

THE MODEL FOR DEVELOPING THE FIRST-LEVEL  
ADMINISTRATORS' ABILITY IN UNIVERSITIES IN GUANGXI

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A thesis submitted in partial fulfillment of the requirements for  
the Degree of Doctor of Philosophy Program in Educational Administration


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Thesis Title            The Model for Developing the First-Level Administrator's ability in  
Universities in Guangxi

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### ABSTRACT

The purposes of this research were to: 1) study the current situation of first-level administrator's ability in universities in Guangxi. 2) study the ability development mode of first-level administrators in universities in Guangxi. 3) assess the applicability and possibility of the model for developing the first-level administrator's ability in universities in Guangxi. Researching have 357 valid samples were obtained from 5000 population. In the process of questionnaire distribution, there may be no answer and other situations. In order to ensure the sample accuracy,15% more samples were selected, namely 410 university administrators were selected for questionnaire survey. Firstly, stratified sampling was used. Secondly, random sampling method was used to select samples from each university according to the corresponding proportion, with a total of 410 people from 26 universities. The interviewees in this interview include first-level administrators of public undergraduate universities in Guangxi, who are required to have the following qualifications: They have worked in the university for at least 8 years and have been working as campus administrators. There are 9 in total.

The results showed that the ability of grassroots management personnel in universities in Guangxi consists of four elements: general learning ability, professional ability, communication and coordination ability, and problem-solving ability. The four elements are listed in descending order: (1) communication and coordination ability (2) business ability (3) problem solving ability (4) learning ability.

**Keyword:** The Model, Developing the First-level administrators' ability, Universities in Guangxi

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### บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อ 1) ศึกษาสภาพปัญหาความสามารถของผู้บริหารระดับต้นของมหาวิทยาลัยในกว่างสี 2) ศึกษารูปแบบการพัฒนาความสามารถของผู้บริหารระดับต้นของมหาวิทยาลัยในกว่างสี 3) ประเมินความเหมาะสมและความเป็นไปได้ของรูปแบบการพัฒนาความสามารถของผู้บริหารระดับต้นของมหาวิทยาลัยในกว่างสี ผู้วิจัยคัดเลือกกลุ่มตัวอย่างที่มีคุณภาพจำนวน 357 คนจากประชากรทั้งหมด 5000 คน ระหว่างการแจกแบบสอบถาม อาจมีการตอบสนองอย่างไม่ครบถ้วน ผู้วิจัยจึงเพิ่มขึ้นจำนวนของกลุ่มตัวอย่าง 15% ได้แก่ ผู้บริหารระดับต้นของมหาวิทยาลัยในกว่างสีจำนวน 410 แห่งเพื่อทำให้ข้อมูลได้รับประกันความถูกต้องจากตัวอย่าง ขั้นตอนแรก ผู้วิจัยใช้วิธีการสุ่มตัวอย่างแบบชั้นภูมิ แล้วใช้วิธีการสุ่มกลุ่มตัวมาคัดเลือกกลุ่มตัวอย่างจากมหาวิทยาลัยในกว่างสี 26 แห่ง จำนวน 410 คน ตามสัดส่วนที่กำหนดไว้ ส่วนผู้ให้สัมภาษณ์ในการวิจัยครั้งนี้เป็นบริหารระดับต้นของมหาวิทยาลัยเอกชนระดับปริญญาตรีในกว่างสี ผู้วิจัยกำหนดคุณสมบัติของผู้ให้สัมภาษณ์คือ ต้องมีประสบการณ์ในการทำงานที่วิทยาลัยหรือมหาวิทยาลัย 8 ปีขึ้นไปและเป็นผู้บริหารในวิทยาลัยหรือมหาวิทยาลัยด้วย มีจำนวน 9 คน

ผลการวิจัยพบว่าความสามารถของผู้บริหารระดับต้นของมหาวิทยาลัยในกว่างสีประกอบด้วยความสามารถในการเรียนรู้ ความสามารถทางวิชาชีพ ความสามารถในการสื่อสารและการประสานงาน และความสามารถในการแก้ปัญหา การเรียงลำดับให้ความสามารถ 4 ประการนี้จะ เป็น 1) ความสามารถในการสื่อสารและการประสานงาน 2) ความสามารถทางวิชาชีพ 3) ความสามารถในการแก้ปัญหา 4) ความสามารถในการเรียนรู้

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Liao Lin

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# Chapter 1

## Introduction

### Rational

#### Background

Since entering the 21st century, the enrollment scale of colleges and universities has been gradually expanding, and the college penetration rate has also been rising steadily. However, with the gradual increase of national investment in higher education, the burden of talent training in universities is becoming heavier and heavier. In addition to undertaking a large number of teaching tasks, universities are also increasing their investment in scientific research and social services. Therefore, the administrative work of colleges and universities is facing the most onerous period in history, and the difficulty of management is correspondingly increasing.

The administration of colleges and universities is an important part of colleges and universities, which is the basic and guarantee work for scientific research, teaching and social service. The quality of the administration of colleges and universities is directly related to the survival and development of colleges and universities as well as the quality of talents training. The first-level administrators in universities play a vital role in serving the majority of teachers and students, promote the advancement of educational reform. They, like teachers, are the most frequently contacted groups by students. Therefore, their daily behavior and work ability are not only related to the conduct of teaching and scientific research, but also to the cultivation of students' moral quality. However, there exist some problems such as lack of service attitude, low efficiency and weak ability in the management of colleges and universities, which directly affect the scientific research and teaching tasks. High-level education not only has high-level teachers, high-level students, but also needs high-level administrative system and high-level management personnel, which are indispensable in the development of colleges and universities in the future. This article will use the human capital theory, the competency model theory

and incentive theory, etc., supplemented by empirical research, the ability of management in universities the status quo and existing problems were investigated, and realize the scientific management of university management ability development, encourage university first-level administrator's work enthusiasm, improve the ability in management of colleges and universities, in order to realize the high quality human capital, Improve the administrative efficiency of colleges and universities. From the current realistic background, this study has very important practical significance not only to correctly understand the positioning of university first-level administrators, understand the current situation of the ability of university first-level administrators, but also to explore the model for developing the ability of first-level administrators.

## **Research Question**

### **Research Question**

1. What are the characteristic elements of the ability of university first-level administrators in Guangxi?
2. What is the current situation of the ability of university first-level administrators in Guangxi?
3. How to guideline for developing the first-level administrator's ability in university in Guangxi?

## **Objectives**

1. To study the current situation of first-level administrator's ability in universities in Guangxi.
2. To study the ability development model of first-level administrators in universities in Guangxi.
3. To assess the applicability and possibility of the model for developing the first-level administrator's ability in universities in Guangxi.

## Scope of the Research

### 1. Population and the Sample Group

#### 1.1 Population

There are about 5000 first-level administrators in 26 public universities in Guangxi.

It involves colleges and universities distributed in 11 cities including Nanning, Liuzhou, Guilin, Wuzhou, Hechi, Qinzhou, Hezhou, Laibin, Chongzuo, Yulin and Baise., this study was conducted by first-level administrators of public undergraduate universities.

#### 1.2 The Sample Group

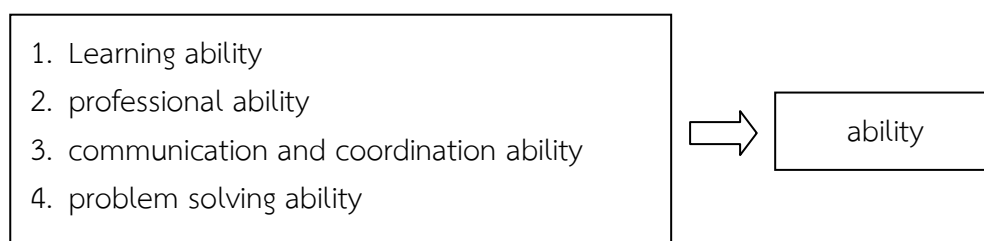
According to Krejcie and Morgan sampling table, 357 valid samples were obtained from 5000 population. In the process of questionnaire distribution, there may be no answer and other situations. In order to ensure the sample accuracy, 15% more samples were selected, namely 410 university administrators were selected for questionnaire survey. Firstly, stratified sampling was used.

Secondly, random sampling method was used to select samples from each university according to the corresponding proportion, with a total of 410 people from 26 universities.

Interviewee:

The interviewees in this interview include first-level administrators of public undergraduate universities in Guangxi, who are required to have the following qualifications: They have worked in the university for at least 8 years and have been working as campus administrators. There are 9 in total.

### 2. The Variable



**Figure 1.1** The Elements of Ability

### **The Variable**

Through a large number of literature studies, according to the research of Schultz, Becker, Mincer and other scholars on ability in the development of human capital theory and the research results of the United States, The United Kingdom, Australia, the Netherlands, China and other countries on ability structure, the statistics of 4 frequently occurring ability components are as follows: Learning ability, professional ability, communication and coordination ability, problem solving ability.

### **Advantages**

#### **1. Theoretical value:**

The beneficial discussion and supplement to Guangxi university administration research. Research of Guangxi colleges and universities by means of random sampling at the first-level administrators to investigate, both in universities of Guangxi at the first-level administrators an overview of the situation of the whole structure, work and life, but also to the ability development of the Guangxi university first-level administrators with more in-depth analysis, including the cause of this ability development of colleges' basic level managers have their own quality problem, There are also problems in the system and mechanism of university administration, as well as the development of university administration atmosphere and organizational culture. When we have a clear understanding of these factors and problems, we can promote the research of Guangxi university administration in a targeted, scientific and reasonable way.

It provides ideological support for perfecting the theoretical system of human resource management in public sector. This study uses human capital theory, competency model theory and incentive theory to support the research on the ability development of university first-level administrators. University first-level administrators also belong to the category of human resources in the public sector.

To some extent, the research on their ability development expands the shortcomings of the previous academic research on university first-level administrators. In previous studies, more scholars have paid attention to the job burnout of university managers and the factors affecting their enthusiasm, while there are few researches on

how to improve the knowledge, skills and working ability of university managers. Therefore, from the perspective of combining theory and practice, this study explores measures and methods to stimulate the enthusiasm of Guangxi university first-level administrators and improve their ability, which will undoubtedly further improve the theoretical system of human resource management to a certain extent.

## **2. Practical value:**

In terms of practical significance, this study provides the basis and guarantee for the administrative work of Guangxi colleges and universities, provides model and standards for the management personnel of Guangxi colleges and universities to improve their self-ability, and ultimately improves the overall quality and competitiveness of Guangxi colleges and universities.

First of all, it is of great significance to improve the administrative management model and enhance the administrative management ability of colleges and universities in Guangxi. This study through the investigation and analysis of Guangxi colleges and universities management ability development present situation, such as their recognition of the work, the work enthusiasm of work performance, job satisfaction, perception and reality demand, etc., to determine what specific factors which affected the performance of their work ability, whether the system is not perfect, Even poor training, poor assessment, lack of care and so on. After finding the reason, we can put forward the corresponding management improvement strategy with a definite aim. The investigation and analysis of these practical problems will help to improve the administrative level of Guangxi colleges and universities.

Secondly, it provides model guidance for improving administrative personnel's ability in Guangxi colleges and universities. Taking Guangxi university first-level administrators as the main research object, this paper investigates and studies their ability development status, and then puts forward improvement methods and countermeasures, which will undoubtedly provide model guidance for Guangxi universities to enhance the ability of administrative administrators.

Thirdly, it provides action guidance for the improvement of the quality of Guangxi university first-level administrators and the overall development of individuals. During

the study, will be extensive and in-depth discussion of Guangxi colleges and universities work in the first-level administrators by the characteristics of and the problems faced in their work, responsibility, pressure and organization of care, the title promotion, the processing of interpersonal relationship, the change of ideology and the cultivation of the colleges and universities in Guangxi in different aspects, such as, These seminars provide action guidelines for executive enhancement and overall personal development.

## **Definition of Terms**

### **1. University first-level administrators**

University first-level administrators means all section level and below section level personnel who are engaged in administrative management in those colleges and universities carrying out higher education. From the scope of the study, the first-level administrator in this paper mainly refers to those who are engaged in first-level work full-time in universities, which is equivalent to full-time administrative personnel in our daily life. From the administrative level to define the "first-level", can better determine the administrative status of personnel, the scope of work and the number of personnel.

### **2. Ability:**

Ability means including the specific way to complete certain activities, as well as the psychological characteristics necessary for the successful completion of certain activities. Ability is indispensable for people to complete certain activities. In general, ability is not a strength or a quality, but a comprehensive quality of the characterization. Ability is formed and developed on the basis of people's physical quality through education and cultivation, and by absorbing the wisdom and experience of the masses in practical activities.

Management ability in universities refers to their "reflected in the working process of the learning ability, professional ability, communication and coordination ability and problem solving ability", "the capabilities of the people is on the basis of quality, the day after tomorrow's study, the formation and development of life and social practice".



### **2.1 Learning ability**

First of all, the learning ability includes having a broad and perfect knowledge structure, being able to observe and learn carefully on the job, and being able to persist in reading literature or related materials. And can take the initiative to make work and study plans, at the same time have a certain degree of writing ability. Also able to self-monitor management, have a certain degree of judgment, have a lifelong learning attitude.

### **2.2 Professional ability**

The professional ability of university administrators includes, first of all, the love of university administration, the ability to put the needs of teachers and students in the first place, and the common observance of teacher professional ethics. At the same time, have systematic administrative management knowledge and master specialized management skills. They should also strictly abide by the rules and regulations of the university, clarify their post responsibilities, and have a higher autonomy in their responsibilities.

### **2.3 Communication and coordination ability**

The ability of communication and coordination requires good psychological quality and harmonious relationship with leaders, teachers and students. At work, I can clearly express the subject and content that need to be communicated, and master certain communication skills and methods. Have a certain ability to empathize, can understand the content of the other person and the emotion. Able to resolve conflicts through communication and coordinate complex tasks or problems. Finally, I can handle all aspects of the relationship and cooperate with each other to complete the task.

### **2.4 Problem solving ability**

First of all, managers have a high sense of responsibility for their work, and can try their best to do every job, and often apply new methods and new ideas to their work. I can quickly judge and deal with problems found in work. I have the ability to analyze problems and explore solutions to similar problems. At the same time, I can predict the problems prone to occur in the work and solve them in the bud in advance. Carry out the work according to their own work plan and get the recognition of teachers, students and other departments.

### **3. Ability development of university first-level administrators:**

The purpose of ability development or ability improvement is to stimulate the potential ability of the human body through education, training, motivation, etc. Therefore, ability development focuses on the development of human capital. Of course, this is only for the implementation of human construction, in addition, should also be around how to stimulate the potential of human education construction, training construction, promotion construction, related social conditions and corresponding system construction. The ability development of university management personnel refers to the ability development of university management personnel, which is not a one-time ability improvement behavior, but a multi-directional and continuous ability improvement behavior, in order to enable the university management personnel to better complete the post work.

The ability development of university first-level administrators is mainly aimed at two kinds of ability improvement. One is basic ability improvement, including basic knowledge, professional knowledge, practical operation ability and so on. Among them, practical operation ability can also be refined into language expression ability, listening, speaking, reading and writing ability, independent thinking and judgment ability. The other is to improve work ability, including work planning ability, problem solving ability and innovation ability; Among them, problem-solving ability can also be divided into organization and coordination ability, propaganda and agitation ability, decision-making ability, investigation and research ability and so on.

### **4. Incentive:**

There is no definite answer to the concept of motivation. From the perspective of psychology, motivation refers to understanding people's inner needs and yearning, so as to motivate them to work hard to achieve their goals, stimulate people's behavioral motivation, and promote them to achieve their motivation through actions. Based on management theory, it refers to the process of using some methods to meet people's needs, arouse people's motivation, guide people's activities, push them to fully play their potential and turn their ideal goals into reality based on people's needs.

The role of motivation is :(1) to improve the enthusiasm of staff, stimulate the potential of staff. In order to study the influence of incentive system on employees, William James conducted a special sample survey, and the survey results showed that in the jobs without incentive, employees only give 20% to 30% of their work efficiency, because this is all they need to give in order to keep their jobs. However, if employees are sufficiently motivated, they will be able to exert 80 to 90 percent of their maximum personal performance. (2) It is beneficial to improve the quality of staff and promote the self-growth of staff. There are many ways to manage employees, and establishing an effective incentive mechanism is one of them. Incentive method is based on the characteristics of all aspects of employees and their work ability to set goals for them and establish the corresponding reward and punishment system, not only can play a good incentive role, but also can help employees open new horizons, better complete their tasks, conducive to improving the overall work efficiency. (3) It is conducive to the formation and enhancement of collective consciousness and the realization of organizational goals. The incentive system not only has a direct impact on individuals, but also indirectly affects the whole team. Excellent individuals gradually form an excellent group, so as to establish a sound organization and achieve the goals set by the organization through the joint efforts of all members within the organization.

Research Framework

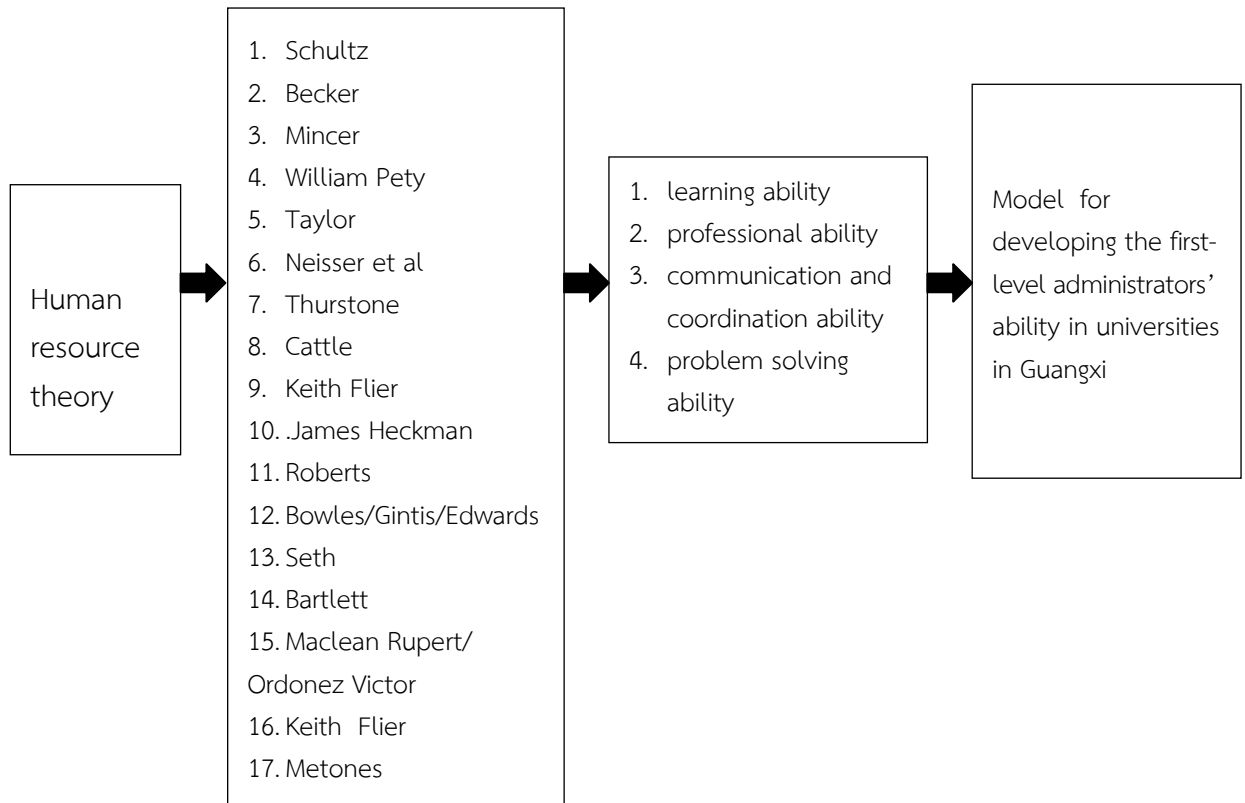


Figure 1.2 Research Framework

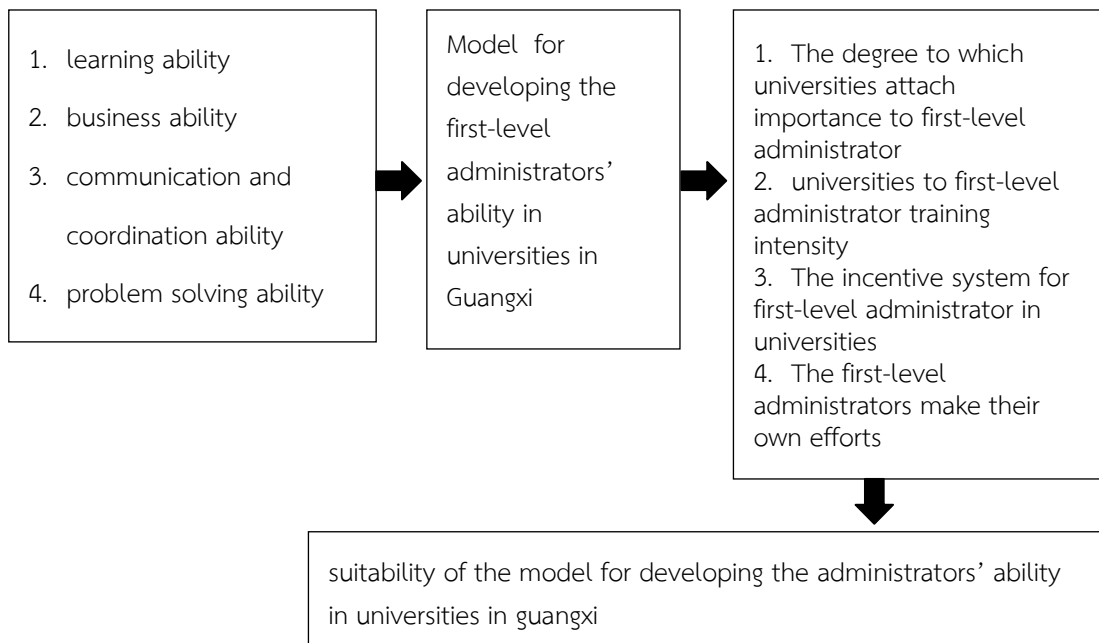


Figure 1.3 Conceptual Framework

## Chapter 2

### Literature Review

This chapter adopts the method of literature research to search, screen and sort out the literature. Firstly, relevant literatures were retrieved through VI, P. Journal, Wanfang Data, CNKI, China Social Science Citation Index and other online databases. Secondly, according to the theoretical scope and practical needs of this study, the literature is screened and sorted out. So as to grasp the research status and characteristics of this research topic and the future development direction, and provide theoretical basis for this research.

