and master degree for the teachers, it was not possible to determine statistically significant differences.

Statistically significant differences in participants' perceptions regarding the extent to which andragogical approaches were preferred in the inservice



teacher education programs were observed between the groups with different years of teaching or working experience (1-5, 6-10, 11-15, and 16 or over). There were statistically significant differences with regard to the different years of experience and the participants' perceptions about the agreement of whether andragogical learning approaches should be practiced in the teachers' inservice education programs; A Self-directed Learner, Teacher Initiate Inservice Programs and Relationships. The mean ratings among participants with 16 years or over of teaching experiences were significantly higher than the other groups. It showed that participants who had more years of experience felt more strongly about these andragogical learning approaches than those who had less experience.

### Summary

Though the overall mean ratings for the teachers', instructors', and planners' perceptions regarding the preference of the six andragogical learning approaches were generally higher, suggesting a strong agreement for these approaches, the study also showed variations in perceptions according to the respondents' demographic characteristics. Male participants agreed with the six andragogical approaches more than female participants.

Participants within the age categories at 20-30 and 51 years and over agreed with A Self-directed learner, Teacher Initiate Inservice Programs and Relationships more than those at the ages of 31-50.

#### Overall Summary

Though the purpose of this study was not to examine if there existed differences between the perceptions of the agreement on using andragogical learning approaches in the teachers' inservice education programs in China, the significance of these differences was obvious. The T-test results for the differences between the three groups are shown in table 4.10, 4.11, and 4.12. From these results, it is evident that most of the respondents perceived agreement on the use of the andragogical learning approaches in teachers' inservice education programs. According to the findings there was strong agreement or agreement that andragogical learning approaches should be practiced in the teachers' inservice programs.

#### Conclusions and Findings

Based on the findings of this study the researcher made the following conclusions.

1. The questionnaire for this study demonstrated its effectiveness for the purpose intended: to

- investigate teachers' needs for andragogical learning approaches in teachers' inservice education programs.
2. All the participant groups agreed on the importance of practicing the andragogical learning approaches in the teachers' inservice education programs. Therefore, there is a need to use andragogical learning approaches in teachers' inservice education programs in China.
  3. Male participants agreed more strongly with andragogical learning approaches than female participants.
  4. Both older and younger groups agreed more strongly with andragogical learning approaches than those participants in the age group of 30-49.
  5. Participants with less schooling agreed more strongly with andragogical learning approaches than those participants who had more schooling.
  6. Planning for inservice teacher education programs might take into consideration the teachers' needs as adult learners. Teachers might be given an opportunity to participate and be involved in the organization and execution of inservice teacher education programs.

7. Teacher inservice education might provide more individualized approaches for teachers to choose.
8. Based on the findings of this study, because of the insufficiency of the sample size in certain categories, (age, level of education, and years of education experience). Educators are encouraged to be cautious in interpreting these results taking into consideration to plan their teacher inservice education programs.

#### Recommendations

Based on the findings of this study, the researcher made the following recommendations.

1. Since most of the participants agreed to the use of andragogical learning approaches in China, educators should make their voices heard on applying andragogical learning approaches in teachers' inservice education programs or other similar programs for adult trainees.
2. The Ministry of Education might make immediate efforts to popularize and practice andragogical learning approaches in the teachers' inservice education programs.
3. If a goal of education was to help learners become self-directed, it seemed that inservice

programs might help teachers become more self-directed learners if self-directed learning processes were incorporated into inservice programs.

4. Inservice programs might be improved by providing opportunities for teachers to increase their knowledge of self.
5. The avoidance of " duck feeding " or mass education lecture-type presentations by the instructors might help teachers to gain more from their inservice experiences.
6. Teachers' attitudes toward inservice education might be improved if they were treated as professionals and adults in the teachers' inservice education programs.
7. Teacher-initiated inservice programs might be encouraged. Inservice planners might want to consider helping teachers overcome organizational and personal barriers which constrain their self-initiated efforts.
8. In addition to inviting professors from formal universities, TV University might foster their own teachers' inservice education programs' instructors with a knowledge of andragogy principle and its strategies to work with adults.

### Recommendations for Further Research

Based on the findings of this study, further research is recommended in the following areas.