1. Ability research
  - 1.1 Research on the concept of ability
  - 1.2 Research on the components of ability
  - 1.3 Research on the ability of university first-level administrators
    - 1.3.1 Research on the learning ability
    - 1.3.2 Research on the professional ability
    - 1.3.3 Research on the communication and coordination ability
    - 1.3.4 Research on the problem solving ability
2. Research on factors affecting personnel ability development
3. Research on the work characteristics and current situation of university first-level administrators
4. Research on the ability development of university first-level administrators
5. Theoretical basis
  - 5.1 Human capital theory
  - 5.2 Competency model theory
  - 5.3 Incentive theories

## Ability Research

### 1. Research on the concept of ability

Francis Galton. (1822-1911). a British psychologist known as the father of difference psychology, published *British Scientists: Their Endowment and Cultivation* in 1874 and *a Study of Human Talent and Its Development* in 1883. Galton was the first person to propose ordinary and special abilities. He demonstrated the relationship between heredity and individual differences through research, and pioneered the concept of "eugenics" in his work.

The world's first human behavior laboratory was established in 1879 under the planning of the father of experimental psychology "William Wundt (Wuhelm Wundt, August 16, 1832 - August 31, 1920). using experimental introspection method, reaction time method and other research methods, *Research on the analysis of human perception, reaction speed, attention allocation, emotion and word association*", experimental measurement of human ability for behavior, in this laboratory, the world's first professional psychologists were trained.

Felix Raunera German vocational educator, proposed the theory of vocational ability development from novice to expert (beginner, advanced beginner, competent, skilled and expert), explaining that the development of ability begins with practical experience and ends with practical experience. Moreover, the ability characteristics of each stage are clearly described and the types and contents of learning expertise in the development stage of promotion are accurately summarized.

Marx said, "The difference in talent among individuals is not so much the cause as the result of the division of labor." He tells us that ability is formed in the practice process of transforming the objective world. The inner operation of the ability depends on the thinking method, and the external performance is the working method.

In modern Chinese Dictionary, it refers to "the subjective condition of being competent for a task". However, ci Hai interprets it as: "The personality and psychological characteristics necessary for the successful completion of certain activities. There are general abilities and special abilities. The former refers to the

basic abilities necessary for all kinds of activities, while the latter refers to the abilities necessary for a professional activity."

In 1933, Car. Saunders and Wilson made an in-depth study of the connotation of competence and quality, and believed that competence and quality could be judged and evaluated by the main and significant characteristics of their occupation. In competency assessment, competency is regarded as professional intelligence rather than actual skills, which is the initial definition of competency in western academic circles.

In his article *Measuring Competence rather than Intelligence* published in 1973, David McClelland, a professor of Harvard University, first put forward the concept of competence (COM, P. Ettency), which is defined as the deep requirement of competence for a certain job. It can distinguish individuals or organizations with excellent performance and mediocre performance, and has the nature of measurement and comparison. The characteristics of ability and quality have potential and deep characteristics, and the performance of ability and quality can be divided hierarchically.

In 1973, McClelland used a large number of studies to prove that the reasonable way to judge personal ability should not rely on intelligence tests, but the personal conditions and behavioral characteristics that really affect the work performance, and called the personal conditions and behavioral characteristics that affect the work performance as competence. In 1994, he redefined competencies as credibly measurable motivations, traits, self-concepts, attitudes, values, knowledge, identifiable behavioral skills, and personal characteristics that distinguish high performers from average performers.

Spencer. (1993). proposed that competency characteristics refer to the potential deep-seated characteristics that can distinguish excellent and mediocre performance of a particular job, such as motivation, traits, attitudes, values, cognition, skills, etc., and individual characteristics that can be measured and calculated and can significantly distinguish excellent and average performance.

Byham & Moyer. (1996). believe that ability is the sum of all knowledge, motivation and behaviors related to success or failure at work.

Green. (1999). argues that it is a summary of measurable habits and abilities used to achieve work tasks.

According to the International Commission for the 21st Century, competence is a mixture of individual behaviors, consciousness, and spirit acquired through training.

According to Feng Tianming's master's thesis research on The Ability Construction of Leading Cadres in universities. (2013, p.8). "ability" can also be expressed in this way: Ability usually refers to the instinct to complete certain activities, and is the externalized activity and level embodiment of the subject's comprehensive quality or intrinsic strength. The performance of a person's understanding and action can reach the level, is the integration of psychological characteristics that people must have to successfully complete practical activities. Such as usually engaged in certain activities have a variety of abilities have a complete combination of people, called talented people. People's ability, is formed and developed through acquired efforts, it is not born, ability can not be inherited.

Zhang Zheng proposed in his paper "Research on the Improvement of the Ability of Tobacco Monopoly Managers in SQ City" (2019, p.8). that: In a nutshell, ability is a certain model of action or intellectual activity formed by individuals through connection with their existing knowledge and experience. Colloquially speaking, it is the means of mastering and using specialized skills.

In summary, ability refers to the strength or energy to accomplish a task. In general, ability is not a strength or a quality, but a comprehensive ability. Ability not only includes the ability that a person has or has been revealed, but also includes the potential ability that is contained in the body and has not been fully demonstrated and needs to be further stimulated. In fact, the purpose of ability development or ability improvement is to stimulate people's potential abilities in the body through education, training and other ways, so that they can fully display, better to complete the task.

## **2. Research on the components of ability**

The formation of human capital theory has experienced three stages: the ideological germination in the period of classical and neoclassical political economy, the formation of modern human capital theory and the proposal of "new" human



capital theory. Ability as the core concept of human capital thought, also has experienced three stages of evolution, namely: the classical and new classical political economics in the period of knowledge, skills, proficiency production "ability", such as modern human capital in the period of "education is a ability" - a new human capital theory in the period of "cognitive" and "non-cognitive ability".

In 1776, Adam Smith wrote "The Wealth of Nations." Adam said, "Learning is a talent. It requires education, it requires schooling, it requires apprenticeship, it costs a lot. The capital expended in this way seems to have been realized and fixed on the learner. These abilities are naturally part of the property of the individual, and of the society to which he belongs." "Talent" here has the same meaning as "useful ability acquired by social members" mentioned in the book. In fact, at this time, "useful ability" has already had the idea of human capital.

Recognized as "the father of the human capital theory" Schultz (Schultz) in the early 60 s macro economic growth as the object, studies the education, on-the-job training, health, human migration into the contribution of economic growth of a country, think that human capital is condensed by investment on man's knowledge, skills, and a collection of health factors such as (1960, P. 571-583).

In 1964, Becker (Becker) from the micro perspective of individual, family, study the relationship between human capital accumulation and distribution of personal incomes, he think the on-the-job training in the specificity of human capital is the core content of human capital, then formed a complete set of human capital theory, explore the theory of human capital in the research field of income distribution, It is regarded as the origin of the idea of human capital investment.

In 1974, Mincer continued the above theory and used the years of education as an important indicator to measure human capital for the first time to calculate the increase in income of workers with one more year of education, and constructed a human capital rate of return model. The conclusion was that the reason for the increase of workers' income and the reduction of income gap was the improvement of education level. This is the result of investment in human capital.

Cognitive abilities refer to "the ability to understand problems, adapt to the environment, participate in reasoning and judgment, and then solve problems through thinking" (Neisser et al., 1996). In other words, cognitive abilities refer to the ability of human brain to process, store and process information. It can also be expressed as individual intelligence and problem solving ability.

Thurstone. (1938). had different observations on individuals' performance in various abilities. He believed that the Primary Mental Ability of the brain could be summarized as follows: The basic abilities of language comprehension, speed of comprehension, reasoning ability, number ability, spatial imagination, associative memory and vocabulary use are not positively correlated. Individuals tend to have excellent performance in one or several items, while other abilities are weak. The basic abilities of the brain stay the same, accumulate, or decline over time.

On this basis, Cattell. (1987). divided cognitive ability into fluid intelligence and crystalline intelligence. Fluid intelligence includes abstract thinking, reasoning and problem-solving abilities, which are often independent of learning, experience and education, and thus tend to decline in late adulthood. Crystallized intelligence is the accumulation of knowledge from previous learning or past experiences, such as the ability to understand reading and grasp words. As a result, crystallized intelligence increases with age as people accumulate new knowledge and insights.

Keith Flier divided human capital into cognitive and emotional qualities, the latter mainly referring to "personal qualities" such as personal ambition, interpersonal coordination and calm decision making. Subsequent economists have mostly used "non-cognitive abilities" to replace personality qualities.

James Heckman, Nobel Prize winner in economics, introduced the research results of psychology to the field of economics, and explored the influence of non-cognitive energy such as self-esteem, responsibility, and effort on individual development.

Roberts. (2009). a psychologist, defines personality traits as "relatively stable thinking, feeling and behavior patterns, reflecting the tendency of individuals to react in certain ways in certain situations". Due to the relatively stable personality characteristics,

it is possible to measure the non-cognitive ability of individuals by the practical psychological scale, and its scientific nature has been recognized by the academic community. At present, the most widely used measurement of non-cognitive ability in the academic world is "The Five-factor Model of Personality", which mainly divides people's non-cognitive ability into Five aspects: open thinking, sense of responsibility, extraversion, agreeableness and emotional stability.

Some scholars have realized that non-cognitive abilities such as responsibility, self-esteem, ambition, creativity and so on have an impact on workers' income (e.g. Bowles and Gintis, 1976; Edwards, 1976. et al.).

**Table 2.1** The research situation of ability in three periods of development of human capital theory Source: Homemade by researchers

	Classical and neoclassical political economy	Period of modern human capital theory	Period of "new" human capital theory
The expression of ability	Productive abilities such as skills, knowledge and proficiency (cognitive abilities)	Education (degree)	Educational attainment, cognitive and non-cognitive abilities
Theoretical contribution	The formation and economic effect of human ability are put forward and discussed	The ability of educational substitution can be quantified and adapted to modern scientific econometric research	Not only cognitive but also non-cognitive abilities were included in econometric studies
Theoretical dilemma (existing problems)	It is limited to theoretical discussion and cannot carry out scientific econometric research on human ability	Challenged by educational screening theory and signaling theory; A large number of residuals in empirical studies cannot be explained	In scientific econometric research, the measurement of non-cognitive ability has problems of scientificity and uniformity

In the early 20th century, The American psychologist Thurston proposed the "group factor theory" for the composition of ability, which decomposed ability into seven factors: word comprehension, verbal fluency, numerical calculation ability, memory ability, spatial perception ability, perceptual speed and reasoning ability.

William Pedt studied human capital in the field of macroeconomics. He proposed the theory of labor economic value in *Taxation* (1972, p.45-92). that is, the knowledge and skills of laborers are an integral part of individual labor ability, and the stronger labor ability is, the higher economic value will be generated.

Bartlett. (1933, p.187-192). proposed a model of the concept of comprehensive competence, indicating that occupational competence consists of knowledge, skills and situational understanding to accomplish occupational activities.

Maclean Rupert and Ordonez Victor. (2007, p.123-140). defined competence in their research as the ability to develop the best plan within a reasonable time and under financial requirements to achieve the target task through information acquisition and processing, teamwork communication and technology.

From the perspective of human capital, Keith Flier. (1981). divided human capital into cognitive human capital (such as IQ, etc.) and emotional human capital (mainly referring to personal ambition, interpersonal coordination ability, coolness, etc.). For the latter, it mainly refers to workers' "personal traits".

Metones, a German scholar, believes that key competencies include the ability to relate to individuals and the ability to organize society. The abilities related to individuals are: thirst for knowledge, self-innovation, learning ability, resistance to setbacks, sense of responsibility, risk-taking spirit and independence. Social and organizational competencies are: communicative competence, operational competence, analytical competence, planning competence and organizational competence. (2007, p.113-115).

British Vocational Competence Standards. (2014, p.38-52). vocational competence should include communication competence, problem-solving competence, computing competence, information technology competence and language competence.

In the United States, vocational skills are called basic skills, including the ability to set goals, ability to allocate time, allocation of funds and the ability to budget, determine the required data and processing and the ability to save the data, as members of the team to participate in activities as well as the ability to communicate with others, understanding of organization and technology system is how to run and operation ability, and the choice of technical ability and the ability of the technology applied in the workplace. (2010, p.27-31).

Australian vocational ability standard including the ability to deal with ideas and information collection, analysis, and express their opinions and the ability to exchange information, planning and organizing ability, the ability to work in a spirit of cooperation with others in the group, ability of mathematical thinking and skills and problem solving skills and the ability to learning and applying new technology. (2009, p.82-85).

Taylor, the father of scientific management, published *Principles of Scientific Management* in 1912 and proposed: "There is a great difference between excellent workers and ordinary workers in the quality and efficiency of their work, and focused on the study of the functional foreman system. To successfully complete his duties, a foreman should have: Intelligence, education, technical expertise, skills, energy, fortitude, integrity, judgment and common sense, and health."

Professor McClelland has demonstrated the importance of competency through practical research, testing and analyzing employees and managers who perform well: Measure and choose job candidates, companies need to the basic professional knowledge, experience, education, and will do a good job in basic skills test, such ability is visible representation, but does not prove that this position can be fully competent candidates, at the same time need to position the social role of candidates which is self image in front of others, self evaluation, self education, its characteristics, Determine explicit behavior, intrinsic motivation, and so on. What is visible and what is deep is called competence. Professor McClelland's competence theory promoted the development of human resource management theory and provided a good theoretical reference for other scholars later.

In the late 1950s, educational psychologist Benjamin Bloom, a behaviorist and founder of competency-based learning, led the creation of learning taxonomies, identifying three "areas" of learning that have since become the standard that underpins us as training developers. Almost all major practitioners in the field of personal ability development use them as benchmarks. Benjamin Bloom describes these three domains as follows: Cognitive, later Knowledge: fields of cognition or thought that include facts and information. Example of knowledge: "Score 90% on certification exams." Psychomotor, later called Skill: the psychomotor or "doing" field, refers to physical work performance. Example skill: "Can process 80 words per minute, less than one error per 100." Affective, came to be Attitude: the field of emotion or feeling.

American scholar Richard Boyatzis published his 1982 article "Effective Managers: He studied the competency theory of Professor David McClelland and analyzed the "Competency Iceberg model". Through comprehensive analysis of the competency factors of thousands of well-known company managers, he creatively proposed the "Competency Onion Model". Competency model refers to the knowledge, skills, abilities, self-concept, values and characteristics of employees with excellent performance in an organization that are qualified for the job requirements. He believes that personal ability and quality are mainly composed of three aspects: motivation, personality, self-assessment and knowledge and skills. The core elements are motivation, personality, self-image, social role, knowledge, skills, etc., and the core part is motivation, which is the core part of ability and quality assessment.

Based on the general competence framework of the Dutch Vocational Education Association, the Dutch CBL learning system combines the actual conditions of the Netherlands to form a four-level framework consisting of eight aspects and 25 competencies. Including decision-making and active work, guide, lead, care and understanding, cooperation and Suggestions, adhere to the principles and values, interpersonal communication, to persuade and influence, expression and communication, writing and reporting, professional knowledge, application technology,

analysis, research, innovation, learning, planning and organization, to meet customer expectations, attaches great importance to the result, abide by the procedures, adapt to change and cope with stress and frustration , aggressive, entrepreneurial thinking efficient.

Schein. (1992). summarized the competency qualities of learning leaders, including perception and insight, motivation, emotional power, ability to change corporate culture assumptions, ability to create participation, and ability to learn new corporate culture.

In the Interim Regulations on Behavior for Personnel Assessment in Public Institutions issued in 1995, "ability" mainly reflects basic ability and working ability, among which basic ability includes basic knowledge, professional knowledge and practical operation ability. Work ability includes work planning ability, problem solving ability and innovation ability.

Lawson&Limbrick. (1996). proposed a competency model for senior human resource managers, which includes 27 specific qualities in five competency groups, including mastery of human resource technology, function and organizational leadership, goal and action management, influence management and business knowledge.

Herbert. (1999). proposed 12 types of competency factors for professional managers: strategic vision, interpersonal sensitivity, oral communication, persuasion, staff management, analysis and judgment, perseverance and adaptability, planning and organization, persistence and decisiveness, business awareness, energy and initiative, and motivation for achievement.

JohnH. Zenger and JosephR. Folkman. (2001). proposed the tent model, revealing the five pillars of leadership qualities: the core pillar of the tent is character, the other pillars are focus on results, interpersonal skills, personal ability and lead change.

Shi Kan, Wang Jicheng and Li Chaoping. (2002). used behavioral event interview method to study the ability and quality of senior managers in communication enterprises, extracting and summarizing 10 ability and quality factor indicators such as

confidence and developing others, service consciousness, team leadership and influence. Through the verification of the competency model constructed by him, it is found that there is a very big difference between the competency factors of managers with excellent performance and those with average performance, so as to infer the validity of the 10 competency characteristics extracted by him.

Yang Yiqing. (2006). management in our country, for example, the management personnel are qualified for quality theoretical research results at home and abroad with our local leadership C, p. model, through the comparison, selection and analysis, established in the enterprise management personnel are qualified for quality structure of five dimensions: administrative ability, leadership, interpersonal relationship and communication, and leadership personality and cognitive ability.

Ma Lin. (2010). discussed the competency model of corporate HR managers in the context of China, including influence, ability to control emotions, adaptability, ability to build trust, continuous learning and communication.

Bueno&Tubbs. (2012). proposed six key qualities of global leadership, namely communication skills, respect for others, learning motivation, sensitivity, flexibility and openness, based on the verification of the manager's global leadership quality model established by Chin et al.

Zhang Liya. (2012). used literature analysis and behavioral event interview to study the competency of middle-level managers in power generation enterprises, and extracted 18 competency characteristics including professional knowledge, professional skills, adaptability, leadership, innovation ability, overall view, team ability and overall view. Through statistical analysis and verification, the competency factors mentioned above can effectively reflect the ability and quality requirements for excellent performance of middle-level managers in electric power enterprises.

Rodolfa. (2013). developed a developed and improved professional competency model that requires neo-confucianism practice. A total of 29 psychologists participated in the feedback and improvement process of the initial competency model repeatedly. Then, 403 randomly selected psychologists from the United States and Canada examined the thresholds, frequency, and importance of the model's indicators in order



to obtain broader feedback on the model's utility. The competency model was finally confirmed to include 6 dimensions (scientific knowledge, evidence-based decision-making/critical thinking, interpersonal and cultural competence, professionalism/ethics, evaluation, intervention/supervision/consulting), 37 specific competencies and 227 models of behavior.

Ablah. (2014). pointed out that although global health is an important development direction of public health education in the future, there is no standardized global health diathology model for professional public health students so far, which makes it difficult for schools to ensure that students are equipped with knowledge structure, skills and attitudes to deal with global health. Using a modified multilevel Delphi approach, the Association of Public Health Agencies developed a global health professional competency model comprising seven areas and 36 competencies.

Yu Lan. (2014). the hanbang middle management ability quality model of science and technology research, to the enterprise the management idea to build a professional quality, knowledge, ability, three dimensions including integrity, overall situation consciousness, learning ability, professional skills, business knowledge, management knowledge, such as 24 measures of ability quality, recruitment, training of personnel to provide theoretical basis for the enterprise.

Duan Yongliang and Han Jin. (2016). constructed a competency model based on the political quality, management ability, professional ability and executive ability of division level cadres of China Meteorological Administration, and built a training course system based on it.

Liu Xu. (2017). studied the decision-making ability, organizational ability, professional ability and personality ability of middle managers in A company to build A competency model, which was applied to recruitment and selection, training and education, and performance management projects. Personal ability and quality is the basic factor that constitutes the company's overall ability and quality, and all "personal ability and quality can be measured, and can be effectively improved through appropriate training.

Zhang Zheng proposed in his paper "Research on the Ability Improvement of Tobacco Monopoly Managers in SQ City" (2019, p.8). that individuals can use their existing knowledge and experience to form certain modes of action or intellectual activities through practice to become abilities. It includes primary ability and technical ability. The former is to "do" something or "can" complete a certain level of work by means of relevant knowledge and past experience, through practice and imitation. The latter side to go through repeated practice, complete a set of operating system has reached the degree of automation. According to the nature and characteristics of ability, it can be divided into motor ability and mental ability. According to its different nature and characteristics, ability can be divided into action ability, intelligence ability and proficiency.

**Table 2.2** Statistical table of scholars' research literature on the components of competence Source: Homemade by researchers

ability researcher	Learning ability (education/ knowledge)	Business ability (work experience/ skills)	Understanding ability	reasoning and thinking ability	communication and coordination ability	problem solving ability	ability to work under pressure	responsibility
Schultz	√	√						
Becker	√	√						
Mincer	√	√						
William Pety	√	√						
Taylor	√	√		√				√
Neisser et al			√	√		√		
Thurstone			√	√				
Cattle	√	√		√		√		
Keith Flier	√				√		√	
James Heckman								√
Roberts				√			√	√
Bowles and Gintis. Edwards								√
Seth			√	√	√			
Bartlett	√	√	√					
Maclean Rupert, Ordonez Victor					√	√		
Keith Flier	√				√		√	
Metones	√		√		√		√	√
British Vocational Ability			√		√	√		
American Occupation al Ability		√			√			

Table 2.2 (Continued)

ability researcher	Learning ability (education/ knowledge)	Business ability (work experience/ skills)	Understanding ability	reasoning and thinking ability	communication and coordination ability	problem solving ability	ability to work under pressure	responsibility
Australian Occupational Ability	√		√	√	√	√		
Dutch universal Ability	√	√			√	√	√	
Ability of staff in Chinese public institutions	√	√				√		

In a word, During the period of the classical and new classical economics, economists for the discussion of human capital more focused on the production of laborer "ability", namely through the apprentice, training or education and acquire the knowledge, skills or proficiency such as cognitive ability, for the personality factors of laborer (cognitive) no more discussions. In the period of classical and neoclassical political economy, education (including apprenticeship and training, etc.) was regarded as a "way" for laborers to acquire abilities. Through education or training, laborers could improve their productivity (production efficiency), and the knowledge and skills they mastered became "capital". Education is seen as an investment that "costs nothing" or "costs nothing". Classical and neoclassical economists' discussion on human ability laid a theoretical foundation for the birth of modern human capital theory. But at the same time, the research in this period was inevitably limited by The Times, that is, economists could not quantify the index of human ability. The birth and development of modern human capital theory continued the thought of the period of classical and neoclassical political economy. Schultz, Mincer, Becker and other founders of modern human capital theory believed that, Workers can improve their ability (human capital level) through education, training, health care, migration, etc.

As for the measurement range of ability, ability and cognitive ability in traditional human capital are almost equivalent, because human capital's demand for value creation makes ability must be linked with production ability. In addition, in

the analysis of labor pricing differences, ability is often replaced by "cognitive ability". "Non-cognitive ability" literally constitutes the complement of cognitive ability, which has a relatively limited boundary and scope. Therefore, the diversity and complexity of the scope of non-cognitive ability makes it impossible to outline the full picture of non-cognitive ability so far.

All of the researchers' research results, according to the ability of frequency from high to low elements are: learning ability (education/knowledge), professional ability (work experience/skills), communication and coordination ability, problem solving ability, understanding ability, reasoning ability to think, compressive ability (calm/emotional stability), the sense of responsibility, etc..

### **3. Research on the ability of university first-level administrators**

Lu Minmin and Liu Haizhong put forward in A Brief Discussion on the Quality of University Administrators. (1997, p.60). that the ability of university administrators refers to the ability of university administrators to give full play to their knowledge in management activities. The ability and quality of university management personnel include expression ability (including language expression ability and written expression ability), management ability (including planning ability, organizing ability, guiding ability, coordination ability), research ability (including observation ability, analysis ability, refining ability) and creation ability.

Zhang Suhui. (2001). proposed from the elements of modern administrative consciousness that administrative personnel should have the sense of dedication, service, staff awareness, public relations awareness, team awareness and innovation awareness.

He Weidong. (2005). the management of colleges and universities should "have excellent professional qualities, such as education theory, document writing, the use of modern office equipment, a wide range of related basic knowledge, such ability have certain thinking judgment ability, organization and coordination ability, propaganda ability, language expression ability, better to do a good job of administrative management at the first-level.

Zhu Yushan pointed out in the article "Research on personnel Structure and Quality of Administrative Departments in universities." (2008). that the current task of administrative management in universities requires relatively high individual quality of administrative personnel, and the personnel structure can not be made up simply. Administrators in universities should have new ideological quality, good knowledge accomplishment and innovation consciousness, as well as auxiliary decision-making ability, organization and coordination ability, investigation and research ability and listening, speaking and writing ability.

Zhao Leikang and Huang Xuehui put forward the particularity of administrative office in the whole university organization in their article Basic Quality and Work Innovation Approach of Administrative Office Staff in universities (2009). and believed that administrative office staff should also have distinctive and special abilities and qualities. Among them, they put forward the following four essential qualities, namely political and ideological quality, professional quality, style of work quality and psychological quality. In the study, they believe that the ability of administrative office personnel should be improved by optimizing the combination of knowledge and ability structure, temperament structure, age structure of office personnel, creating a relaxed environment and realizing the transformation of professional talents to compound talents, so as to improve the office work efficiency.

Wang Zhongbin, in Discussion on The Ability Cultivation of University Administrators. (2012, p.172). proposed that university administrators should have the following abilities: 1. Good self-cultivation and self-image; 2. good coordination and adaptability; 3. good psychological quality; 4. Have some organizational and creative ability.

Zhao Wenchun pointed out in The Study on The Influence of Factors on the Ability of Administrators in universities. (2012, p.43). that the ability of administrators in universities refers to their business ability, decision-making ability, management level, innovation ability, coordination ability, communication ability and pressure resistance ability reflected in the work process. People's various abilities are formed

and developed on the basis of quality in the acquired study, life and social practice.

In *The Enlightenment of Parkinson's Law on The Ability Building of University Managers*. (2014, p.8). Li Wanfu proposed that university managers should have the ability of comprehension, execution, organization and coordination, communication and expression, business ability (including general business ability and professional business ability) and innovation ability.

Xiao Jingwu pointed out in *The Current Situation and Improvement Strategies of Ability Construction of First-level Administrative Personnel in universities -- TAKING H University as an Example*. (2015). that the ability construction of first-level administrative personnel in universities mainly aims at two kinds of ability construction. One is basic ability construction, including basic knowledge, professional knowledge and practical operation ability. Among them, practical operation ability can also be refined into language expression ability, listening, speaking, reading and writing ability, independent thinking and judgment ability. The other is work ability construction, including work planning ability, problem solving ability and innovation ability; Among them, problem-solving ability can also be divided into organization and coordination ability, propaganda and agitation ability, decision-making ability, investigation and research ability and so on.

Yu Xianyan mentioned in *Paths and Methods for Improving Vocational Ability of University Managers*. (2019, p.47). that university managers should have strong creative thinking, strong adaptability and strong comprehensive ability.

Bao Junjie, Wang Liqing, *Modern Commerce and Industry*. (2020, p.52). think that ability can be divided into two aspects: external ability and internal ability. External ability includes many contents, such as teamwork ability, the ability to coordinate affairs, etiquette service ability, the ability to comprehensively deal with affairs. The inherent ability covers a wide range, such as the ability to analyze and solve problems, the ability to organize business, the ability to learn independently, the ability to lead and the ability to innovate.

The administrative staff in higher vocational colleges, study, improve the ability based on the concept of professional managers "shao, Li Chaofan. (2021, p.99).

suggested that the administrators should have the good moral tutelage, professional ability, professional management, internal and external resources integration ability, their skills should have basic skills, thinking skills, team communication and cooperation skills.

Wang Nana. (2021, p.107). in *On Measures to Improve the Ability of Administrative Personnel in universities* proposes that the ability of administrative personnel in universities is divided into external ability and internal ability. External ability includes unity and cooperation ability, communication ability, deal with things ability, service ability; Intrinsic abilities include the ability to learn and analyze.

In a word, based on the research results of the above researchers, it can be known from the occurrence frequency of the constituent elements of the ability of first-level managers in universities, which can still be studied by referring to the constituent elements of the ability. According to the occurrence frequency from high to low, the constituent elements of the ability are as follows: Learning ability (education/knowledge), professional ability (work experience/skills), communication and coordination ability, problem solving ability, understanding ability, reasoning and thinking ability, stress resistance ability (calm/emotional stability), responsibility, etc.

The four components are taken as the research variables, namely, learning ability, professional ability, communication and coordination ability and problem solving ability.

### **1. Research on the learning ability**

Autonomous learning ability originated in the 1960s, when constructivism educators and thinkers put forward the concept of autonomous learning. They thought about how learners transform their roles and become their own masters. Constructivism advocates active construction of internal structure and active acquisition of knowledge. They believe that passively receiving knowledge is mechanical learning, and autonomous learning should rely on teachers' proper guidance and allocation to reasonably select learning resources from outside information, process information, and then construct knowledge actively and meaningfully.

Zimmerman B.J. (1998, p.73-86). carried out a series of reflections on the characteristics of autonomous learning, and his views are as follows: (1) Self-regulation affects learners' independent learning; (2) learners can autonomously monitor and generate necessary feedback themselves; (3) learners choose appropriate learning strategies to achieve learning objectives and adjust their learning state in time. His view has been recognized by many researchers.

Pang Guo-wei put forward the operable dimension of autonomous learning. He believed that autonomous learning has a horizontal dimension, that is, the content of learning to the creation of other environments, and the vertical dimension includes the determination of learning objectives and process evaluation behavior. His analysis of influencing factors of independent learning is a relatively authoritative study in China. He divides influencing factors into internal dimensions and external dimensions. The internal dimension includes individual metacognition, learning motivation, strategy use and will maintenance, and the external dimension includes others' guidance, supervision and regulation of learning.

Zhu Zude believes that learning ability is divided into learning motivation and learning strategy, and self-efficacy, anxiety and learning significance are the dimensions of autonomous learning.

Other scholars have put forward their own thoughts. They believe that learning ability includes cognitive ability and behavioral ability, and learners' cognitive and behavioral ability will be gradually enhanced after autonomous learning.

Wu Hongyun conducted factor analysis on the items after the questionnaire survey, and concluded that monitoring ability, planning ability, paper writing ability, judgment ability and literature reading ability are the four dimensions of learning ability.

Gao Haixu. (2008, p.36). proposed that the society of knowledge economy is a society of learning. In the knowledge economy, individuals, companies and organizations need to constantly learn, enhance their knowledge and renew their consciousness to adapt to the new situation. In the analysis of the quality models of managers in developed countries and regions, we find that many countries



and regions mention learning ability as an important quality and put it into the quality models. For example, the United States proposed continuous learning ability in its senior management quality model. From the perspective of the manager quality model, the British put forward that they should have keen, innovative and judicious abilities, professional knowledge and business skills. The Netherlands also suggests that managers must be able to learn. Moreover, these countries and regions have specific and clear norms on how to specifically improve the learning ability of their managers. Therefore, in the construction of first-level management team in the future, we should set up a correct learning concept to enhance the ability of "self-conscious learning" and "lifelong learning" of first-level management team in Our country, and try our best to build a learning-oriented first-level management team.

Chen Jialin. (2009, p.69). believes that learning ability refers to a person's ability to acquire knowledge, obtain information, accumulate experience and increase abilities. Learning ability is a compound ability: both fundamental and developmental.

Wu Liuqing. (2019, p.74). points out that the knowledge level of university administrators is still insufficient to meet the requirements of education reform and development. First of all, the professional discipline level of university administrative personnel is insufficient. The administration of colleges and universities is comprehensive and needs professional knowledge of pedagogy and management. However, in the current university administration team, quite a number of people have not been formally trained in the basic theory of management and pedagogy, and the proportion of university administrators majoring in pedagogy and management is low. Secondly, the autonomous learning ability of university administrators is insufficient. The administrative work of colleges and universities is more complicated and has more transactional work, so it takes more time and energy to complete the administrative practice. The tedious daily work has occupied the independent learning time of university administrators, which makes them unable to update their management knowledge in time and improve their professional level and business ability. As a result, it is difficult to cope with the

growing practical needs and cannot adapt to the construction of colleges and universities. Finally, the basic cultural knowledge of university administrators is insufficient. Although the current academic requirements for university administrators have been improved, there are quite a number of personnel just to "gold-plated" to brush their academic qualifications and improve their own academic qualifications, but there is still a big gap between their own level and the knowledge and ability of academic qualifications requirements, and the lack of cultural knowledge foundation.

Yang Xiaojing. (2021, p.16-17). proposes that learning ability is defined as: In a specific environment, in order to complete learning tasks or solve problems, learners give full play to their individual initiative, actively and effectively learn, independently formulate learning plans, skillfully use learning strategies, and monitor and manage the learning process. They have the basic quality of scientific research, basic judgment ability and critical thinking. Monitoring and adjustment, planning ability, criticism and research ability, resource and method application are the four main dimensions of learning ability.

Zhang Chenyang. (2021, p.15-16). believes that learning ability is a process in which learners, according to their own psychological and social environment and needs, independently set learning goals, seek all resources that can help them, choose and plan learning strategies and processes, and evaluate learning effects after implementation.

Zhao Jie. (2021, p.3-5). holds that: First, lifelong learning ability contains knowledge, skills and attitudes. Lifelong learning ability can not only promote the increase of learners' knowledge, but also promote the development of abilities, the cultivation of emotional attitudes and enhance the mutual communication between individuals and groups. Second, lifelong learning ability can be acquired through acquired learning. Lifelong learning ability is not innate, but acquired through external help and own efforts. Thirdly, lifelong learning ability is the survival ability to adapt to the society. Lifelong learning ability helps learners to update their knowledge, skills, concepts, etc., keep up with the pace of social development, so as to adapt to the constantly changing external environment. Fourth, the cultivation of lifelong

learning ability needs external support and help. Cultivating lifelong learning ability depends not only on learners' initiative and consciousness, but also on various conditions and supports provided by various subjects in the cultivation environment. Fifth, the elements of lifelong learning ability will change with the progress and development of society. Different characteristics of the development of The Times require different contents of lifelong learning ability.

Zhou Shuhui. (2015, p.112). puts forward that modern society is an era of knowledge explosion, knowledge is power and productivity, and people who do not learn will be eliminated by the society. Learning is important for everyone, but it is even more important for the administrators at the first-level in universities. Learning can increase wisdom, can constantly improve our ability to control the overall situation, macro decision-making ability, the ability to deal with complex problems, can continue to advance the cause.

First of all, we should have a wide knowledge reserve. As a member of the management in universities, as an example to the students, it must have a rich and wide utility, it can make the master position to grasp the idea of management science, in observation and analysis of vision, the thought is agile, able to get the gist and the key, so as to better deal with related work. Secondly, we should cultivate our ability to acquire new knowledge. University administrators face complicated work, interpersonal relations, family life management and other problems every day, and have little time and space for themselves. However, with the great pace of social development, the speed of knowledge update is getting faster and faster. If you don't learn and progress, you will lag behind and be eliminated. This requires the university first-level management personnel must cultivate their ability to constantly learn and acquire new knowledge, only with the ability to acquire new knowledge can constantly enrich and update their knowledge, so as to adapt to the needs of social development and not be eliminated by The Times.

## **2. Research on the professional ability**

He Yezi. (2015, p.9). puts forward that the basic definition of "business" in The Chinese dictionary refers to the work of an individual or an organization in its

own industry, which is interpreted as referring to its own industry and its own business. Professional work. "Professional competence" refers to the comprehensive qualities that a person demonstrates in completing his or her own job in the industry.

He Meng in doctoral dissertation research on the core competence of university counselors construction. (2016, p.55). business ability from the Angle of the ability, is a subset of the set of ability, inherited the basic characteristics of the ability, is engaged in the professional activities necessary ability of a variety of integrated, is by the superposition of many kinds of ability to reflect, in the process of production accumulation, condensation and composite, It is the basic guarantee and source to be competent for their industry posts and obtain professional identity, and it is a kind of personal psychological characteristics that affect work efficiency. According to the direction of the industry, different professional abilities are not the same, which is determined by the characteristics of the specific industry and the integration of several basic abilities. It is the most basic job quality required by people to complete the task of the occupation, and it is an important factor to reflect a person's competency and identity in the occupation.

Zhen-jun liu in the doctoral dissertation studies of Chinese civil servants career ability construction. (2015, p.19-21). is put forward, the business ability is generally understood to have internalized as individual's cognition, which is deep understanding of the professional knowledge required for the relevant academic background, and then can flexible use, do internalized absorption real knowledge and ability, Become the professional quality and ability to solve various problems in their own industry. If you do not have professional business ability, you are usually at a disadvantage in the professional competition, which is not conducive to the improvement of performance. On the contrary, analyzing business characteristics, clarifying the scope of business ability and focusing on targeted improvement can achieve twice the result with half the effort.

Professional competence refers to the professional competence of a particular industry, which is different from that of other industries. It is usually the most concerned competence in the recruitment and training process of various units and

the necessary competence to ensure the professional competence of a particular position. Professional competence is necessary for career development. Professional competence can be acquired through training and learning and is targeted.

Yin Ningwei. (2014, p.146). professional development trend of university management for university management personnel should possess and the management job that match the professional knowledge, professional ability and professional quality, finally realizes "the administrative personnel management administration, academic staff management academic affairs for the academic power and administrative power service" goal.

In her doctoral dissertation Research on The Professional Development of University Administrators. (2017, p.38). He Shutong pointed out that modern university is a complex system, and collaboration within the university is needed to achieve the organizational mission and educational objectives of the university. As the organizer and coordinator of various educational activities in universities, college administrators need to rationally allocate the people, money and materials in universities according to specific management situations, so as to achieve management goals. For a person who has not personally worked in a university, he or she cannot truly understand the particularity of the organization, and is also unable to be competent for the internal management work of the university, especially high-level management work. Therefore, with the expansion of the scale of colleges and universities, the management profession of colleges and universities has more and more professional characteristics.

The complexity of the management of colleges and universities and degeneration of practitioners ability put forward higher requirements, requirements management in universities have professional management concept, professional skills, able to play their own initiative at work, continuous reform and innovation, reduce the randomness management process, from the system to ensure to achieve the goal of management of colleges and universities. This requires university administrators to continue to learn, improve their own business ability, so that they can be competent for university management.

### 3. Research on the communication and coordination ability

Communication in ancient Greece, also known as "flailing," referred to in the "merriam-webster dictionary" communication is through language, words or other form to exchange of ideas, or opinions, management experts levitt proposed to define the communication from the perspective of information exchange, he think that communication is more than just send a message, and it is must be the increase in the number of feedback is to make communication receiver, It's called communication.

Peter Drucker and Dale Carnegie have actively explored communication problems in management.

As a pioneer in the study of communication ability, the United States attaches great importance to the cultivation of communication ability, lists the ability of effective communication as one of the training standards of undergraduate engineering education in the United States, and sets a complete curriculum for the cultivation of communication ability.

Deborah J. Barrett mentioned in her book Leadership Communication that communication ability can be reflected from several aspects, including the way the message sender expresses, the response of the message receiver, and the use of body language.