1. This study was conducted within the boundaries of the TV University of Nanning Region in the People's Republic of China. Therefore, the need remains for a replication of this study on a nationwide basis.
2. Further studies should also seek the perceptions of such educational high ranking staffs as universities' presidents, and people working in the Ministry of Education, with regard to their perceptions of needs of teachers as adult learners ,and practices of the inservice education programs in the country, and the role they can play in such a process.
3. Further studies are needed to determine why there are more female planners than male planners, and why most of the plans of the planners are at the age of 51 years or older and most of the planners only had associate degrees in this study.
4. Further studies are needed to find out why participants who had less schooling agreed more to use andragogical learning approaches in

teachers' inservice education programs than did those who had more schooling.

5. Further studies are needed to find out why participants who had more years of experience agreed more strongly with applying andragogical learning approaches in teachers' inservice education programs than those who had less experiences.
6. Further studies should utilize such other procedures as in-depth interviews, and not rely solely on the procedure of questionnaire administration as the only source of information for data collection.
7. Such other research procedures as using vignettes to present alternative instructional procedures, some of which use andragogical procedures, might allow respondents to make different choices.
8. Successful inservice education practices in those countries which run similar TV or Open universities such as the United Kingdom of Great Britain and Thailand, should be investigated.

## **APPENDICES**



**APPENDIX A**

**QUESTIONNAIRE**

**Questionnaire Cover Letter  
(English Version)**

**March 20, 1992**

**Dear:**

**As a doctoral candidate at Michigan State University, I am writing a dissertation on the perception of teachers as adult learners about in-service education programs in Guangxi TV University of the People's Republic of China.**

**Please take a few minutes and complete the brief information sheet or survey questionnaire which is enclosed.**

**Please be advised of the following:**

- o Your participation in this research project is voluntary.**
- o This study is strictly confidential.**
- o No one will be identified in any way.**
- o I will be the only person to view and use the data.**
- o Upon completion of this study, the list of respondents will be destroyed.**
- o You can withdraw from participation anytime without penalty.**

**After you complete the information sheet or survey questionnaire, please place them in the enclosed stamped envelope and drop it in the mail as soon as possible.**

**If you have any questions regarding this matter, please contact me at the address or telephone number listed below.**

**Thank you!**

**Sincerely,**

**Meng, Xiaozhen  
814 C Cherry Lane  
East Lansing, MI 48823  
U.S.A.  
Phone: (517) 355-8178**

**QUESTIONNAIRE****I. DEMOGRAPHIC AND PERSONAL DATA**

**Please answer all questions by using an X in the appropriate place.**

**1. Gender:****a. Male \_\_\_\_\_****b. Female \_\_\_\_\_****2. Age: \_\_\_\_\_****a. 20-30 \_\_\_\_\_****b. 31-40 \_\_\_\_\_****c. 41-50 \_\_\_\_\_****d. 51 and older. \_\_\_\_\_****3. Years of experience****a. How many years of teaching experience do you have? (teachers only)****1) 1-5 years \_\_\_\_\_****2) 6-10 years \_\_\_\_\_****3) 11-15 years \_\_\_\_\_****4) above 16 years \_\_\_\_\_****b) How many years of experience do you have in training teachers? (trainers only)****1) 1-5 years \_\_\_\_\_****2) 6-10 years \_\_\_\_\_**

- 3) 11-15 years \_\_\_\_
- 4) above 16 years \_\_\_\_
- c) How many years of experience do you have in planning inservice education program?  
(planners only)
  - 1) 1-5 years \_\_\_\_
  - 2) 6-10 years \_\_\_\_
  - 3) 11-15 years \_\_\_\_
  - 4) above 16 years \_\_\_\_
- 4. What is your highest level of educational achievement?
  - a. First level
    - 1) High school \_\_\_\_.
    - 2) Teachers' school \_\_\_\_.
  - b. Second level
    - 1) Associate degree (two years' college) \_\_\_\_.
    - 2) Associate degree (three years' college) \_\_\_\_.
  - c. Bachelor's degree \_\_\_\_.
  - d) Master's degree \_\_\_\_.
  - e) Other (please specify) \_\_\_\_.