Fayol regarded communication and coordination as the same management function as planning, organization, command, coordination and control, and proposed that all the work of the enterprise should be coordinated harmoniously, so that the economic activities of the enterprise can be carried out smoothly, and finally the enterprise can achieve success. In the article, he proposed that each department in the enterprise must have an accurate grasp of its own work and the help each department needs to provide to other departments, all the work of each department should be carried out in an orderly manner, and the plans of each department should be adjusted according to the actual situation.

Song Yingjun. (2006). believes that national managers should have strong communication and coordination skills, learn and master various skills and methods

of communication and coordination, and flexibly use the art of communication and coordination to maximize their role in communication and coordination.

Wu Shengwei. (2012, p.7-8). believes that communication and coordination is a soft science with strong practicality. Communication and coordination is the information exchange between people in order to promote the realization of organizational goals and solve the contradictions within the organization correctly with the information exchanged. Communication must be bilateral, and it must involve both the transmission of meaning and the understanding of meaning. No matter how great an idea or perfect a theory is, it is useless if it is not passed on to others and understood by them. Therefore, communication is the message to be transmitted and understood and accepted, and finally reached a consensus. Perfect communication at work requires scientific organization, coordination, command and control, coordination and improvement of interpersonal relations. Coordination is a kind of synergy, which refers to the complementarity and mutual gain between the elements of each system.

In communication and coordination, communication is the premise. Only when the correctness and timeliness of information transmission are ensured, things can be coordinated according to information. Coordination is the purpose of communication, through communication can make the contradictions fully exposed, only know the key point of the contradiction can use the right means to coordinate to solve the problem, the two are complementary.

Zhou Shuhui. (2015, p.112). proposed that university managers should have communication and coordination ability. Improving the ability of communication and coordination is an important link to improve the comprehensive quality of school administrators and promote the development of education and teaching. Without the ability of communication and coordination, there is no efficiency, and without emotion, it is impossible to produce the ideal effect of education. Good communication and coordination skills, so that we are good at dealing with superiors, colleagues, students and other personnel; Ability is that we have the ability to deal with all kinds of contradictions and coordinate all kinds of

relations. Do good communication and coordination, can let us not be complacent, thinking will be more rigorous, thinking will be more open, and their comprehensive quality will be comprehensively improved.

As an important part of daily behaviors, communication and coordination have been studied in foreign countries for a long time. Simon and Hybels conducted detailed studies by classifying communication. The editorial team of Harvard Human Resource Management. (2017). summarized communication skills and proposed measures to promote communication skills and enhance communication ability.

Li Yan. (2018). believes that the communication ability of managers is the key to complete the basic work and also an important basis to ensure the quality of work. He also gives suggestions for managers to improve their communication and coordination ability from multiple perspectives.

Sultan. (2020, p.4-10). believes that communication refers to an individual's ability to receive, transmit and interpret information. Communication ability consists of several aspects. One is to receive information from other individuals. The other is to transmit information to other individuals. In general, communication includes both narrow category concept and broad category concept. In a narrow sense, communication only includes language communication, which is a common way of communication between individuals. In a broad sense, communication involves all kinds of ways of communication, such as expressions, expressions and other aspects of communication. Coordination ability refers to organizational coordination ability, which is to optimize the allocation of human resources according to the actual work situation, adopt scientific methods and means to integrate human resources, improve the efficiency of the use of human resources, strengthen the cooperation between human resources, and achieve human resource management goals. Coordination ability cannot be formed in a short time, individuals must accumulate coordination experience and improve their own coordination level. Through communication, both sides can reach consensus, and through coordination, both sides can achieve balance. Communication is a way and method, and coordination is the ultimate goal to be achieved. Communication and coordination are closely related to each other.



It can be seen that to improve communication skills and arouse enthusiasm, we need to do two things: one is to improve the ability to understand and mobilize others, and the other is to increase the possibility for others to understand us. As a university first-level management personnel, we should be able to promote and mobilize teachers and students to mobilize positive factors, play a positive role, unite teachers and students to complete the task, deal with all aspects of the relationship. Coordination is to handle the following five relationships: First, we should correctly handle the relationship between the overall goal and the step-by-step implementation, and be good at implementing the overall goal step by step, step by step, and step by step. Second, we need to properly handle the relationship between comprehensively advancing and making breakthroughs in key areas. We need to make breakthroughs in key areas in order to achieve balanced development. Third, we should correctly deal with the relationship between principle and flexibility, adapt measures to local conditions, cope with various complicated situations calmly. Fourth, we must correctly handle the relationship between the overall situation and the local, consider local problems from the overall situation, and consider immediate interests into long-term interests. Fifth, we should correctly deal with the relationship between big and small matters, make reasonable arrangements, prioritize, and improve work efficiency while ensuring the quality of work.

#### **4. Research on the problem solving ability**

Gagne, a famous psychologist, pointed out that problem solving, as the highest level of wisdom skills, is above "advanced rules" and is the process in which individuals choose and apply rules in a new situation to seek problem solving. In the process of problem solving, the individual will acquire a new high-level rule, which is established by integrating other rules and concepts, and this high-level rule can be used by the individual to solve other problems of the same type. Advanced thinking and problem solving skills are the comprehensive, interdisciplinary application of what is learned. The application of advanced thinking refers to the ability of learners to extend what they have learned to new conditions, especially to a variety of

conditions that have never been encountered before. At the same time, it also includes the aspect of understanding, which requires learners to be able to transfer and promote the knowledge they have learned across disciplines. It also requires learners to remember the steps and procedures to solve a certain problem.

Thomas J.D 'zurua and Arthur m. Nezu argue that problem solving is applicable to all kinds of problems in life, including personal or individual problems, interpersonal problems, small group problems (such as family conflicts) and broader social problems (such as community problems).

Michael Warner describes problem solving as "the ability to create the best solution to a problem at work."

Chinese experts and scholars Wu Yuanyue and Xie Weiqi believe that problem solving ability is a basic ability for individuals to participate in social life and solve problems with diversified disciplinary knowledge, which is an important performance of individual all-round development.

Jing Jing Wang. (2020, p.3). mentioned that different fields and different schools of theory have different specific definitions of "problem solving". In the field of mathematics, the International Dictionary of Mathematics Education points out that "problem solving" is a novel way to combine two or more laws to solve a problem. In the field of psychology, there are more definitions of problem solving. It is generally believed that problem solving is a psychological activity pointing to a cognitive process. Starting from the definition of problem, problem solving is defined as a process in which individuals achieve goals through efforts to overcome the barrier between the status quo and expectations.

Ma Lu. (2020, p.18-19). is put forward, the ability to solve the problem in a moderate amount of learning motivation and good state of mind, according to the established goals, can use already acquisition of skills, knowledge, thinking, the ability to deal with complex problems of flexible, implementation plan and can adjust the improvement scheme of high-level mental skills, creative. Problem solving has four components :(1) purpose, what you want to do in a situation; (2) Individuals, as individuals to solve the corresponding problems, should learn and apply knowledge;

(3) obstacles, various problems appear in the learning process; (4) method, individual procedures and steps in solving problems.

Gao Liming. (2000, p.84-85). believes that problem solving ability is reflected in the process of problem solving. The process of problem solving reflects the process of higher thinking as well as the cultivation and development of higher thinking. To a large extent, there is an inherent logical correlation between problem solving ability and advanced thinking: the final effective solution of problems depends on the development of learners' advanced thinking ability, including analysis, creation, practical and critical thinking, etc., which serves as the logical basis for effective problem solving. The whole problem is solved in one piece

The whole process, in this process, to continue to use those advanced thinking skills, problem solving ability implies the existence of advanced thinking.

Zuo Xiaomei. (2003, p.3-4). believes that problem solving ability includes three aspects: methods and strategies; Ability to reflect and evaluate the process of problem solving; Can think from different angles and be able to figure out how to think.

Jody taken in the master's thesis "improving problem solving ability of the PBL teaching design graduate study (2021, p. 13), problem solving ability is defined as: enables a person to find an effective or adaptive solution process, it is of a person's knowledge or have important attitudes, beliefs, and in the process of problem solving skills. It refers to the ability of individuals to think, analyze and find scientific and reasonable ways to solve problems by using the knowledge they have learned when facing problems in real situations.

It can be seen that the ability to solve problems includes: first, correct analysis and judgment. University managers should have a sense of foresight and consideration of the overall situation, so as to accurately grasp the general trend in the complicated situation and do a good job. The second is to make correct decisions, which requires the administrators at the first-level of colleges and universities to understand and master objective laws correctly and conduct scientific research. The third is to focus on implementation. In the face of complicated and complicated work, managers should know how to prioritize and actively perform their duties.

## Research on factors affecting personnel ability development

In ancient Greece, the concept of human capital began to sprout. In the Republic. (2002, p.276). Plato proposed that citizens acquire skills and knowledge through education and training and apply them to production and life.

Adam Smith said in the Wealth of Nations that all the people in a society acquire useful abilities as the fourth fixed capital, which is different from machinery, factories, and land improvement fees. "To acquire a talent (the fourth fixed capital) requires education, schooling, apprenticeships, and it costs a lot... . But this kind of expenses can be reimbursed and make a profit. And for the first time boldly used abilities as a fixed capital, believing that differences in abilities are mainly caused by differences in acquired education and training, and that differences in initial talents are not great. Emphasis is placed on the importance of acquired investment (human capital investment) on human ability. (2016, p.265).

Senior. (1836). argued that "human health... As well as innate or acquired physical strength and intelligence are all wealth. "Here, Sinier extended human productivity to human health and physical strength, that is, he believed that human productivity is not limited to human knowledge and skills, but also includes human physical strength and health level. Later economists such as Engel also noted the impact of health and other factors on personal economic value.

Say further developed the theory of human capital on the basis of Adam Smith and William Pety. He believed (2009, p.606) that human capital is inheritable capital, and long-term learning or training can accumulate human capital, which can increase the value of wealth.

John Mill further developed the theory of human capital, believing that the knowledge and skills of laborers belong to the national wealth, and the larger the stock is, the higher the value can be created. Due to the labor market failure, the state should adopt macro measures to intervene and adjust to increase the expenditure on education and training of workers. (2017, p.137-140).

In Human Capital Investment. (1961, p.1-17). Schulz pointed out that human capital is internalized in workers, embodied as the sum of knowledge, skills and

health, and can be added value through investment in human capital. From the perspective of human capital investment, factors affecting human capital are divided into four aspects: education, training, health and migration. Human capital affects a country's economic growth, and the country's investment in human capital plays a role in promoting both individual career development and national economic development. Therefore, Schultz advocates that the country should increase its investment in education and training.

Migration (migrant) is the last one in schultz human capital theory, division of factors, in general, the migration for the ascension of the individual human capital mainly includes two parts, the first aspect is laborer can be gained through the migration work skills improve, migration can make workers get more symmetrical information and jobs (Chen Xin Min, 2009). On the other hand, migration enables workers to obtain the exchange of labor value. In other words, due to incomplete information in the labor market, workers are highly likely to face discrimination, and migrant workers can obtain more suitable jobs and ways to realize value, and thus obtain a better wage level (Knight, 2011).

Becker connects human capital with income from a micro perspective, and puts forward a formula for calculating the return rate of human capital investment and an age-income curve. In *Human Capital Investment: A Theoretical Analysis*. (1962, p.9-49). Belk demonstrated the costs and benefits of education. Through quantitative research, he found that the increase of years of education would improve the income of laborers, and compared the difference of return rates of different years of education.

Combining life cycle theory, Mincer proposed the Mincer equation, which incorporated age, years of education, skill level, and work experience into the model, extending human capital theory. (2001, p.123-539).

On the basis of schultz, Becker and Mincer's research on human capital theory, contemporary economist Paul Romer put forward an economic model with human capital as endogenous variable. Romer regards knowledge as an endogenous variable, assumes that knowledge accumulation is positively correlated with capital

accumulation, and believes that knowledge has "spillover effect", that is, with the direct circulation of knowledge in firms, the total amount of social knowledge increases (2005, p.63-69).

Family factors can have an important influence on the development of individual competence. (Cunha et al, 2006). Child study center at the university of harvard a study also suggests that childhood family love will have significant effect on the formation of a child's ability, lack of child care environment for a long time can make the stress accumulation and formed "toxic pressure (toxic stress)", the "toxic" pressure will make the synapse development of children's language and emotional problems, And then affect the formation of children's abilities. Parents' education level and family wealth can have an important impact on the formation of children's cognitive and non-cognitive abilities. Blanden et al. (2007). believed that family income environment in childhood can affect the formation of children's cognitive and non-cognitive abilities, thus forming the intergenerational transmission of income. Early family economic status and parents' educational background will constrain the budget of children's human capital investment. Families with good economic status tend to increase children's human capital investment, which is conducive to the formation of children's cognitive ability and non-cognitive ability. However, families with poor family status have low human capital investment in the critical period of children's ability formation, which will have a negative impact on children's ability formation. In addition, constraints on investment in children's health, diet and medical care will also affect children's health, and thus affect the healthy development of children's IQ, emotional and cognitive abilities (Bradley R H et al., 2002).

Carneiro and Heckman. (2003). discuss in depth the cyclical issue of ability formation. They analyzed the rate of return of human capital investment in different life cycles and believed that the cognitive and non-cognitive abilities formed in the early stage can have an important impact on the social and economic performance of individuals in the later stage. Further research found that the gap in college enrolment was largely due to early family factors.

Gottlieb et al. (2004). believed that school education can improve individuals' abilities, and more formal education means more abilities.

In *Analysis of Influencing Factors of Insurance Personnel Competency* (2014, P.21), Han Lei analyzed the factors affecting insurance employees' competence and came to the conclusion that six factors, including industry knowledge, professional skills, social role, self-awareness, personality characteristics and employment motivation, would affect employees' competence.

In *Composition and Influencing Factors of Competence of College Counselors* (2015, p.65), Wu Yuanyuan showed through her research that organizational strategy, organizational culture, work requirements and external environment all affect competence factors.

Zhou Haiyang et al., in *Empirical Research on Influencing Factors of Safety Manager Competency in Construction Enterprises* (2015, p.7). analyzed the characteristics of influencing ability by studying the ability of safety managers in construction companies and collecting factors of age, education level and marital status of samples.

Xiao Jingwu, in *The Current Situation and Promotion Strategies of Ability Construction of First-level Administrative Personnel in universities -- TAKINGH University as an example.* (2015, p.133). analyzed the ability of first-level administrative personnel in universities through factors such as gender, age, educational background, political status, post level, working years, training received, and emphasis on cultivation by the university.

In *research on Influencing Factors of Employee Competency in "Occupational Adaptation Period" -- Taking Accounting Industry as an Example.* (2016, p.212). Zhang Min and Hofen studied post-90s employees and concluded that personal characteristics, professional knowledge and skills, company factors and social relations are the main factors affecting competence.

Wang Zhenling and Yan Qingmei, in *research on the Status quo and Influencing Factors of Nurses' Competence.* (2017, p.198). determined the factors influencing employees' competence, such as age, marital status, professional title

and educational background, by investigating nurses' competence.

In her paper *Research on The Professional Development of University Managers* (2017, p.135). He Shutong studied the self-development consciousness, educational background, participation in training and system guarantee of managers as the influencing factors of the professional development of university managers.

In her master's thesis *"RESEARCH on The Construction of Competency Model for Middle Managers in YC Company"* (2019, p.20). Huang Shuyun analyzed the existing problems and status quo of middle managers in YC Company from the perspectives of gender, age, education background and working years.

Deng Qiunan, in his master's thesis *"Construction of Competency Model for Middle Managers in NW Company and Its Application in Training."* (2019, p.14). analyzed the competency of middle managers by analyzing their ranks, educational background, skills, age and length of service.

Bao Junjie and Wang Liqing. (2020, p.52). In *Research on The Ability Improvement Strategies of Administrative Personnel in universities* believe that factors affecting the ability improvement of administrative personnel include: Personal factors (lack of innovation spirit and self-learning consciousness), deviation in man-post matching (personnel's working ability does not match their job responsibilities), influence of social administrators (lack of social forces, weak support for university administration), etc.

In a word, based on the research results of the above researchers, some economists have clearly believed that human knowledge, skills, health and other factors are a kind of human productivity (a kind of capital). Some scholars regard individual factors as influencing factors of ability, while others regard external factors as influencing factors of ability. However, individual factors and external factors overlap and cross to some extent, and interact with each other to affect the development of ability. Therefore, this paper explores the influence on ability from gender, age, family background, educational background (education level), job level (promoted through migration), working years and other factors.



## **Research on the work characteristics and current situation of university first-level administrators**

Geng Lanqin. (1994). summarized the problems of the current situation of the administrative staff in universities as follows: "The relevant policies are not matched, and the staff is unstable; The age structure is unreasonable, the overall quality declines; Mutual cooperation is not enough, work mistakes; Lack of professionals and backward management methods."

He Weidong. (2005). focused on the professional moral quality of administrative personnel and found defects in this aspect, such as the distortion of values and morality in political quality. In the aspect of moral concept, there are impetuous mood and eager for quick success and instant benefit. There are problems of low level in professional quality.

Ding Yijiang. (2009). summarized the characteristics of the current administrative work of colleges and universities into four aspects: "First, the focus of the work of colleges and universities is teaching and scientific research rather than administrative work; Second, the lack of enthusiasm of administrative staff; Third, the development motivation of administrative personnel is insufficient; Fourth, the professional social status of first-level administrative personnel in universities is lower than that of teachers and researchers."

Si Yuqin. (2010). summarized the characteristics of administrative work in universities into three aspects: complexity, regularity and suddenness. The complexity of work is reflected in the triviality and disorder of daily business, from writing materials to receiving visits, financial reimbursement and other contents, which often occupy a lot of time; The regularity of work shows the singleness and stylized characteristics of work. Long time working in stylized work will produce a sense of tiredness. Suddenness of work shows that administrative staff are often involved in AD hoc arrangements, which will also occupy the established working time. In addition, the administrative work of colleges and universities is difficult to be assessed in a quantitative way, and its completion is often evaluated by leaders and supervisors.

Larry Hubbell of the University of Wyoming, in his paper "Understanding Facultymanagement Conflict." (2012, p.16-27). explores common impressions of administrators by teachers and common impressions of administrators by teachers. These impressions are often derogatory and can easily lead to conflict. In order to understand this kind of conflict, the author identifies three factors that lead to the difference between teachers' organizational culture and administrators' organizational culture based on relevant literature. These factors include :(1) administrators tend to view universities as open systems, while faculty tend to view their universities as closed systems; (2) Their employment contracts are different: many administrative staff are employed for no fixed period of time, while most faculty are either tenured or in the tenure series; (3) Teachers may have a more international perspective and be more loyal to their discipline rather than their university, while administrators are more local and loyal to their university. These cultural differences often reflect conflicts in institutions, especially in the areas of teacher autonomy, teaching evaluation, grade devaluation, academic freedom, and the many forms of management that administrators try to impose on teachers.

Jin Ying, in Her book People-oriented -- The Concept and Orientation of University Administration work. (2013). emphasizes that in university administration, administrators should always implement the "people-oriented" concept and constantly provide high-quality services for teachers and students.

Wang Zhongbin mentioned in Discussion on The Ability Cultivation of University Administrators. (2012, p.172). that the current situation of the construction of university administrators is as follows: 1. Lack of management theory and management level; 2. Weak sense of service and crisis; 3. The personnel management system and assessment mechanism are not perfect.

Chen Qiao yan's thesis of "full-time administrative personnel professional development path of research university." (2016). on the human resource theory, maslow's hierarchy of needs theory, double factor theory and expectation theory, administrative personnel of part of the undergraduate course colleges and universities in liaoning province with the method of questionnaire and depth

interview was carried out empirical research, It is found that the full-time administrators in universities have some problems, such as low awareness of personal professional development, narrow space for personal professional development, imperfect incentive system for professional development and non-standard training mechanism for professional development.

He Shutong mentioned in her paper *Research on The Professional Development of University Administrators*. (2017). that there are still various problems in the management team of Chinese universities, which are mainly manifested in four aspects: 1. The quality of management personnel in universities is relatively low. 2. The leadership of colleges and universities does not pay attention to the quality training of ordinary management personnel. The existing system and mechanism in universities lead to the lack of motivation for managers to study. 4. There are still various imperfections in the reform of the staff system in universities.

Yu Xianyan mentioned in *Paths and Methods to Improve The Professional Ability of University Managers*. (2019, p.47). that the situation of most university managers is as follows: 1. The managerial staff in universities have low salary and high mobility. 2. The management efficiency is not high and the effect is not strong; 3. The management personnel's business ability is low, and the structural system needs to be improved; 4. Management systems need to be established and improved; 5. Management procedures are seriously mechanized.

Wu Liuqing. (2019, p.74). argues that "at present, the ability of university administrators does not match the ability level required by the reform and development of universities, and the knowledge ability, service ability and innovation ability of university administrators need to be further improved".

Bao Junjie, Wang Liqing, *Modern Commerce and Industry*. (2020, p.52). hold that administrative personnel in universities in China are generally higher in educational background. There are many graduates of master's degree, and young people account for a large proportion in university administrative personnel, so the current university administrative personnel are more active in thinking and have a strong plasticity. However, there are also some problems for university administrators

themselves: Is comparatively backward management concept and management methods, for example, many administrators lack of patience, young of insufficient administrative personnel work experience and ability, and the fast pace of life, the administrators pressure also increased, so the large flow of people, is not conducive to ensure the stable development of the administrative personnel in universities.

"About improving the ability of secondary school teaching management research, yong Chen Yuan brilliant business and management. (2020, p.162). argues that today many secondary school teaching management mainly three aspects of problems, one is work can not get enough support and understanding, the school pays attention to is the result of the transaction, Lack of attention to the problems encountered in the actual work situation; Second, the management personnel's own theoretical knowledge is not enough, the work enthusiasm is not high; Third, the school does not pay enough attention to organizational development planning and management objectives are not clear enough.

Shao Hua, Li Chaofan. (2021, p.99). in Research on The Ability Improvement of Administrative Personnel in Higher Vocational Colleges -- Based on the Concept of Professional Managers puts forward that the main deficiencies of administrative personnel in higher vocational colleges are as follows: First, due to the lack of systematic training and fewer opportunities to study outside, many administrative personnel have uneven professional level and low professional ability. Second, the education teaching in the school in a core position, management became a "outsider", at the same time, the basic management responsibility is not clear, lack of pertinence, of examination is usually "N + M (good) (qualified), there are even outstanding quota allocation in turn, there is no incentive, resulting in a lack of self management personnel can assign and self-identity. Third, the administrative personnel do not have a good understanding of the role of the post, only pay attention to their own "manager" identity, lack of awareness of service to teachers and students, poor ability to educate people. Fourthly, the management personnel's informatization ability is not strong, and the level of using informatization means to carry out management services is not high. Fifth, administrative personnel mechanical

work model, tedious links, in the understaffed work under various pressure, exhausted, work enthusiasm fade, there is job burnout. Sixth, the school lacks the atmosphere to encourage innovation, and most administrative personnel are not willing to reform and innovate, so that they lag behind in management methods and decline in governance ability.

Wang Nana. (2021, p.107). in *On Measures to Improve the Ability of Administrative Personnel in universities*, points out that the current management concept of administrative post setting in universities is backward; The administrative system of colleges and universities is not reasonable, and there is a lack of symmetry and scientificity between university-level posts and departmental posts. The administrative personnel of colleges and universities are poor in ability, especially in the information age, some personnel have been unable to keep up with the pace of the development of The Times, their own ability can not meet the needs of the administration of colleges and universities.

In a word, from the above studies, we can see that colleges and universities do not pay enough attention to managers and lack systematic training and incentive guarantee, resulting in the overall working status of managers is lack of motivation and enthusiasm, and they are not professional enough for the job, which is a common problem in universities.

### **Research on the ability development of university first-level administrators**

Hargrove. (2003). found that if administrative personnel encounter setbacks or blows in the management work, their work efficiency will be greatly affected, and those setbacks are mainly caused by their lack of administrative work experience. Therefore, he proposed to carry out professional training for university management personnel, and through project training, Let them make clear the way of professional development and promote the professional development of university managers.

In 2006, Japanese researcher Shinichi Yamamoto conducted a survey of 3,630 university employees at 726 public and private universities. 405 university employees at 281 universities answered the survey. According to the survey, most university Staff

acknowledged the necessity of SD (Staff Developer, P.P.M.) and stated the reasons, and most university Staff realized that their professional development was not only needed to be competent for their own work, but also needed to improve the quality of their career. In the survey, it was also found that the professional development of staff contributed to the initiative of the university to carry out reform. In addition to academics, many higher education professional organizations also pay attention to the professional development of university staff. For example, in 2004, the Nihon University Administration Association conducted a survey on the personnel management of 238 universities affiliated with the Association. A total of 80 schools responded. In the survey, it is found that university staff with excellent management ability and highly professional, which is more conducive to the realization of university management goals, universities are increasingly in need of management talents with broad vision and strong handling ability.

Xu Wenhua. (2007). came to the conclusion that "currently university managers generally feel overburdened and under too much pressure" through research. In view of this conclusion, she proposed a number of strategies from two aspects, namely, the improvement of individual ability and quality of administrative personnel and the improvement of university management system.

In the Application of Human Resource Incentive Theory in The Management of University Administrators. (2007). Han Boguang pointed out that incentive theory plays an important role in improving the ability level of university administrators. It is suggested that we should improve the ability of university administrators from the aspects of the goal incentive of administrative personnel specialization, the establishment of performance appraisal system, the creation of organizational culture environment, the perfection of learning and training mechanism and achievement incentive.

Fu Keqian and Zhao Lina also pointed out in Reflections on Strengthening the Ethics Construction of University Administrators. (2008). that university administrators are an important force in the construction and development of schools. While strengthening the ethics construction of university teachers, the ethics construction

of university administrators should not be ignored. And by strengthening the political theory study, system norms and other ways to improve the level of administrative ethics, to provide support and guarantee for the effective operation and benign development of university teaching and research work.

John Mc Dowell et al., Arizona State University, in their paper "Congratulations or Condolences: The Role of Human Capital in the training of university managers. (2009, p.258). studied the possibility of filling purely academic posts into administrative posts by using the research method of economics. Research shows that academic leaders are not born, but are made through investment in human capital.

Ding Yijiang. (2009). focuses on the incentive management of university managers and proposes to establish a scientific assessment system to improve their work enthusiasm.

Si Yuqin. (2010). focused on the relevant factors affecting the work enthusiasm of first-level administrative staff, and formulated a series of incentive mechanisms and strategies to improve ability and quality. In particular, he mentioned the importance of administrative culture and called for the improvement of personnel training system.

Wang Zhongbin mentioned in Discussion on The Ability Cultivation of University Administrators. (2012, p.172). that there are ways to further strengthen the ability cultivation of university administrators. 1. Follow the principles of ability cultivation, including: people-oriented, classified management, streamlined and efficient, and harmonious development. 2. Approaches, including: improving the recognition of the importance of the construction of high-quality management team in universities; Improve the training system, broaden the training channels and content; Establish a strict assessment system; We will intensify competition and selection.

Zhao Wenchun mentioned in The Study on The Influence of Factors on the Ability of Administrators in universities. (2012, p.43). that the joint efforts of society and individuals are needed to improve the ability of administrators in universities. (1) to create a good social environment, and constantly improve the sense of self-worth

of administrative personnel; (2) to strengthen the institutional environment, form a perfect incentive growth mechanism; (3) to study and practice diligently, and constantly enhance their own ability.

Yu Lezheng et al. (2013). believed that university managers would gradually become confused about their sense of career achievement and self-worth, and proposed that they should consciously carry out career planning to ease these confusion.

Karasek proposed the "JDACS pattern", which is the work requirement-control-support pattern. In this model, he emphasized to strengthen staff training to improve the working ability of university administrators.

Geng yiqun, communication university of China, and JohnL. YEAGER co-authored a paper titled "The Cultivation and Specialization of University Administrators in China: A Comparative Perspective" (2013, p.303-320). which compared the cultivation and specialization of university administrators in China and the United States. This study collected literature data from some universities in China and the United States, and examined the cultivation of higher education professionals in China and the United States from a comparative perspective based on relevant theories and practices of specialization. In order to identify the best way to train and educate university administrators, and to put forward suggestions on the training and professional development of university administrators in China, this paper compares short-term in-service training programs and educational programs (ph. D. and Ed. D.).

In the Necessity of Strengthening the Professional Construction of University Administrators. (2011)., Li Xiaoye and Li Xin emphasize the professional training and construction and the reform of educational staff system, so that university administrators can have a clear career orientation.

In the Enlightenment of Parkinson's Law on The Ability Building of University Managers. (2014, p.8)., Li Wanfu believes that the enlightenment of Parkinson's Law on the ability building of university managers is as follows: 1. Improve the efficiency and ability of managers by means of encouragement and training. 2. Check and



organize posts and allocate staff reasonably. Three, increase competition and selection, because of talent and use. Fourth, strengthen the professional construction of the management team, effectively improve the ability level.

Xiao Jingwu mentioned in *The Current Situation and Promotion Strategies of Ability Construction of First-level Administrative Personnel in universities -- TAKING H University as an example.* (2015). that universities and first-level administrative personnel continue to stimulate the potential ability of first-level administrative personnel through education construction, training construction, construction of relevant social conditions and corresponding system construction. The ability building of the administrators at the first-level in universities is not a one-time ability development, but a multi-directional and continuous ability development behavior.

Liu Xu. (2017). constructed a competency model by studying the decision-making ability, organizational ability, professional ability and personality ability of managers, and applied it to recruitment and selection, training and education, and performance management projects. Personal ability and quality is the basic factor that constitutes the company's overall ability and quality, and all "personal ability and quality can be measured, and can be effectively improved through appropriate training.

Wu Liqing. (2019, p.74). In *A Brief Analysis on the Improvement of Administrative Personnel ability in universities*, believes that "in order to better strengthen the modernization reform of colleges and universities, deepen the reform of the education system of colleges, disciplines and majors, and make the education in universities better meet the requirements of modernization development, University administrators should improve their knowledge level and professional quality, strengthen their service consciousness and ability, and strive to cultivate their innovation consciousness and ability.

Zhao Jing's Wisdom. (2019, p.106). argues that colleges and universities should improve the comprehensive quality of administrative personnel; And according to the characteristics of administrative staff scientific arrangement of the job, give full play to their strengths; At the same time, colleges and universities should strengthen

the communication and interaction between the staff of various administrative departments, promote the ability of administrative staff to improve by sharing excellent cases and carrying out administrative skills competition. Finally, colleges and universities should provide more promotion opportunities for administrative personnel, stimulate their enthusiasm for independent ability development, and consciously improve their comprehensive quality and sense of responsibility.

Yu Xianyan, in *Ways and Methods to Improve the Professional Ability of University Managers*. (2019, p.47). believes that the ways and methods to improve the ability of university managers are as follows: (1) establish a sound management mechanism, (2) establish a scientific management concept, do people-oriented, (3) adjust the management team structure, establish a high-level management team, (4) pay attention to the management of job skills training.

Bao Junjie and Wang Liqing. (2020, p.52). in *Research on Strategies for Improving the Ability of Administrative personnel in universities* believe that the ability of administrative personnel in universities can be improved through the following ways: strengthening the professional cultivation and training of administrative personnel in universities; Guide administrative personnel to establish lifelong learning consciousness; Cultivate personnel's various abilities in study and practice; Perfect the system environment to form a good assessment mechanism; We should strengthen cooperation and actively seek support from social forces.

Guo Xin. (2020, p.355). in *The Path of Improving the Ability of Managers in Entrepreneurship and Innovation Colleges of Universities*, believes that there are four strategies for improving the ability of managers in colleges: One is to gradually improve the management system of the college; the other is to actively carry out job skills training to improve the knowledge reserve and vocational skills of managers; the third is to build a reasonable incentive mechanism for managers; the fourth is to improve the supervision and assessment and promotion mechanism.

Tao Yong and Chen Yuanyan. (2020, p.162). in *Research on Improving the Ability of Teaching administrators in Secondary Colleges of Higher Learning* believe that measures to improve the ability of teaching administrators should be carried out

from the following aspects: 1. Define the work scope of teaching administrators; 2. Improve the professional ability of management personnel; 3. Determine the concept and spirit of campus management; 4. Strengthen the awareness of innovation and service; 5. Enhance management consciousness of managers; 6. Define the functions and tasks of management personnel; 7. Create a harmonious management environment.

Shao Hua, Li Chaofan. (2021, p.99). put forward in *Research on The Ability Improvement of Administrative Personnel in Higher Vocational Colleges -- Based on the Concept of Professional Managers*. School management personnel should improve language expression ability, enhance sense of responsibility and mission, improve professional planning and sorting ability, improve teamwork skills, strengthen professional quality training, improve leadership, improve executive ability and improve self-management ability.

Wang Nana. (2021, p.107). puts forward that measures to improve the ability of university administrative personnel include strengthening the training of university administrative personnel; To guide university administrators to develop a sense of learning; Develop a variety of abilities in the process of learning and practice; Improve the assessment mechanism; Strengthen cooperation and seek the support of social forces; Strengthen the service consciousness of university administrators.

To sum up, we can see from the above research, the current management in universities at home and abroad in the research of the development of the ability is not optimistic, most of the research content is embodied in the working condition of the administrative personnel in universities, the condition of job burnout, performance appraisal and effective incentive, and management personnel training in universities and promote the research but I did not get the attention they deserve. As higher education becomes more and more important in the national economy, it is necessary to pay attention to the research on the ability development of university first-level administrators.

## Theoretical basis

### 1. Human capital theory

Adam Smith argued that "the increased proficiency of the worker may be regarded as fixed capital as the machines and tools which facilitate and economize labor. It costs a lot of money to study, but it can be paid back and you can make a profit. This view is regarded by scholars as the source of the "human capital" theory. At present, the most well-known and recognized founder of human capital theory is American scholar Theodore W Schultz (1902-1997). In the investigation, Schultz found that the income of workers has a great relationship with their intelligence and skills. On this basis, he elaborated the theory of human capital, holding that human capital, corresponding to material capital, mainly "reflects the knowledge, skills, experience and health possessed by people". First of all, the key of human capital is that it is a part of the inner and human, is inseparable from the important component of human, at the same time, it is also a form of capital. Second, Schultz divided human capital into two aspects: quantity and quality. In quantity, he emphasized the number of people engaged in useful work and the working time. In the qualitative aspect, the emphasis is placed on the knowledge, skills and proficiency of people engaged in useful work. The quantity aspect cannot reflect the differences in the quality of the workers themselves, nor the differences in the labor quality of the same workers after receiving education and training. Therefore, Schultz divided human capital into quantity and quality aspects, which really made people realize the huge energy of human capital in personnel ability construction. Third, human capital can be acquired through investment, and the quality of human capital can be improved through investment in education and training. "The most valuable capital of all is investment in people themselves." "The quality of population and investment in knowledge determine to a large extent the future prospects of mankind." Fourth, Schultz closely linked human capital with social and economic development. He believed that the gradual accumulation of human capital was the driving force for the continuous development and growth of the whole social economy. "The future of humanity will not depend on space, energy and arable

land," Schultz said. "It will depend on the development of human intelligence." Finally, education is very important for the accumulation of human capital, which can equalize the distribution of social income.

The birth and development of human capital theory has gone through a long historical process, and "ability" has always been a potential main line in the research process of human capital theory, among which cognitive ability and non-cognitive ability constitute the conceptual category of "ability" in human capital theory. Cognitive ability refers to the sum of abilities including mathematical operation, reading and writing, information processing, etc. formed through education, knowledge accumulation, training, etc., and individual potential characteristics such as motivation, self-control, preference constitute the content of non-cognitive ability. With the deepening of people's understanding of non-cognitive ability, the new human capital theory has improved the defects of traditional human capital which only focuses on one-dimensional ability, and has a new understanding of the constitution of ability, the relationship between ability and human capital. The ability theory has experienced the development process from unidimensional ability to multidimensional ability, which is closely related to the development of human capital theory.

The theory of human capital is of great theoretical value for the improvement of the ability of first-level administrators in universities. First of all, universities and relevant departments should increase investment in education, training and other hard and soft office environments to promote the accumulation of human capital. Secondly, the number of first-level administrators in universities is not the key to the efficiency and service quality. Therefore, colleges and universities should properly control the number of first-level administrators and focus on how to improve the knowledge and skills of first-level administrator. Thirdly, the core of human capital lies in intellectual capital, so the ability improvement of first-level administrators in universities should focus on enhancing their intellectual capital. Finally, colleges and universities should establish a unified multi-level selection system in the process of evaluating the promotion system of first-level administrators.

## 2. Competency model theory

In 1973, Mc Clelland, an American psychologist, put forward the famous iceberg model, which has become the basic model of competency recognized today. According to Mc Clelland, the iceberg model can be divided into two parts: the iceberg part on the water surface is some relatively superficial features such as knowledge and skills that can be easily recognized. Therefore, they are also called benchmark characteristics, these characteristics can be said to be the most basic ability and quality requirements for those who can excel, but it also has some shortcomings, such as not being able to effectively distinguish the superior performance from the mediocre performance. The underwater icebergs are hidden and difficult to discover, such as social roles, traits and motivation, self-concept and other relatively implicit characteristics. Because of these characteristics, they are named the discriminating characteristics of competency. Discriminative feature is an important factor that can effectively distinguish excellent performers from average performers, and can also be said to be the decisive factor. From another point of view, the iceberg model can be effectively divided into four levels. First level is mainly reflected in order to complete work and must have a very good and can be observed by the guidance of knowledge and skills, thus, they can be said to be the work or task can be successfully completed must have the basic ability, and promote the professional ability to effectively acquired many way, such as professional training. The second level mainly includes intermediate skills, such as social roles, etc., which are relatively difficult to acquire and require continuous personal efforts, continuous self-supervision, and continuous timely and effective feedback and correction. These skills are also generally considered to be broadly applicable vocational skills. The effective combination of instructional skills and intermediate skills becomes the basic competency of the profession in the first place. The third level mainly covers the structure of personality, covering values, standards, ethics and morality, and mainly reflects the competence in personality characteristics. The formation of the third level is a long process, which is formed in the long-term process of socialization of the individual. The fourth level consists of

the deeper structures of personality, including self-intention, enthusiasm, motivation, and engagement. The deep structure of personality largely determines what kind of actions a person will take in extreme or special situations. For some complex tasks that require high level of commitment, deep competency reflects more important characteristics. Mc Clelland believes that the deep structure of personality is whether an individual can achieve success in a position is the key factor. Nordhaug believes that the structure of competency includes three dimensions, namely, the specific task, the specific industry and the specific work unit. According to the results, he study six kinds of competency: 1. Yuan competency, competency is focused on management skills and interpersonal skills, yuan competence mainly involves the management of people, yuan competence is very important not only for managers, and different levels within the organization, the different position of subordinate staff also has the very vital significance; 2. General competence in the industry, which is mainly reflected in senior management staff; 3. Organizational competency, which is greatly influenced by organizational culture or industry culture; 4. Standard technical competency, which can be acquired through various ways, such as adult vocational education, skill training, conventional education, mentoring inheritance and so on; 5. Technical competence in the industry, mainly acquired through vocational education; 6. Special technical competency, which is generated in a specific organization and continuously developed through formal learning, job rotation, internal training, mentoring and so on.

From the perspective of competency model theory, there are some similarities between the structure of the ability of first-level administrators and the iceberg model. That is, the composition of various abilities of first-level administrators is sorted and sorted according to the external and internal logical organization, and the corresponding abilities are summarized for the specific post task of university administration.

### **3. Incentive theories**

Incentive theory was developed in the prevailing period of behaviorism research, is to summarize the incentive behavior of employees' work enthusiasm and

then form the law of abstraction. The most important theories include the hierarchy of Needs theory discovered by Maslow, the two-factor theory created by Herzberg, and others such as expectation theory and enhancement theory.

Maslow, an American humanistic psychologist, is the expounding of hierarchy of Needs. This theory was first proposed by Maslow in his book *The Theory of Human Motivation*. (1943). Maslow's needs from junior to senior can be divided into five levels, namely "physiological (food, sex, etc.) need, the need of safety protection (body), social (organized belonging) needs, respected, pay attention to and appreciation needs and self actualization (free and comprehensive development needs". Among them, the first two kinds of needs belong to the low level needs, which are the most basic types of needs for human survival. When these two needs are satisfied, people will further pursue the need of social communication and the need of being respected by others (the intermediate level of needs). When all the current needs are fully satisfied, people will pursue the need of self-realization, which is the highest level of needs. "A composer must compose, a painter must paint, a poet must write, or he will never be quiet. What a man can be, he must be, he must be true to his own nature. This need can be called a self-fulfilling need." This hierarchy of needs indicates that people are constantly realizing their own ideals and aspirations.

According to the hierarchy of Needs theory, the ability development of university administrators should appear after the low level needs are satisfied. In terms of the sense of competence of managers, they hope that the job is suitable for their knowledge and ability, the best job content is challenging, and they can take more responsibility. In terms of managers' sense of accomplishment, they want to be able to engage in creative activities and strive for success, so that their sense of accomplishment and happiness will increase rapidly.