## II. INSTRUCTIONS

Please read each statement and examine it carefully, then look at the five choices.

1. If you strongly agree with the statement, put an X below the phrase strongly agree = SA
2. If you agree with the statement, put an X below the word agree = A
3. If you do not know whether or not you agree with the statement, put an X below the phrase not sure = A/D
4. If you do not agree with the statement, put an X below the word disagree = D
5. If you are strongly disagree with the statement, put an X mark below the phrase strongly disagree = SD

### Inservice Education Program

### Extent of Agreement

|    |   |     |   |    |
|----|---|-----|---|----|
| SA | A | A/D | D | SD |
| 1  | 2 | 3   | 4 | 5  |

1. Effective inservice learning occurs most often when teachers actively participate in deciding what it is to be learned and how.
2. I believe teachers should group themselves according to their interests and needs at inservice program.
3. Organization of the content and sequence of inservice learning activities should grow out of teachers' needs with their participation.
4. Assignments by a trainer tend to restrict teachers' significant learnings.

**Inservice Education Program****Extent of Agreement**

| SA | A | A/D | D | SD |
|----|---|-----|---|----|
| 1  | 2 | 3   | 4 | 5  |

5. To use teachers' experiences and resources for learning requires group activities rather than such methods as lecture.
6. A trainer's primary responsibility is helping teachers choose and develop their own directions for learning.
7. A trainer should provide opportunities for warm relationships with teachers and among teachers.
8. I am capable of directing my own professional development.
9. It is better for teachers to create their own learning activities and materials than for the trainer to provide them.
10. Planning units of work should be done by teachers and trainer together.
11. Competition among students encourages keen learning.
12. Inservice education programs should tell how really help teachers learn.
13. Small groups should be created to solve problems at inservice education programs.
14. The goals teachers set for themselves are the basis of effective learning, not the trainer goals.

**Inservice Education Program****Extent of Agreement**

|           |          |            |          |           |
|-----------|----------|------------|----------|-----------|
| <b>SA</b> | <b>A</b> | <b>A/D</b> | <b>D</b> | <b>SD</b> |
| <b>1</b>  | <b>2</b> | <b>3</b>   | <b>4</b> | <b>5</b>  |

15. I should be permitted to direct my own learning experiences.
16. Without a cooperative climate encouraging teachers to risk and experiment, significant learning is unlikely.
17. I prefer working with small groups of teachers to listening to lectures.
18. A trainer should discuss his/her blunders and learnings with teachers.
19. Inservice programs should provide options for teachers who don't want to follow the planned program.
20. Each teacher should be responsible for his/her professional development.
21. Teachers should be allowed to set their own goals at inservice programs.
22. Teachers should be permitted to design their own inservice programs.
23. Emphasizing efficiency in inservice education often blocks development of an effective learning climate.
24. Teachers are quite competent to choose and carry out their own projects for learning.
25. Teachers should be treated as adults in in-service education programs.

**Inservice Education Program****Extent of Agreement**

| SA | A | A/D | D | SD |
|----|---|-----|---|----|
| 1  | 2 | 3   | 4 | 5  |

26. The primary concern of a trainer should be the immediate needs of teachers.
27. Teachers should be treated as professionals at in-service education programs.



## 调查问卷说明

作为一名美国密执安州立大学的准博士生，我正准备撰写一篇关于中国电大学员、教员及管理者在师资培训中使用成人教学法的感受的论文。请您在百忙中不吝赐时，对本调查问卷上的问题给予回答。

在您提笔回答前，以下诸点务请明确：

- 您接受此问卷的调查纯属自愿。
- 您的所有回答绝对保密。
- 任何回答此问卷人员之姓名均不会外泄。
- 本人是唯一阅读问卷结果的人。
- 论文一旦完成，此问卷的所有资料均被销毁。
- 您可以随时放弃接受调查。

您填完问卷后，请将之放进随信附上的贴邮回程信封上，尽早寄出。

如果您还有什么有关此问卷的其他问题，请按以下地址或电话号码与本人联系。谢谢！

Meng, Xiaozhen  
814 C Cherry Lane  
East Lansing, MI 48823  
U.S.A.  
Phone: (517) 355-8178