American psychologist Herzberg is the expounding of the two-factor theory of motivation. In *Work and Motivation*. (1959). Herzberg formalized the two-factor theory (i.e., the health factor and the incentive factor). By health care factors, we mean that the effects of such factors on employee behavior are similar to health



care. The health care factor is the most basic incentive factor. When the health care factor is well completed, the basic work requirements of employees can be maintained. However, when the health care factor is not well completed, it will cause strong dissatisfaction of employees, which will seriously affect the work efficiency. From this point of view, the health factor is indispensable, but it does not play the role of motivation. In contrast, the incentive factor has a strong incentive effect. When the incentive factor is completed very well, it can play a very obvious incentive effect; When the incentive is not done well, it doesn't matter, it doesn't affect the employee's mood, it doesn't affect the work efficiency. Generally speaking, the motivation factors mainly include the following aspects: good reward mechanism, the honor and glory experienced, the sense of achievement and mission in work, the attention and recognition of leaders, the promotion of job title, the comprehensive and free development of individuals in the unit, and so on.

According to the two-factor theory, the working enthusiasm of the first-level administrators in universities should be obtained by means of incentives. On the one hand, it is necessary to complete the basic guarantee work and improve the external environment of the work for the first-level administrator in universities. On the other hand, it is necessary to provide more incentive factors from the aspects of attention degree, promotion mechanism perfection, reward and punishment system.

## Chapter 3

### Research Methodology

This study uses the method of multivariate analysis to study the following aspects : (1)The characteristics of the ability of university first-level administrators in Guangxi ; (2)The current situation of the ability of university first-level administrators in Guangxi ; (3) The ability development model of University first-level administrators in Guangxi. In order to solve the problem of the first chapter mentioned above and achieve the research objectives, researchers adopted the following procedures, specific as follows:

1. The population / the sample Group
2. Research Instruments
3. Data Collection
4. Data Analysis
5. Statistics

#### **The population / Sample Group**

##### **1. The Population**

There are about 5000 first-level administrators in 26 public universities in Guangxi. It involves colleges and universities distributed in 11 cities including Nanning, Liuzhou, Guilin, Wuzhou, Hechi, Qinzhou, Hezhou, Laibin, Chongzuo, Yulin and Baise., this study was conducted by first-level administrators of public undergraduate universities.

##### **2. The Sample Group**

According to Krejcie and Morgan sampling table, 357 valid samples were obtained from 5000 population. In the process of questionnaire distribution, there may be no answer and other situations. In order to ensure the sample accuracy,15% more samples were selected, namely 410 university administrators were selected for questionnaire survey. Firstly, stratified sampling was used.

Secondly, random sampling method was used to select samples from each university according to the corresponding proportion, with a total of 410 people from 26 universities.

**Table 3.1** Sampling distribution Source: Homemade by researchers

No	University	City	Population	Sample Group
1	Guangxi University	Nanning	411	34
2	Guangxi University of Science and Technology	Liuzhou	240	20
3	Guilin University of Electronic Technology	Guilin	384	32
4	Guilin University of Technology	Guilin	240	20
5	Guangxi Medical University	Nanning	255	21
6	Youjiang Medical University For Nationalities	Baise	137	11
7	Guangxi University of Chinese Medicine	Nanning	156	13
8	Guilin Medical University	Guilin	132	11
9	Guangxi Normal University	Guilin	300	25
10	Nanning Normal University	Nanning	176	15
11	Guangxi Minzu Normal University	Congzuo	197	16
12	Hechi University	Hechi	113	9
13	Yulin Normal University	Yulin	179	15
14	Guangxi Arts University	Nanning	156	13
15	Guangxi Minzu University	Nanning	287	24
16	Baise University	Baise	178	15
17	Wuzhou University	Wuzhou	167	14
18	Guangxi Science & Technology Normal University	Laibin	165	14
19	Guangxi University of Finance and Economics	Nanning	212	18
20	Beibu Gulf University	Qinzhou	156	13
21	Guilin University of Aerospace Technology	Guilin	129	11
22	Guilin Tourism University	Guilin	95	8
23	Hezhou University	Hezhou	169	14

Table 3.1 (Continued)

No	University	City	Population	Sample Group
24	Guangxi Police College	Nanning	94	8
25	Guangxi Agricultural Vocational College	Nanning	101	8
26	Guangxi Vocational Normal University	Nanning	84	7
<b>Total</b>			<b>4913</b>	<b>410</b>

### The interview object

The interviewees in this interview include first-level administrators of public undergraduate universities in Guangxi, who are required to have the following qualifications: They have worked in the university for at least 8 years and have been working as campus administrators. There are 9 in total.

### 3. Research Procedure and processes

This research is divided into six steps:

Step 1: Set the research idea

Sort out relevant literature at home and abroad, get familiar with the research on human capital theory at home and abroad, the research on the ability of university first-level administrators, the problems in the ability development of university first-level administrators, and the research on methods to improve the ability of university first-level administrators, and formulate research plans.

Set the research thinking, the ability of university first-level administrators in Guangxi in this study is composed of multi-dimensional and multiple characteristic elements, mainly using the literature method to summarize the high frequency of ability components and influencing factors proposed by human capital theory scholars; Questionnaires and interviews were used to test the reliability and validity of competency characteristics. At the same time, by obtaining the data of questionnaire survey, this paper analyzes the current situation of the ability development of university first-level administrators in Guangxi. Finally, model are put forward to improve the ability of first-level administrator.

#### Step 2: Design and distribute questionnaires.

Based on carding domestic and foreign literature, management of colleges and universities in Guangxi were obtained through the predecessors' research preliminary ability elements, design the corresponding questionnaire ; The questionnaire was submitted to 5 experts to verify the accuracy of the content of each question and obtain a concordant index. (IOC, goal consistency Index) = 1.00; The questionnaire was comprehensively revised according to expert suggestions ; Distribute the questionnaires that pass the quality inspection, on the sample area management of colleges and universities to carry out the questionnaire survey statistics, through factor analysis, analysis and comparison of data reliability and validity of validation of Guangxi colleges and universities characteristic element management ability, and analyzes the development status quo of management ability.

#### Step 3: Design the interview outline

The interview outline includes the composition, existing problems and improvement model of the ability of Guangxi university first-level administrators. The content analysis method is adopted to further get the model of the ability development of Guangxi university first-level administrators.

#### Step 4: Design the model assessment form

According to the ability development model obtained in step 3, a model evaluation form containing questions and evaluation items was designed, and 5 experts were invited to evaluate the possibility of the model.

#### Step 5: The data analysis

Percentage, mean, standard deviation and variance analysis were conducted for the data obtained from the questionnaire ; The interview was conducted by content analysis method ; The data and content obtained from the model evaluation were analyzed by means and standard deviations.

#### Step 6: Put forward the model

Based on the data analysis results and literature review, this paper puts forward the model for the ability development of university first-level administrators in Guangxi.

## Research Instruments

### 2.1 Research tools

The main research tools used in this study include: questionnaire, interview form and evaluation form.

Questionnaire:

The questionnaire consists of four parts.

The first part: Personal information, including gender, age, family background, education (education level), job rank, years of work, etc.

The second part: on the present situation of Guangxi university management ability questionnaire, with five point questionnaire, please study described according to the actual situation of university management ability, to evaluate individuals conform to the degree of assessment 1 does not conform to, 2 comparison is not in conformity with the said, 3 said the general, said compared with 4, 5 said very accord with. The contents and problems are arranged in the order of learning ability, professional ability, communication and coordination ability, problem solving ability.

The third part: the questionnaire survey about the existing problems in the ability development of university first-level administrators in Guangxi.

The fourth part is a questionnaire about improving the ability of first-level administrators in Guangxi universities. The contents and questions are listed in the order of research elements as follows: the degree of attention paid by colleges and universities, the training of administrators in universities, and the incentive measures formulated by colleges and universities.

Interview form:

According to the data obtained from the questionnaire and analyzed, the composition and existing problems of the ability of first-level administrators in Guangxi colleges and universities were improved and the corresponding structured interview table was developed to conduct the structured interview for the relevant personnel with set qualifications.

Evaluation Form:

According to the ability development model, a model evaluation form containing questions and evaluation items was designed, and experts were invited to evaluate the possibility of the model.

## **2.2 Methods of creating research tools and methods of checking the quality of tools**

Questionnaire: According to the purpose and object of the survey, the questionnaire was prepared according to the elements and related indicators of the ability model preliminarily constructed. The reliability and validity of the questionnaire were analyzed by SPSS19.0 to test whether the design of the questionnaire was correct.

Interview Form: In addition to explaining the basic information of the interviewee, the most important thing is to prepare an interview outline according to the interview purpose. The making of interview form is based on the ability development of university first-level administrators in Guangxi. Methods and paths to establish interview outline, including understanding what problems exist between interviewees, school first-level administrators and their own abilities, and what good solutions or suggestions they have. Good management ability experience and practice, construct Guangxi university first-level administrators' ability development model.

Evaluation form: Refer to "Research on The Construction of The Evaluation Index System of First-level Cadres' Legal Ability" (Li Baocai, 2017). and "Questionnaire survey on the Evaluation System of First-level Cadres' Legal Ability (Expert volume)" as the expert evaluation form of this study.

## Data Collection

Data were collected by the investigator according to the type and procedure of the research tool. as follows:

### 1. Questionnaire

1) Design the questionnaire : The questionnaire on the Ability Development of University first-level administrators in Guangxi is compiled by summarizing the frequently occurring ability components proposed by human capital theorists.

2) A questionnaire : In July 2022, the researchers will be distributed questionnaires to guangxi 26 public universities, for the convenience of sampling investigation, questionnaire through questionnaire for editing, will make a good questionnaire sent to the questionnaire from, again through the 26 public undergraduate course colleges and universities in guangxi personnel share links to invite management, demands respondents according to the questionnaire to fill out a form.

3) Collation of questionnaire data : The collected questionnaires were sorted out to check the completeness of the questionnaires, and the data obtained from the complete and effective questionnaires were processed by SPSS.

### 2. Interview

1) Through the data collected from the questionnaire survey and analysis, design and formulate the interview outline and determine the interviewees, etc.

2) The implementation of the interview : Make clear the focus of the interview and conduct a one-on-one interview with 9 interviewees. The interview time of each interviewee is controlled within half an hour. The whole interview was recorded.

3) Analysis of interview data : After the interview, the interview content was sorted out and basic statistical analysis of variables was conducted, including independent sample T test and analysis of variance.

### 3. Evaluation consultation

1) Design the schema evaluation form and check the applicability and possibility of the evaluation form.

2) Invite experts to participate in model evaluation.

3) After the evaluation, the evaluation content and data were analyzed.



## Data Analysis

### 1. Questionnaire

Before analyzing the data, the researchers first checked the validity and completeness of the questionnaires. If the data is found to be wrong, invalid or incomplete, it should be removed first, and then complete and effective questionnaires should be selected for sorting. Next, the researchers will analyze the data in two steps, a preliminary analysis and in-depth analysis of the data. As follows:

1) Preliminary analysis: Analyze the characteristics of variable data of each study, including preliminary data analysis and basic statistical analysis of variables using SPSS. Preliminary data analysis is to analyze the background of the sample, including the gender, age, education background, job level, working years, etc., and calculate the percentage and frequency; The basic statistical analysis of variables is the basic statistical analysis and calculation of mean and standard deviation of dependent variables.

2) In-depth analysis: In order to achieve the research purpose, according to relevant theories and methods, this paper studies the ability development guide of Guangxi University first-level administrators, and further understands the mean value and standard deviation.

### 2. Interview

Interviews with 9 long-term first-level administrators in universities who have worked in schools for no less than 8 years, to understand the abilities of first-level administrators in universities and the existing problems in their ability development, so as to provide favorable support and guarantee for the formulation of Guangxi first-level administrators' ability development guidelines.

### 3. To evaluate

The content evaluated is analyzed for applicability and possibility, and higher acceptability and possibility are determined by calculating the mean ( $\bar{X}$ ) of practical possibility, and using the statistical mean ( $\bar{X}$ ) and standard deviation (SD) of data analysis.

#### **4. Statistics for data analysis**

Statistics for data analysis, descriptive statistics. as follows:

1. Frequency distribution and percentage are used to analyze the components and secondary indicators of the ability of university first-level administrators in Guangxi, and the information analysis is carried out with the interviewees as samples.

2. Using mean analysis method and standard deviation method to analyze the ability of guangxi university first-level administrator, and analyze the scientific rationality of guangxi university first-level administrator ability development model.

## Chapter 4

### Results of Analysis

This chapter presents data analysis to serve research question (1) The characteristics of the ability of university first-level administrators in Guangxi ; (2) The current situation of the ability of university first-level administrators in Guangxi ; (3) The ability development model of University first-level administrators in Guangxi. Tables (and diagrams) are provided as well as further description.

A total of 410 questionnaires were sent out and 383 valid questionnaires were collected, accounting for 93.41% of the questionnaires sent out. Data analysis could be conducted.

#### Section 1 General characteristics of the sample group

1. Personal information, respectively, gender, age, marital status, education, professional title, experience (n=383)

Table 4.1 Sampling distribution

	Personal information	Number	Percent
Gender	Male	173	45.2
	Female	210	54.8
	<b>Total</b>	<b>383</b>	<b>100</b>
Age	25 years old or below	41	10.7
	26 to 35	160	41.8
	36 to 45	102	26.6
	46 to 55	55	14.4
	56 years old or up	25	6.5
	<b>Total</b>	<b>383</b>	<b>100</b>
Status	Single	87	22.7
	Married	296	77.3
	<b>Total</b>	<b>383</b>	<b>100</b>

Table 4.1 (Continued)

	Personal information	Number	Percent
<b>Education</b>	Bachelor degree	67	17.5
	A master's degree	276	72.1
	Doctoral degree	40	10.4
	<b>Total</b>	<b>383</b>	<b>100</b>
<b>Position</b>	No Title	30	7.8
	Teaching Assistant	65	17.0
	The Lecturer or Assistant	193	50.4
	Professor	76	19.8
	Associate professor	19	5.0
	<b>Total</b>	<b>383</b>	<b>100</b>
<b>Experience</b>	Within 5 year	82	21.4
	5 to 10 years	148	38.6
	11 to 15 years	73	19.1
	16 to 20 years	35	9.1
	More than 20 years	45	11.7
	<b>Total</b>	<b>383</b>	<b>100</b>

Source: Present data analysis results based on field of study

According to Table 4.1, among the 383 respondents, 201 were male, accounting for 47.5%, and 222 were female, accounting for 52.58%. The largest age group was 166 people aged 26-35, accounting for 39.2%; Followed by 118 people aged 36-45, accounting for 27.9%; 61 people aged 46-55, accounting for 14.4%; 46 people aged 25 and below, accounting for 10.9%; 32 people over 56 years old, accounting for 7.6%. The marital status is mostly married, 316 people, accounting for 74.7%; 107 were unmarried, accounting for 25.3 percent. The majority of the students with master's degree were 263, accounting for 62.2%; 146 undergraduate students, accounting for 34.5%; There are 14 doctors, accounting for 3.3%. The majority of professional titles were intermediate titles, with 201 people, accounting for 47.5%; 88 associate senior titles, accounting for 20.8%; 59 junior professional

titles, accounting for 13.9%; 56 people without professional title, accounting for 13.2%; Senior title 19 people, accounting for 4.5%. Most of them work for 5-10 years, with 160 people, accounting for 37.8%; 88 (20.8 percent) within 5 years; 82 people in 2011-2015, accounting for 19.4%; 54 people over 20 years, 12.8; 39 people from 16 to 20 years old, accounting for 9.2%.

## Section 2 To study the current situation of the ability of the first-level administrators in universities in Guangxi

The mean value and standard deviation were used to analyze the status quo of each variable.

1. Analysis of current situation of ability (n=383)

**Table 4.2** Current situation of ability

Ability	$\bar{X}$	SD	grade	sequence
1. Learning ability	3.628	0.872	medium	3
2. Professional ability	3.580	0.911	medium	4
3. Communication and coordination ability	3.673	0.909	medium	1
4. Problem solving ability	3.671	0.883	medium	2

Source: Present data analysis results based on field of study

According to Table 4.2 the average scores of the interviewees' learning ability, professional ability, communication and coordination ability, and problem solving ability are all between 3-4 points. Based on the theoretical median, scores higher than 3 and lower than 4 belong to the medium level, while scores higher than 4 belong to the high level. Therefore, The interviewees' learning ability, professional ability, communication and coordination ability, and problem solving ability are all at the medium level, which indicates that the ability of first-level administrators in universities in Guangxi needs to be improved. According to the ranking, communication and coordination skills had the highest average score (3.673), followed by problem solving skills (3.671), learning skills (3.628) and professional skills (3.580).

## 2. Analysis of current situation of learning ability (n=383)

**Table 4.3** Current situation of learning ability

Learning ability	$\bar{X}$	SD	grade	sequence
1. Administrators have broad and perfect knowledge structure.	3.681	0.980	medium	2
2. Administrators be able to observe and learn continuously at work.	3.595	1.100	medium	6
3. Administrators take initiative in making work and study plans.	3.661	1.085	medium	4
4. Administrators keep reading literature or related materials.	3.530	1.101	medium	8
5. Administrators have good writing ability.	3.619	1.095	medium	5
6. Administrators can conduct self-monitoring management.	3.713	1.110	medium	1
7. Administrators have certain judgment.	3.668	1.098	medium	3
8. Administrators have a lifelong learning attitude.	3.572	1.061	medium	7
<b>Total</b>	<b>3.628</b>	<b>0.872</b>	<b>medium</b>	

Source: Present data analysis results based on field of study

According to Table 4.3 the average score of each item of those questioned' s learning ability is between 3 and 4 points. Based on the theoretical median, scores higher than 3 and lower than 4 points belong to the medium level, while scores higher than 4 points belong to the high level. Therefore, the eight items of those questioned' s learning ability are all at the medium level, indicating that their learning ability needs to be improved. According to the ranking, the highest score (3.713) was the ability to self-monitor and manage, while the lowest score was the ability to read literature or related materials (3.530).

## 3. Analysis of current situation of professional ability (n=383)

**Table 4.4** Current situation of professional ability

Professional ability	$\bar{X}$	SD	grade	sequence
1. Administrators love university administration work.	3.744	1.127	medium	1
2. Administrators put the needs of teachers and students first.	3.692	1.153	medium	2
3. Administrators have common teachers' professional ethics.	3.577	1.175	medium	4
4. Administrators have knowledge of systematic administration.	3.470	1.089	medium	7
5. Administrators master specialized management skills.	3.473	1.010	medium	6
6. Administrators strictly abide by the rules and regulations of the university.	3.681	1.152	medium	3
7. Administrators clarify their job responsibilities.	3.561	1.124	medium	5
8. Administrators have a high degree of autonomy in their responsibilities.	3.444	1.049	medium	8
<b>Total</b>	<b>3.580</b>	<b>0.911</b>	<b>medium</b>	

Source: Present data analysis results based on field of study

According to Table 4.4 the average score of each item of those questioned' s business ability is between 3 and 4 points. Based on the theoretical median, a score higher than 3 and lower than 4 points belongs to the medium level, while a score higher than 4 points belongs to the high level. Therefore, the eight items of those questioned' s business ability are all at the medium level, indicating that their business ability needs to be improved. Among them, the highest score (3.744) was that they love university administration, while the lowest score was that they have a high degree of autonomy within their responsibilities (3.444).

4. Analysis of current situation of communication and coordination ability (n=383)

**Table 4.5** Current situation of communication and coordination ability

Communication and coordination ability	$\bar{X}$	SD	grade	sequence
1. Administrators have good psychological quality.	3.820	1.103	medium	1
2. Administrators have good relationship with leaders, teachers and students.	3.715	1.142	medium	2
3. Administrators be able to articulate the subject and content to be communicated.	3.687	1.052	medium	3
4. Administrators master certain communication skills and methods.	3.608	1.084	medium	8
5. Administrators have certain ability of empathy, can understand the content and emotion of the other party.	3.624	1.142	medium	7
6. Administrators can solve some conflicts through communication.	3.658	1.121	medium	4
7. Administrators have ability to coordinate complex tasks or problems.	3.627	1.092	medium	6
8. Administrators able to deal with all aspects of the relationship, mutual cooperation to complete the task.	3.642	1.095	medium	5
<b>Total</b>	<b>3.673</b>	<b>0.909</b>	<b>medium</b>	

Source: Present data analysis results based on field of study

According to Table 4.5 the average score of each item of those questioned' s communication and coordination ability is between 3 and 4 points. Based on the theoretical median value, the score above 3 and below 4 is the medium level, while the score above 4 is the high level. Therefore, the eight items of those questioned' s communication and coordination ability are all at the medium level, indicating that their communication and coordination ability needs to be improved. "Having good psychological quality" had the highest average score (3.820), while "mastering certain communication skills and methods" had the lowest average score (3.608).

5. Analysis of current situation of problem solving ability (n=383)



**Table 4.6** Current situation of problem solving ability

Problem solving ability	$\bar{X}$	SD	grade	sequence
1. Administrators have high sense of responsibility.	3.828	1.115	medium	1
2. Administrators try their best to do everything welll.	3.705	1.083	medium	3
3. Administrators always apply new methods and ideas to your work.	3.645	1.141	medium	6
4. Administrators identify and deal with problems quickly.	3.653	1.077	medium	5
5. Administrators have ability to analyze problems and explore solutions to similar problems.	3.577	1.065	medium	7
6. Administrators be able to predict the problems that may arise in the work and solve them in the bud in advance.	3.561	1.069	medium	8
7. Administrators able to carry out work as planned.	3.739	1.056	medium	2
8. Administrators work is recognized by teachers, students and other departments.	3.661	1.058	medium	4
<b>Total</b>	<b>3.671</b>	<b>0.883</b>	<b>medium</b>	

Source: Present data analysis results based on field of study

According to Table 4.6 the average score of each item of those questioned' s problem-solving ability is between 3 and 4 points. Based on the theoretical median value, the score above 3 and below 4 is the medium level, while the score above 4 is the high level. Therefore, the eight items of those questioned' s communication and coordination ability are all at the medium level, indicating that their problem-solving ability needs to be improved. The highest average score was 3.828 for having a high sense of responsibility, and the lowest was 3.561 for being able to anticipate and solve problems that are likely to occur at work.

Through descriptive statistical analysis of the research data of the five variables of learning ability, professional ability, communication and coordination, problem solving ability and university evaluation, it is found that the interviewees' abilities in the four aspects of learning ability, business ability, communication skill ability and problem solving ability are all at the medium level, which indicates that they need to be improved.

### **Section 3 To study the ability development model of the first-level administrators in universities in Guangxi**

#### **1. Interview data analysis**

This study uses the interview table specially designed for this study and presents the information provided by the respondents through the semi-structured interview. The respondents are 9 first-level administrators in universities in Guangxi who have been engaged in the work of administrators for a long time and have worked in the school for no less than 8 years. The details are as follows:

#### **First interviewee**

1. What do you think are the abilities of first-level administrators in universities? How would you rate yourself on a scale of 5 (1-5, with the higher the stronger)?

In my personal opinion, as a college first-level administrator should have the following important abilities, such as learning ability, cooperation ability, management ability, communication ability and problem solving ability. I would give myself a three for my ability. Because I think my problem solving ability and management ability are relatively weak. And I think these two abilities are the most important of all.

2. What do you think are the major deficiencies of the first-level administrators in universities? Please list and analyze in detail the factors that hinder the ability of first-level administrators to improve.

Based on my work experience, I believe that the current first-level administrators in universities lack two important abilities, one is the ability to write,

the other is the ability to solve problems. In my opinion, there are several factors that hinder the ability improvement of managers. First, the management work is very tedious. Because the work of administrative personnel in universities is very trivial and complicated, so the work pressure will be larger. Second, the ability of first-level administrators is relatively insufficient. First-level administrators mainly deal with a lot of work in peacetime, lack of systematic training, and fewer opportunities to go out for training, and less communication and communication with people. Third, colleges and universities do not pay enough attention to administrative staff.

3. When you feel inadequate in an area at work, what steps do you take to adjust? What do you think of the effect?

Based on my work experience, when I feel inadequate in a certain aspect, I will first think about why I have this problem, find the cause of the problem and find the root of the problem. If the root cause is the lack of learning, then I will strengthen business learning to improve my ability to solve problems. However, if the problem is caused by mentality, I will adjust my mentality and solve my pressure problem by means of pressure transfusion. These two ways to solve problems can help me solve temporary problems at work.

4. What do you think colleges and universities should do to help first-level administrators improve their abilities? In what ways? What are the specific measures?

First, on the individual side, schools should give first-level administrators the opportunity to attend training every year. As for the training, I do not recommend online learning, because the effect of online learning is much different from that of external communication and training. Although many excellent teachers are invited to conduct online training, I think the effect is not good. Secondly, I think it is necessary to give some help to first-level administrators in their professional titles. For example, to find a team for junior managers, through the management or management of the way involved, so that they can get a qualitative improvement from themselves. Finally, I think the ability should be improved by going out for further study or continuing to read. Because through going out for further study and through higher level of learning, such as encouraging master to study for doctor's

degree, first-level administrators will have more focused ability and space for themselves to have a more in-depth thinking about themselves, or they can also have a more focused input to themselves, so as to put aside the tedious things in work. Let their own abilities be substantially improved.

### **Second interviewee**

1. What do you think are the abilities of first-level administrators in universities? How would you rate yourself on a scale of 5 (1-5, with the higher the stronger)?

In my opinion, the ability of university managers includes language expression ability, coordination ability, communication ability and the ability to deal with emergencies. And the most important is the business capability of the relevant function. I would rate my ability at 3.5

2. What do you think are the major deficiencies of the first-level administrators in universities? Please list and analyze in detail the factors that hinder the ability of first-level administrators to improve.

In my opinion, in general, the first-level administrators lack language skills. There are some comrades around us who are enthusiastic and active in their work, but their language skills are not very strong, including writing materials, summarizing and so on. Second, the ability to design and plan work is uneven. Sometimes the execution ability is OK, but the initiative to plan and combine with the actual work to design, implementation ability is still a little. I think this problem can occur in more units. It is ok to tell him what to do, but after assigning him a task, he still lacks in aspects of excellence, that is, in planning and design work. Third, the ability to learn breakthrough is not strong. There are many people in the first-level management who stay in the status quo. I think we need to constantly improve ourselves and ourselves.

Based on my own work experience, I think it mainly affects the ability improvement of first-level administrators from three aspects. The first primary reason is the limited quality of first-level administrators themselves. When recruiting staff, the school may not be able to attract the best talents, so relatively speaking, the

talents it absorbs, including me, may have some shortcomings. On the other hand, at the level of the school itself, I don't think the motivation is particularly enough. In my work, I feel that no matter what we do well or poorly, it seems to be the same, not particularly outstanding, not able to mobilize the enthusiasm of first-level management. Over time, people will feel that "I only need to use five points on it, it seems that there is not much difference." So I think the incentives need to be strengthened. The third is that we work in positions with relatively little exercise. Some people may work in the same position for a long time, and what they have been exposed to and learned will be solidified, and they will have less contact with new fields, leading to the lack of ability.

3. When you feel inadequate in an area at work, what steps do you take to adjust? What do you think of the effect?

When I find deficiencies in my work, I will choose to consult experienced seniors. On the other hand, I find that if there is a shortage in the work, I still need to give full play to some resources of the unit. For example, when I was in charge of our alumni work, I was not very good at communication. However, when I encountered problems, I would consult the dean of our school. I would take the initiative to consult more excellent or good communication comrades in the previous unit, so as to give full play to their energy, and then do a better job. These two methods are relatively effective. In practice. Because of my lack of ability, we need to consult those who are more professional or have better ability, they can help us.

4. What do you think colleges and universities should do to help first-level administrators improve their abilities? In what ways? What are the specific measures?

I think our current hierarchical training is more effective. I think the middle-level cadre training organized by our school every year is relatively effective, and it can expand our vision and go to different places to learn. The other is that the digestion and absorption of training after the training, I think it still needs to be strengthened. So I think we should stick to the training, and then after the training of absorption, digestion and imitation, to further strengthen. Finally, it is also very

important that first-level administrators should have sufficient internal motivation and keep learning and making progress. At present, most of the first-level administrators are living on old money. In many cases, the original ability can not keep up with the development of the situation, so the first-level administrators need to improve their own ability through learning.

### **The third interviewee**

1. What do you think are the abilities of first-level administrators in universities? How would you rate yourself on a scale of 5 (1-5, with the higher the stronger)?

In my opinion, the abilities of college administrators should include learning ability, business ability, communication ability, writing ability and pressure resistance ability. I would rate myself a 4 for ability.

2. What do you think are the major deficiencies of the first-level administrators in universities? Please list and analyze in detail the factors that hinder the ability of first-level administrators to improve.

In my personal opinion, they lack enthusiasm, initiative and motivation for learning in their work. Another important point is that they do not have a strong sense of service teaching. This is where I think the first-level administrators are lacking. In my opinion, the reasons that hinder the ability improvement of first-level administrators are: firstly, the job responsibilities are not clear enough, secondly, the work process is too complicated, and thirdly, the workload is too heavy. Another is that first-level administrators are generally underpaid.

3. When you feel inadequate in an area at work, what steps do you take to adjust? What do you think of the effect?

If I personally find deficiencies in business, I will strengthen my study. Of course, learning includes learning organized by school and self-study. Second, I will ask the leader to reflect and consult some problems, some things to deal with methods and experience. The third one will communicate more with the first-level administrator in other positions to create a harmonious working environment. In this way, the effect will be better and it will be of great help to the development of the work.

4. What do you think colleges and universities should do to help first-level administrators improve their abilities? In what ways? What are the specific measures?

In my opinion, first of all, the school should pay enough attention to the first-level administrators and introduce some relevant policies and systems in top-level design. To help first-level administrators, especially young first-level administrators, develop rapidly. The second is to pay more attention to their difficulties in work and life. Because most of these junior managers are young people, most of them are relatively low paid or just started working, so I think more attention should be paid to this aspect. Then there should be regular training for first-level administrators. For example, regular personnel training to improve their business ability level. Finally, there is another is to retain people, stable first-level management team. In the case of heavy work, through the way of good treatment to let their efforts have a corresponding return.

#### **The fourth interviewee**

1. What do you think are the abilities of first-level administrators in universities? How would you rate yourself on a scale of 5 (1-5, with the higher the stronger)?

I think as a junior administrator of a university. The first one must have the ability to learn. Only in the continuous strengthening of learning, can we continue to progress. The second requires sufficient business ability. This is a foundation of our work. Because only by improving their business ability, can they better complete their work tasks. Third, we need to have the ability to communicate, because our work is mainly to serve teachers and students, this work must have a certain degree of communication with various departments, students, teachers, so it is very important. I think the most important thing should be the ability of these three aspects. I give myself a 3. There's plenty of room for improvement.

2. What do you think are the major deficiencies of the first-level administrators in universities? Please list and analyze in detail the factors that hinder the ability of first-level administrators to improve.

I think the learning ability is still relatively short. Of course, I also hope the school can have more opportunities to learn.

I think schools still need to give more opportunities for junior managers to learn. Because the school attaches great importance to the training of middle-level cadres and so on, but the training of first-level administrators is still relatively less. As for the school level, I hope there will be more opportunities, as well as systematic training, to give first-level administrators the opportunity to improve. At the same time, it is also hoped that middle-level leaders can better, or spend more energy to guide the first-level administrators. Both in terms of learning, business and other aspects can make first-level administrators have better improvement.

3. When you feel inadequate in an area at work, what steps do you take to adjust? What do you think of the effect?

When I feel inadequate in a certain aspect at work, I think it is necessary to strengthen my study, because I should not go to others for help when encountering difficulties or problems. Should be to figure out how to solve it, because to find a solution is also a kind of learning, by learning and looking up information. This includes looking at some of your former colleagues' cases and seeing if you can solve some problems yourself. If you still can't solve the problem, you can ask this colleague or leader for advice, hoping that they can guide you to solve the problem and constantly improve your ability.

4. What do you think colleges and universities should do to help first-level administrators improve their abilities? In what ways? What are the specific measures?

In my opinion, in terms of improving the ability of first-level administrators, colleges and universities should first have a training system for first-level administrators. The system should stipulate a path for the whole promotion, including various guarantees, so that they can have a good and clear understanding of their career planning. At the same time, it is hoped that the school can increase the training of first-level administrators and form a training system. For different personnel to different degrees should have what kind of training, solidify these into a training system, constantly improve the system, so that first-level administrator can have better development.



### The fifth interviewee

1. What do you think are the abilities of first-level administrators in universities? How would you rate yourself on a scale of 5 (1-5, with the higher the stronger)?

Management ability, communication and coordination ability, organizational ability, ability to withstand pressure and so on, as a first-level administrator are essential, and one is more important is the self-learning ability. In addition, a certain amount of writing ability should also be required. I would rate my ability at 3.5

2. What do you think are the major deficiencies of the first-level administrators in universities? Please list and analyze in detail the factors that hinder the ability of first-level administrators to improve.

Combined with my current work experience and what I have observed in the working unit, I think that the current first-level administrators are lacking in management level and their management concepts are relatively backward. Most of them are simple and rude. For example, in the logistics department or the student work department, most of the time, they should serve teachers and students well, rather than really manage others. They should try to solve the demands of teachers and students. They do not understand that their job responsibility is to serve teachers and students well. However, what I have learned and seen so far is that most of the managers have not positioned their jobs well, and their ability to express themselves at work or their way of doing things will make teachers and students feel uncomfortable, which will worsen the relationship between the department and teachers and students.

In my opinion, the reasons for the deficiencies of management personnel in this aspect are as follows: Firstly, our university is a combination of a technical secondary school and a junior college. Some of the current managers used to manage middle school students, and their management philosophy has not yet changed to that of college students. I think their current management philosophy has not caught up with them. The second is that the level of business has not kept up. I think we should go to the relevant units or do a better job in this unit to conduct systematic training and learning.

3. When you feel inadequate in an area at work, what steps do you take to adjust? What do you think of the effect?

When I encounter these problems, I must first look for the reasons from myself and find the main reasons for these problems. After clarifying the reasons, I will make the right remedy. If my communication ability or coordination ability is not strong, I will try to compare more colleagues around me, and then find friends and colleagues who are good at this aspect, or if there is a chance, I will go out to study and follow the class to improve my ability in this aspect.

4. What do you think colleges and universities should do to help first-level administrators improve their abilities? In what ways? What are the specific measures?

First of all, I think we should improve the assessment system, assessment and evaluation mechanism. I think our first-level management staff is more administrative work, first-level teachers teaching level, the level of management team is missing. Teachers should not be managed from the management level alone, but should also be able to evaluate the management level of school administrators, so as to manage both teachers and leaders in a two-way management. Secondly, I think some first-level administrators can be selected to study with students in universities or government departments that do a good job in this field. According to the learning cycle and the work arrangement of the department, reasonable arrangement of the study time. I think in this process, the management ability and business level of managers will be greatly improved. Thirdly, as administrators of colleges and universities, we should first solve the material problems of teachers, including the income of administrators, children's basic education and so on. After solving their worries, we can talk about how to improve the management level, management service attitude and work enthusiasm of administrators. If said the most basic matter, this piece can not be solved, in fact, later talk about these things are empty.

#### **The sixth interviewee**

1. What do you think are the abilities of first-level administrators in universities? How would you rate yourself on a scale of 5 (1-5, with the higher the stronger)?

I think it mainly includes management skills, leadership skills, communication skills, coordination skills and some word processing skills. I would rate my ability at 4.5

2. What do you think are the major deficiencies of the first-level administrators in universities? Please list and analyze in detail the factors that hinder the ability of first-level administrators to improve.

In my opinion, the main deficiencies of first-level administrators are writing ability and decision-making ability. Because first-level administrators have many times to assign tasks to him, he can complete very well, but if he takes the initiative to do a plan, take the initiative to do a decision, this aspect is still very short, that is, the comprehensive management ability, decision-making ability and planning ability is relatively short. In my opinion, one of the main reasons hindering the improvement of first-level administrators' ability is their own quality. For example, graduates from relatively good 985, 211 or some famous universities with master's and doctor's degrees are not willing to do management work. They are all full-time teachers. General schools graduated from colleges and universities, the overall quality of the whole person may be a little weak, will do the work of first-level administrators. The daily work of first-level administrators is very complicated, and the strong work pressure leads them to do nothing after work, to relax themselves. The promotion of self-ability, educational background and professional title will weaken the subjective initiative.

3. When you feel inadequate in an area at work, what steps do you take to adjust? What do you think of the effect?

I think the first point is to learn from excellent colleagues and communicate with them more. Because their experience will give us a lot of reference, if it is business, or if it involves using some relatively new data and models to complete the work, if I do not know, I will learn, such as watching videos, courses, and keep learning.

4. What do you think colleges and universities should do to help first-level administrators improve their abilities? In what ways? What are the specific measures?

To help first-level administrators improve their ability, I think the first thing is to improve their thinking, that is, they still need to have requirements for themselves. In terms of specific abilities, such as writing ability, coordination ability, and simple administrative ability and administrative process, I think they need to be strengthened. Specific measures can be special training, because if they teach themselves, they probably don't learn. Training is the main measure, and must be concentrated, such as in the summer vacation or when, because if it is as a first-level management post, usually in the busy business also need to go to training, then the complaint will be very big. But if it is a day or two before school or summer training, it will be a lot better, that is, put aside the daily things, do special training.

#### **The seventh interviewee**

1. What do you think are the abilities of first-level administrators in universities? How would you rate yourself on a scale of 5 (1-5, with the higher the stronger)?

As a manager, the comprehensive ability required is all-round. But some important abilities, I think there are mainly the following, one is the ability to communicate. Communication skills are actually one of the most important skills for me as a manager. Because he is not only the communication with in our department, but also the communication between departments, which is the most important foundation of good work. The second is problem solving. The third is the ability to withstand pressure. The fourth is the sense of responsibility for work. The sense of responsibility is not only reflected in our department to do a good job, but also to set an example, so that other colleagues can see the role of example. I think these are the ones that I think are very important. I give myself a 4.

2. What do you think are the major deficiencies of the first-level administrators in universities? Please list and analyze in detail the factors that hinder the ability of first-level administrators to improve.

In terms of my main lack of ability, I think because the work of each post may be different, if the job is professional, it may be outstanding in terms of professional ability, we must master strong enough professional ability. If this position is a

common management position with low professional requirements, I think what managers may lack or need to strengthen is their ability to communicate, coordinate and solve problems. Then work enthusiasm, state I think is important.

I think the main obstacle to improving the ability of first-level administrators is the problem of communication ability. In fact, we are more or less in the unit, in many cases, the superior management is relatively detailed or sometimes interferes with the subordinates too much, and the power is not delegated enough, which makes it difficult for the staff to carry out their work. Therefore, I think it is very important for superiors not to interfere too much in the work of subordinates, and to delegate power properly. I think the enthusiasm for work is closely related to the culture of the school and the culture of the unit. Whether the environment of the unit is loose, whether the care of the workers is enough, whether there is a system of care and so on, which all affect the management of the unit, the school has a sense of belonging, sense of honor.

3. When you feel inadequate in an area at work, what steps do you take to adjust? What do you think of the effect?

For myself, if I encounter this kind of situation, I will first consult my leaders, colleagues, or some peers, which I think is the best or most convenient way. Maybe through brainstorming, we can get better working ideas or inspiration. Learning from your peers, and by that I mean going beyond your own unit to ask for advice from your peers, is very important and necessary. Because of the limitations of the work of this department and unit, through consulting with peers and other units, we may be able to get good inspiration from them and have new ways and methods. So I think this is a very direct, very quick way to improve your ability. If we want to improve our comprehensive ability systematically in the long term, I think it is probably through self-strengthening learning and systematic improvement. Especially the business is relatively strong, otherwise it is difficult to have a comprehensive promotion.

4. What do you think colleges and universities should do to help first-level administrators improve their abilities? In what ways? What are the specific measures?

To improve the ability of first-level administrators, I think different colleges and universities may have different approaches. As far as our university is concerned, or most of us cannot do without these methods. First, strengthen the training of managers. The training of management personnel is a more common practice, or the effect is relatively fast, widespread. Second, if conditions permit, we can organize more management personnel to investigate the practices of departments and units that have done well, so as to broaden our horizon. Third, the school can also consider the humanistic care, performance appraisal and these aspects to allow managers to improve their own ability. In the case of reasonable promotion system, managers will actively improve their abilities and strive for promotion.

#### **The eighth interviewee**

1. What do you think are the abilities of first-level administrators in universities? How would you rate yourself on a scale of 5 (1-5, with the higher the stronger)?

I think it generally includes learning ability, communication ability, coordination ability, management ability, and very important writing ability. I give myself a 4.

2. What do you think are the major deficiencies of the first-level administrators in universities? Please list and analyze in detail the factors that hinder the ability of first-level administrators to improve.

In my opinion, current managers lack the overall learning ability and service awareness, and sometimes they lack patience. Of course, there are also some positions, professional, there may be some staff professional quality and management level is short and so on. In my opinion, there are many factors hindering the improvement of first-level administrators' ability. First-level administrator are under great pressure from various aspects of family, life, work and study. The same work is sometimes very heavy, will lead to staff in the psychological state is more difficult. On the other hand, I think there are still some incomplete policies. For example, some treatment is low, resulting in the team is not very stable. I think these aspects are relatively important reasons.