蒙小珍  
1992年3月20日

## 调查问卷

### 第一部分

请回答以下问题，在答复上打√。

- 一、性别：男\_\_\_\_\_ 二、年龄：1. 20—30岁\_\_\_\_\_ 2. 31—40岁\_\_\_\_\_
- 女\_\_\_\_\_ 3. 41—50岁\_\_\_\_\_ 4. 51岁以上\_\_\_\_\_
- 三、（一）你有多少年教龄？ （二）你有多少年培训师资的教龄？
- （仅限于被培训的教师回答） （仅限于培训师资的教师回答）
1. 1—5年\_\_\_\_\_ 2. 6—10年\_\_\_\_\_ 1. 1—5年\_\_\_\_\_ 2. 5—10年\_\_\_\_\_
3. 11—15年\_\_\_\_\_ 4. 16年以上\_\_\_\_\_ 3. 10—15年\_\_\_\_\_ 4. 16年以上\_\_\_\_\_
- （三）你有多少年规划或安排师资培训工作的经历？ （四）你所受过的最高程度的教育
- （仅限于培训师资的管理人员回答） （只需在最高学历上打√）。 1. 高中\_\_\_\_\_ 中专\_\_\_\_\_
1. 1—5年\_\_\_\_\_ 师范学校\_\_\_\_\_
2. 6—10年\_\_\_\_\_ 2. 大专(2年)\_\_\_\_\_ 大专(3年)\_\_\_\_\_
3. 11—15年\_\_\_\_\_ 3. 学士学位\_\_\_\_\_ 4. 硕士学位\_\_\_\_\_
4. 16年以上\_\_\_\_\_ 5. 其它学位(请具体说明)\_\_\_\_\_

### 第二部分

说明：请仔细阅读下面的每一个问题，然后根据不同程度回答：

1. 完全同意的，在SA上打√； 2. 同意的，在A上打√；
3. 不完全同意的，在A/D上打√； 4. 不同意的，在D上打√；
5. 完全不同意的，在SD上打√；

其等级如：完全同意，同意，不完全同意，不同意，完全不同意。

5. 4. 3. 2. 1.

（注：以下各题中之“学员”均系指“被培训教师”）。

1. 在学员能积极参与决定他们学什么和如何学的情况下，师资培训的效果往往会更好。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

2. 我认为在师资培训中，学员应该可以根据自己的兴趣和需要自组学习小组。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

3. 师资培训活动的内容和顺序的组织，应该产生自学员参与的需要。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

4. 教师布置的作业会限制学员的有效学习。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

5. 为使学员能够将自己原有的经验和学识运用在学习上，应采取小组学习活动的形式而不是课堂讲授的形式。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

6. 教师的首要责任是帮助学员选择和发展他们的学习方向。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

7. 教师应该提供这样的机会，让学员与教师、学员与学员之间建立起良好的人际关系。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

8. 我有能力自我指导自己的专业发展。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

9. 从学员中自发地产生出来的学习活动和材料比教师提供给他们的好。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

10. 教学计划的制订应由教师 and 学员共同完成。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

11. 学员之间的学习竞赛, 能够对学习起激励作用。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

12. 师资的培训在于如何真正帮助学员的学习。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

13. 在师资培训中, 学习小组应是为着解决问题而成立。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

14. 学员自己所设的目标, 而不是教师所设的目标, 才是有效的基础。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

15. 我应被允许自己掌握自己的学习。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

16. 没有一个良好合作的环境和气氛去鼓励学员不怕失败, 大胆实践, 有效的学习是不可能的。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

17. 与在课堂里听教师讲课比较, 我更喜欢在学习小组里与其他同学一起学习。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

18. 教师应与学员一起讨论教师教学上的优缺点。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

19. 师资培训应给那些不赞成业已制定出来的培训计划的学员提供选择的余地。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

20. 每个学员都应该对自己的专业发展负责。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

21. 在师资培训中, 学员应允许有自己的学习目标。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

22. 学员应被允许有他们自己的培训设想。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

23. 在师资培训中, 过分强调效率会妨碍有效的学习气氛的形成。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

24. 学员有能力选择和实施他们自己培训方案。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

25. 在师资培训中, 学员应被当作成年人来看待。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

26. 在师资培训中, 学员应被当作专业人员来看待。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

27. 教师最优先考虑的应是学员最迫切的需要。

SA\_\_\_\_\_ A\_\_\_\_\_ A/D\_\_\_\_\_ D\_\_\_\_\_ SD\_\_\_\_\_

## **APPENDIX B**

### **PERMISSION FROM UCRIHS TO CONDUCT STUDY**

MICHIGAN STATE UNIVERSITY

---

OFFICE OF VICE PRESIDENT FOR RESEARCH  
AND DEAN OF THE GRADUATE SCHOOL

EAST LANSING • MICHIGAN • 48824-1046

March 19, 1992

Xiaozhen Meng  
814 C Cherry Lane  
East Lansing, MI 48823

RE: THE PERCEPTION OF TEACHERS AS ADULT LEARNERS IN IN-SERVICE EDUCATION  
PROGRAMS IN GUANGXI TV UNIVERSITY OF THE PEOPLE'S REPUBLIC OF CHINA, IRB  
#92-104

Dear Ms. Meng:

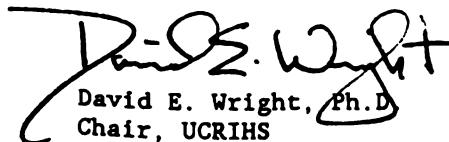
The above project is exempt from full UCRHS review. One of the Committee's members has reviewed the proposed research protocol and finds that the rights and welfare of human subjects appear to be protected. You have approval to conduct the research.

You are reminded that UCRHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRHS approval one month prior to March 12, 1993.

Any changes in procedures involving human subjects must be reviewed by the UCRHS prior to initiation of the change. UCRHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to our attention. If we can be of any future help, please do not hesitate to let us know.

Sincerely,

  
David E. Wright, Ph.D.  
Chair, UCRHS

DEW/pjm

cc: Dr. Howard Hickey

**APPENDIX C**

**PILOT STUDY COVER LETTER**

Meng, Xiaozhen  
814 #C Cherry Lane  
E. Lansing, MI 48823  
Phone: (517) 355-8178  
Dec. 3, 1991

Dear Colleague:

I need your assistance to help develop a survey instrument to gather information on the perception of teachers as adult learners in in-service education programs in Guangxi TV University of the People's Republic of China. Please read the attached cover letter for an explanation of the purposes of the study. Your help is needed to determine the reliability of the instrument. I hope you can help me to complete the survey instrument and return it to me in the self-addressed and stamped envelope.

Thank you for your help.

Sincerely,

Meng, Xiaozhen

**APPENDIX D**

**OBSERVED FREQUENCY DISTRIBUTION TABLE**



**Table D.1**

**Observed Frequency Distribution Regarding the Needs on Teachers' Inservice Education Programs for the 27 Items by All the Participants (Extent of Agreement)**

| <u>Degree of Agreement</u> |               | <u>1</u>  | <u>2</u> | <u>3</u>   | <u>4</u> | <u>5</u>  |
|----------------------------|---------------|-----------|----------|------------|----------|-----------|
| <u>Item</u>                | <u>Number</u> | <u>SA</u> | <u>A</u> | <u>A/D</u> | <u>D</u> | <u>SD</u> |
| 1                          | N             | 83        | 41       | 11         | 1        | --        |
|                            | %             | 61.0      | 30.1     | 8.1        | .7       | --        |
| 2                          | N             | 73        | 49       | 13         | 1        | --        |
|                            | %             | 53.7      | 36.0     | 9.6        | .7       | --        |
| 3                          | N             | 79        | 32       | 14         | 8        | 3         |
|                            | %             | 58.1      | 23.5     | 10.3       | 5.9      | 2.2       |
| 4                          | N             | 30        | 39       | 35         | 17       | 15        |
|                            | %             | 22.1      | 28.7     | 25.7       | 12.5     | 11.0      |
| 5                          | N             | 26        | 60       | 37         | 9        | 4         |
|                            | %             | 19.1      | 44.1     | 27.2       | 6.6      | 2.9       |
| 6                          | N             | 26        | 69       | 34         | 1        | 6         |
|                            | %             | 19.1      | 50.7     | 25.0       | .7       | 4.4       |
| 7                          | N             | 63        | 36       | 31         | 1        | 5         |
|                            | %             | 46.3      | 26.5     | 22.8       | .7       | 3.7       |
| 8                          | N             | 39        | 55       | 34         | 7        | 1         |
|                            | %             | 28.7      | 40.4     | 25.0       | 5.1      | .7        |
| 9                          | N             | 25        | 57       | 39         | 6        | 9         |
|                            | %             | 18.4      | 41.9     | 28.7       | 4.4      | 6.6       |
| 10                         | N             | 52        | 48       | 22         | 8        | 6         |
|                            | %             | 38.2      | 35.3     | 16.2       | 5.9      | 4.4       |
| 11                         | N             | 52        | 49       | 17         | 13       | 5         |
|                            | %             | 38.2      | 36.0     | 12.5       | 9.6      | 3.7       |
| 12                         | N             | 36        | 64       | 26         | 7        | 3         |
|                            | %             | 26.5      | 47.1     | 19.1       | 5.1      | 2.2       |
| 13                         | N             | 36        | 57       | 29         | 10       | 4         |
|                            | %             | 26.5      | 41.9     | 21.3       | 7.4      | 2.9       |
| 14                         | N             | 26        | 52       | 33         | 12       | 13        |
|                            | %             | 19.1      | 38.2     | 24.3       | 8.8      | 9.6       |

| <u>Degree of Agreement</u> |               | <u>1</u>  | <u>2</u> | <u>3</u>   | <u>4</u> | <u>5</u>  |
|----------------------------|---------------|-----------|----------|------------|----------|-----------|
| <u>Item</u>                | <u>Number</u> | <u>SA</u> | <u>A</u> | <u>A/D</u> | <u>D</u> | <u>SD</u> |
| 15                         | N             | 46        | 52       | 24         | 8        | 6         |
|                            | %             | 33.8      | 38.2     | 17.6       | 5.9      | 4.4       |
| 16                         | N             | 57        | 40       | 27         | 4        | 8         |
|                            | %             | 41.9      | 29.4     | 19.9       | 2.9      | 5.9       |
| 17                         | N             | 29        | 39       | 49         | 13       | 6         |
|                            | %             | 21.3      | 28.7     | 36.0       | 9.6      | 4.4       |
| 18                         | N             | 46        | 60       | 16         | 11       | 3         |
|                            | %             | 33.8      | 44.1     | 11.8       | 8.1      | 2.2       |
| 19                         | N             | 50        | 43       | 23         | 17       | 3         |
|                            | %             | 36.8      | 31.6     | 16.9       | 12.5     | 2.2       |
| 20                         | N             | 49        | 48       | 28         | 8        | 3         |
|                            | %             | 36.0      | 35.3     | 20.6       | 5.9      | 2.2       |
| 21                         | N             | 52        | 44       | 25         | 10       | 5         |
|                            | %             | 38.2      | 32.4     | 18.4       | 7.4      | 3.7       |
| 22                         | N             | 52        | 48       | 17         | 12       | 7         |
|                            | %             | 38.2      | 35.3     | 12.5       | 8.8      | 5.1       |
| 23                         | N             | 40        | 48       | 34         | 11       | 3         |
|                            | %             | 29.4      | 35.3     | 25.0       | 8.1      | 2.2       |
| 24                         | N             | 51        | 55       | 15         | 11       | 4         |
|                            | %             | 37.5      | 40.4     | 11.0       | 8.1      | 2.9       |
| 25                         | N             | 70        | 36       | 11         | 15       | 4         |
|                            | %             | 51.5      | 26.5     | 8.1        | 11.0     | 2.9       |
| 26                         | N             | 59        | 39       | 17         | 14       | 7         |
|                            | %             | 43.4      | 28.7     | 12.5       | 10.3     | 5.1       |
| 27                         | N             | 80        | 30       | 18         | 4        | 4         |
|                            | %             | 58.8      | 22.1     | 13.2       | 2.9      | 2.9       |

**Key:**

SA = STRONGLY AGREE  
 A = AGREE  
 A/D = AGREE/DISAGREE  
 D = DISAGREE  
 SD = STRONGLY DISAGREE

**APPENDIX E**

**SUPPLEMENTARY TABLE**

**Table E.1**

**Rank Order for All Items by Teachers, Instructors, and Planners**

| <u>Teachers</u> |             |             | <u>Instructors</u> |             |             | <u>Planners</u> |             |             |
|-----------------|-------------|-------------|--------------------|-------------|-------------|-----------------|-------------|-------------|
| <u>Item</u>     |             |             | <u>Item</u>        |             |             | <u>Item</u>     |             |             |
| <u>No.</u>      | <u>Mean</u> | <u>S.D.</u> | <u>No.</u>         | <u>Mean</u> | <u>S.D.</u> | <u>No.</u>      | <u>Mean</u> | <u>S.D.</u> |
| 1               | 1.49        | .73         | 27                 | 1.07        | .26         | 7               | 1.18        | .40         |
| 2               | 1.57        | .74         | 25                 | 1.14        | .35         | 25              | 1.18        | .40         |
| 3               | 1.65        | 1.07        | 16                 | 1.21        | .41         | 18              | 1.27        | .47         |
| 27              | 1.92        | 1.09        | 26                 | 1.21        | .41         | 16              | 1.36        | .50         |
| 5               | 2.06        | .92         | 7                  | 1.24        | .51         | 26              | 1.36        | .67         |
| 7               | 2.17        | 1.06        | 22                 | 1.24        | .51         | 27              | 1.36        | .67         |
| 10              | 2.17        | 1.14        | 20                 | 1.28        | .45         | 15              | 1.45        | .69         |
| 25              | 2.18        | 1.21        | 11                 | 1.34        | .48         | 20              | 1.45        | .69         |
| 24              | 2.19        | 1.14        | 18                 | 1.34        | .48         | 19              | 1.55        | .52         |
| 12              | 2.22        | .99         | 1                  | 1.38        | .56         | 22              | 1.55        | .69         |
| 6               | 2.25        | .99         | 21                 | 1.38        | .68         | 24              | 1.55        | .52         |
| 23              | 2.27        | 1.06        | 2                  | 1.41        | .50         | 11              | 1.64        | .67         |
| 8               | 2.28        | .91         | 15                 | 1.41        | .50         | 1               | 1.73        | .47         |
| 18              | 2.29        | 1.13        | 19                 | 1.45        | .51         | 10              | 1.73        | .79         |
| 21              | 2.29        | 1.13        | 24                 | 1.48        | .51         | 8               | 1.82        | .60         |
| 4               | 2.30        | 1.23        | 8                  | 1.55        | .69         | 21              | 1.82        | .87         |
| 11              | 2.30        | 1.18        | 12                 | 1.59        | .63         | 2               | 2.00        | .63         |
| 13              | 2.32        | 1.03        | 10                 | 1.69        | .93         | 13              | 2.09        | .70         |
| 20              | 2.32        | 1.01        | 3                  | 1.72        | .92         | 3               | 2.18        | .75         |
| 16              | 2.33        | 1.18        | 13                 | 1.76        | .91         | 6               | 2.18        | .40         |
| 15              | 2.36        | 1.12        | 23                 | 1.79        | .90         | 12              | 2.36        | .50         |
| 19              | 2.39        | 1.18        | 17                 | 2.03        | 1.12        | 17              | 2.36        | .67         |
| 22              | 2.39        | 1.19        | 6                  | 2.07        | .75         | 14              | 2.45        | .82         |
| 26              | 2.39        | 1.25        | 9                  | 2.31        | .93         | 23              | 2.45        | .69         |
| 9               | 2.40        | 1.08        | 14                 | 2.52        | 1.02        | 9               | 2.55        | 1.13        |
| 14              | 2.52        | 1.26        | 5                  | 2.83        | .76         | 5               | 3.00        | .89         |
| 17              | 2.61        | 1.06        | 4                  | 3.17        | .97         | 4               | 3.91        | .94         |

**Key:**

1.00 - 1.99 = Strongly Agree  
 2.00 - 2.99 = Agree  
 3.00 - 3.99 = Agree/Disagree  
 4.00 - 5.00 = Disagree/Strongly Disagree

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