3. When you feel inadequate in an area at work, what steps do you take to adjust? What do you think of the effect?

I should study harder first. Learn from colleagues, supervisors, or experienced colleagues. Think positively about your shortcomings, adjust your mentality, let yourself adapt to the current work, find the key points of the problem. Then pay attention to the accumulation of their own experience, repeatedly, and with a positive attitude to face the problem of work, can let oneself in front of the problem is not defeated.

4. What do you think colleges and universities should do to help first-level administrators improve their abilities? In what ways? What are the specific measures?

I think, on the one hand, schools should pay more attention to first-level administrator. Pay attention to their development, care about their life, pay attention to their career development and professional title development, as well as income level. The second aspect is to improve the relevant system. First-level administrator can have the most fundamental protection, system protection, policy tilt, salary and pay matching system, and then illuminate the first-level management, so that they have a steady growth.

#### **Ninth interviewee**

1. What do you think are the abilities of first-level administrators in universities? How would you rate yourself on a scale of 5 (1-5, with the higher the stronger)?

I think there are five aspects, organizational ability, coordination ability, learning ability, innovation ability and their own mental self-control management ability. I'll give myself a 4 for ability.

2. What do you think are the major deficiencies of the first-level administrators in universities? Please list and analyze in detail the factors that hinder the ability of first-level administrators to improve.

In my opinion, the main deficiency of the first-level administrators in universities is learning ability, and organizational ability should also be strengthened. In my opinion, the reason for the lack of managers' ability is on the one hand, the learning ability, mainly due to the lack of initiative and personal innovation ability.

And the school's support and help in learning can not keep up, or the role is not big enough.

3. When you feel inadequate in an area at work, what steps do you take to adjust? What do you think of the effect?

When I find my ability is insufficient, I will take measures to strengthen my study. Only through learning can we accumulate more experience and stimulate a kind of innovative thinking.

4. What do you think colleges and universities should do to help first-level administrators improve their abilities? In what ways? What are the specific measures?

In my opinion, it is still necessary to enhance the learning motivation and ability of first-level administrators, with incentive measures and certain financial support. In the course of learning, or when we say that resources are not enough, the specific measures in addition to the guarantee of funds, some supporting things, such as the direction of the topic to find some resources, experts and knowledge of the topic should also be available. The second is that managers should strengthen their own subjective initiative. The third may need to strengthen their innovative thinking. As long as we combine learning and innovation, we can achieve results in terms of effect, and only in the future can our work have a direction. Without innovation, learning more will certainly be useless.

#### **Interview content analysis**

Combined with the basic situation of the interview, the ability development model of first-level administrators in colleges and universities is summarized.



**Table 4.7** The ability development model of the first-level administrators in Guangxi Universities

model	How
1. The degree to which universities attach importance to first-level administrators	<ol style="list-style-type: none"> <li>1. Universities shall provide the hardware conditions and environment to meet the daily work needs of first-level administrators.</li> <li>2. The leader cares for and supports first-level administrators.</li> <li>3. Universities guide first-level administrators to make good career planning and promote their career development.</li> <li>4. Universities respect first-level administrators and allow them to have a higher autonomy in their work.</li> <li>5. Universities care about first-level administrators' life and help solve difficulties.</li> <li>6. Universities provide security services for first-level administrators (such as solving the enrollment problem of children, etc.).</li> </ol>
2. The intensity of training of first-level administrators in universities	<ol style="list-style-type: none"> <li>1. Universities organize first-level administrators to conduct hierarchical and classified training.</li> <li>2. Universities support first-level administrators to go out to study or improve their academic qualifications.</li> <li>3. Universities provide opportunities for first-level administrators to go out for investigation and exchange.</li> <li>4. Universities should carry out forums to promote exchanges among first-level administrators.</li> <li>5. Universities provide opportunities for first-level administrators to go out for training.</li> <li>6. Universities provide guidance and help in the promotion of first-level administrators' professional titles.</li> <li>7. Universities provide first-level administrators with the opportunity to study with other units.</li> </ol>
3. The incentive system for first-level administrators in universities	<ol style="list-style-type: none"> <li>1. Universities introduce incentive measures for first-level administrators.</li> <li>2. Universities should improve the evaluation system of management personnel and link it with the promotion and treatment of their positions and professional titles.</li> </ol>

Table 4.7 (continued)

model	How
	<ol style="list-style-type: none"> <li>3. Universities provide support and policy guarantee for the title evaluation of first-level administrators.</li> <li>4. Universities should expand the promotion space for first-level administrators and provide fair competition opportunities.</li> <li>5. Universities should improve the salary system and improve the welfare benefits of first-level administrators.</li> <li>6. Universities should improve the supporting system for first-level administrators.</li> <li>7. Universities improve the treatment of first-level administrators.</li> </ol>
4. The first-level administrators make their own efforts	<ol style="list-style-type: none"> <li>1. First-level administrators should strengthen learning.</li> <li>2. First-level administrators take the initiative to learn and consult leaders or outstanding colleagues.</li> <li>3. First-level administrators should establish a sense of service for teachers and students and enhance their sense of responsibility.</li> <li>4. First-level administrators self-regulate to relieve work pressure.</li> <li>5. First-level administrators can take advantage of unit resources.</li> <li>6. First-level administrators can ask leaders or experienced colleagues for help.</li> <li>7. First-level administrators take the initiative to search for information.</li> <li>8. First-level administrators go out for further study.</li> <li>9. Experience of first-level administrators.</li> </ol>

Source: Present data analysis results based on field of study

According to Table 4.7 the models proposed by interviewees can be divided into four aspects:

The first is that the degree to which universities attach importance to first-level administrators, including: (1) universities shall provide the hardware conditions and environment to meet the daily work needs of first-level administrators. (2) the leader cares for and supports first-level administrators. (3) universities guide first-level administrators to make good career planning and promote their career development. (4) universities respect first-level administrators and allow them to have a higher autonomy in their work. (5) universities care about first-level administrators' life and help solve difficulties. (6) universities provide security services for first-level administrators (such as solving the enrollment problem of children, etc.).

The second is that the intensity of training of first-level administrators in universities, including: (1) universities organize first-level administrators to conduct hierarchical and classified training. (2) universities support first-level administrators to go out to study or improve their academic qualifications. (3) universities provide opportunities for first-level administrators to go out for investigation and exchange. (4) universities should carry out forums to promote exchanges among first-level administrators. (5) universities provide opportunities for first-level administrators to go out for training.

The third is that the incentive system for first-level administrators in universities, including: (1) universities introduce incentive measures for first-level administrators. (2) universities should improve the evaluation system of management personnel and link it with the promotion and treatment of their positions and professional titles. (3) universities provide support and policy guarantee for the title evaluation of first-level administrators. (4) universities should expand the promotion space for first-level administrators and provide fair competition opportunities. (5) universities should improve the salary system and improve the welfare benefits of first-level administrators. (6) universities should improve the supporting system for first-level administrators. (7) universities improve the treatment of first-level administrators.

The fourth is that the first-level administrators make their own efforts, including: (1) first-level administrators should strengthen learning. (2) first-level

administrators take the initiative to learn and consult leaders or outstanding colleagues. (3) first-level administrators should establish a sense of service for teachers and students and enhance their sense of responsibility. (4) first-level administrators self-regulate to relieve work pressure. (5) first-level administrators can take advantage of unit resources. (6) first-level administrators can ask leaders or experienced colleagues for help. (7) first-level administrators take the initiative to search for information. (8) first-level administrators go out for further study. (9) experience of first-level administrators.

#### Section 4 To study the applicability and possibility of the ability development model of the first-level administrators in universities in Guangxi evaluation data analysis

Table 4.8 Evaluation data analysis

Assessment checklist	Applicability			Possibility		
	$\bar{X}$	SD	result	$\bar{X}$	SD	result
1. Title						
1.1 Clear and concise	5.00	0.000	applicable	5.00	0.000	possible
1.2 Coverage	4.60	0.548	applicable	4.60	0.548	possible
2. Principles						
2.1 Background and importance	4.80	0.447	applicable	5.00	0.000	possible
2.2 Necessity of developing the first-level administrators' ability	5.00	0.000	applicable	5.00	0.000	possible
3. Purpose						
3.1 The degree to which universities attach importance to first-level administrators						
3.1.1 Universities shall provide the hardware conditions and environment to meet the daily work needs of first-level administrators.	4.40	0.548	applicable	4.60	0.548	possible

Table 4.8 (continued)

Assessment checklist	Applicability			Possibility		
	$\bar{X}$	SD	result	$\bar{X}$	SD	result
3.1.2 The leader cares for and supports first-level administrators.	5.00	0.000	applicable	5.00	0.000	possible
3.1.3 Universities guide first-level administrators to make good career planning and promote their career development.	4.80	0.447	applicable	4.80	0.447	possible
3.1.4 Universities respect first-level administrators and allow them to have a higher autonomy in their work.	4.40	0.548	applicable	4.40	0.548	Possible
3.2 The intensity of training of first-level administrators in universities						
3.2.1 Universities organize first-level administrators to conduct hierarchical and classified training.	5.00	0.000	applicable	5.00	0.000	possible
3.2.2 Universities support first-level administrators to go out to study or improve their academic qualifications.	4.80	0.447	applicable	4.20	0.447	possible
3.2.3 Universities provide opportunities for first-level administrators to go out for investigation and exchange.	5.00	0.000	applicable	4.60	0.548	possible
3.2.4 Universities should carry out forums to promote exchanges among first-level administrators.	5.00	0.000	applicable	4.80	0.447	Possible
3.3 The incentive system for first-level administrators in universities						

Table 4.8 (continued)

Assessment checklist	Applicability			Possibility		
	$\bar{X}$	SD	result	$\bar{X}$	SD	result
3.3.1 Universities introduce incentive measures for first-level administrators.	4.80	0.447	applicable	4.60	0.548	possible
3.3.2 Universities should improve the evaluation system of management personnel and link it with the promotion and treatment of their positions and professional titles.	4.60	0.548	applicable	4.60	0.548	possible
3.3.3 Universities provide support and policy guarantee for the title evaluation of first-level administrators.	4.80	0.447	applicable	4.80	0.447	possible
3.3.4 Universities should expand the promotion space for first-level administrators and provide fair competition opportunities.	5.00	0.000	applicable	5.00	0.000	possible
3.3.5 Universities should improve the salary system and improve the welfare benefits of first-level administrators.	4.60	0.548	applicable	4.20	0.447	possible
3.4 The first-level administrators make their own efforts						
3.4.1 First-level administrators should strengthen learning.	5.00	0.548	applicable	4.80	0.447	possible
3.4.2 First-level administrators take the initiative to learn and consult leaders or outstanding colleagues.	5.00	0.548	applicable	5.00	0.000	possible

Table 4.8 (continued)

Assessment checklist	Applicability			Possibility		
	$\bar{X}$	SD	result	$\bar{X}$	SD	result
3.4.3 First-level administrators should establish a sense of service for teachers and students and enhance their sense of responsibility.	4.80	0.548	applicable	5.00	0.000	possible
3.4.4 First-level administrators self-regulate to relieve work pressure.	4.60	0.548	applicable	4.80	0.447	possible
4. Performance evaluation						
4.1 Meet the purpose of format	5.00	0.000	applicable	5.00	0.000	possible
4.2 Cover the required measurement and evaluation	5.00	0.000	applicable	4.60	0.548	possible

Source: Present data analysis results based on field of study

According to Table 4.8 the mean value of all items of applicability ranges from 4.40 to 5.00, which is at a very high level, indicating that the applicable of the questionnaire in this study is very high. The mean value of all items of possibility is between 4.20 and 5.00, which is at a very high level, indicating that the questionnaire is highly possible in this study.

In the model, the average value of applicability and possibility of "the leader cares for and supports first-level administrators", "universities organize first-level administrators to conduct hierarchical and classified training", "universities should expand the promotion space for first-level administrators and provide fair competition opportunities", and "first-level administrators take the initiative to learn and consult leaders or outstanding colleagues" are all 5. Explain the four measures put forward the most applicable and possible.

# Chapter 5

## Discussion Conclusion and Recommendations

### Research Objectives

The research objectives include: 1. to study the current situation of first-level administrator's ability in universities in Guangxi. 2. to study the ability development model of first-level administrators in universities in Guangxi. 3. to assess the applicability and possibility of the model for developing the first-level administrator's ability in universities in Guangxi.

### Research Methodology

The first step is qualitative research, which mainly uses literature method to summarize the frequently appearing ability components and influencing factors proposed by human capital theory scholars. The second part is quantitative research, including: first, the questionnaire containing the competence dimension is submitted to experts for evaluation, so as to verify the accuracy of each question content and obtain the consistency index (IOC); The second is descriptive statistical analysis of the research objects, respectively from the gender, age, marital status, education level, professional title, working years of six background variables analysis; Thirdly, confirmatory factor analysis (reliability and validity analysis) was carried out on the questionnaire. Fourth, descriptive statistical analysis (mean value analysis); Fifth, the content analysis of the interview data; Sixth, experts are invited to evaluate the applicability and possibility of the ability development model and make descriptive statistical analysis.

### Conclusion

In this study "the ability developing Model of first-level administrators in universities in Guangxi", the researchers draw the following conclusions.

1. Research on the current situation of the first-level administrators' ability in universities in Guangxi.



1.1 Current situation of first-level administrators' ability in universities in Guangxi. The average scores of the interviewees' learning ability, professional ability, communication and coordination ability, and problem solving ability are all between 3-4 points. Based on the theoretical median, scores higher than 3 and lower than 4 belong to the medium level, while scores higher than 4 belong to the high level. Therefore, The interviewees' learning ability, professional ability, communication and coordination ability, and problem solving ability are all at the medium level, which indicates that the ability of first-level administrators in universities in Guangxi needs to be improved. According to the ranking, communication and coordination skills had the highest average score (3.673), followed by problem solving skills (3.671), learning skills (3.628) and professional skills (3.580).

1.2 Status of Learning ability. The average score of each item of learning ability is between 3-4 points. Based on the theoretical median value, it can be seen that the learning ability of managers is at the medium level and needs to be improved. The score and ranking of the 8 items are: (1) Can self-monitor management (average score 3.713) (2) has a broad and perfect knowledge structure (average score 3.681) (3) has a certain degree of judgment (average score 3.668) (4) can take the initiative to make work and study plans (average score 3.661) (5) has a certain degree of writing ability (average score 3.619) (6) can seriously observe and constantly on the job (7) Having a lifelong learning attitude (3.572 average); (8)being able to read literature or related materials consistently (3.530 average).

1.3 Current status of professional ability. The average score of each item of professional ability is between 3 and 4 points. Based on the theoretical median value, the business ability of managers is at the medium level and needs to be improved. The score and ranking of the 8 items are: (1) I love the administrative work of colleges and universities (3.744 average points) (2) put the needs of teachers and students in the first place (3.692 average points) (3) strictly abide by the rules and regulations of colleges and universities (3.681 average points) (4) abide by the professional ethics of teachers (3.577 average points) (5) clarify my job responsibilities (3.561 average points) (6) master specialized management skills (level) (7) Having

systematic knowledge of administration (3.470 average); (8) having a high degree of autonomy in their areas of responsibility (3.444 average).

1.4 Current situation of communication and coordination ability. The average score of each item of communication and coordination ability is between 3-4 points. Based on the theoretical median value, the communication and coordination ability of managers is at the medium level and needs to be improved. The score and ranking of the 8 items are: (1) Good psychological quality (average score 3.820) (2) harmonious relationship with leaders, teachers and students (average score 3.715) (3) able to clearly express the subject and content of communication (average score 3.687) (4) able to solve some conflicts through communication (average score 3.658) (5) able to deal with all aspects of the relationship. (6) Ability to coordinate complex tasks or problems (3.642 average) (7) ability to empathize and understand the content and emotions conveyed by each other (3.624 average); (8) mastery of communication skills and methods (3.608 average).

1.5 Current Problem solving ability. The average score of each item of problem solving ability is between 3 and 4 points. Based on the theoretical median, the problem solving ability of managers is at the medium level and needs to be improved. The score and ranking of the 8 items are: (1) Have a high sense of responsibility (average score 3.828) (2) can carry out work in an orderly manner as planned (average score 3.739) (3) try to do every job well (average score 3.705) (4) work is recognized by teachers, students and other departments (average score 3.661) (5) can judge quickly after finding problems. (6) often apply new methods and ideas to work (3.645 average) (7) Have the ability to analyze problems and explore solutions to similar problems (3.577 average); (8) the ability to predict problems prone to occur at work and solve them in the bud in advance (3.561 average).

2. A Study on the ability development model of the first-level administrators in Guangxi universities

In terms of the ability development of first-level administrators in universities in Guangxi, it can be summarized into four aspects:

The first is that the degree to which universities attach importance to first-level administrators, including: (1) universities shall provide the hardware conditions and environment to meet the daily work needs of first-level administrators. (2) the leader cares for and supports first-level administrators. (3) universities guide first-level administrators to make good career planning and promote their career development. (4) universities respect first-level administrators and allow them to have a higher autonomy in their work.

The second is that the intensity of training of first-level administrators in universities, including: (1) universities organize first-level administrators to conduct hierarchical and classified training. (2) universities support first-level administrators to go out to study or improve their academic qualifications. (3) universities provide opportunities for first-level administrators to go out for investigation and exchange. (4) universities should carry out forums to promote exchanges among first-level administrators.

The third is that the incentive system for first-level administrators in universities, including: (1) universities introduce incentive measures for first-level administrators. (2) universities should improve the evaluation system of management personnel and link it with the promotion and treatment of their positions and professional titles. (3) universities provide support and policy guarantee for the title evaluation of first-level administrators. (4) universities should expand the promotion space for first-level administrators and provide fair competition opportunities. (5) universities should improve the salary system and improve the welfare benefits of first-level administrators.

The fourth is that the first-level administrators make their own efforts, including: (1) first-level administrators should strengthen learning. (2) first-level administrators take the initiative to learn and consult leaders or outstanding colleagues. (3) first-level administrators should establish a sense of service for teachers and students and enhance their sense of responsibility. (4) first-level administrators self-regulate to relieve work pressure.

### 3. evaluation data analysis

Through the evaluation of Guangxi university first-level administrators ability improvement model : the mean value of all items of applicability ranges from 4.40 to 5.00, which is at a very high level, indicating that the applicability of the questionnaire in this study is very high. The mean value of all items of possibility is between 4.20 and 5.00, which is at a very high level, indicating that the questionnaire is highly applicable in this study.

In the model, the average value of applicability and possibility of "the leader cares for and supports first-level administrators", "universities organize first-level administrators to conduct hierarchical and classified training", "universities should expand the promotion space for first-level administrators and provide fair competition opportunities", and "first-level administrators take the initiative to learn and consult leaders or outstanding colleagues" are all 5. Explain the four measures put forward the most applicable and possible.

## Discussion

1. The ability composition of first-level administrators in universities is consistent with the important components of human capital proposed by American scholar Theodore W. Schultz. (1902-1997). the founder of human capital theory. Schulz divided human capital into two aspects: quantity and quality. On the quantity side, emphasis was placed on the number of people engaged in useful work and working hours. In terms of quality, emphasis is placed on the knowledge, skills and proficiency of people doing useful work. At the same time, he proposed that human capital can be obtained through investment, and the quality of human capital can be improved through investment in education and training. "The most valuable of all capital is the investment in people themselves." "Ability" has always been a potential main line in the research process of human capital theory, wherein cognitive ability and non-cognitive ability together constitute the conceptual category of "ability" in human capital theory. Cognitive ability refers to the sum of abilities formed through education, knowledge accumulation and training, including mathematical operation,

reading and writing, information processing, etc., while motivation, self-control, preference and other potential personal characteristics constitute the content of non-cognitive ability. Researchers propose that universities and relevant departments should increase the investment in the education and training of first-level administrators and other hard and soft office environment to promote the accumulation of human capital. Researchers also suggest that universities should focus on how to improve the knowledge and skills of first-level administrators, which is consistent with human resources theory.

1.1 Learning ability requires administrators to have a broad and perfect knowledge structure, to persist in reading literature or related materials, to have certain writing ability, to observe and learn carefully in the work, and to have a lifelong learning attitude. At the same time, I can conduct self-monitoring and management, take the initiative to make work and study plans, and have a certain sense of judgment. This is in line with Zimmerman B.J. 's. (1998, p.73-86). view on the characteristics of learning: "(1) Self-regulation affects learners' independent learning; (2) learners can monitor themselves and generate necessary feedback; (3) learners choose appropriate learning strategies, achieve learning goals and adjust learning states in time." And Zhao Jie. (2021, p.3-5). proposed that "lifelong learning ability contains knowledge, skills and attitudes. "Lifelong learning ability promotes not only knowledge but also ability development." It matches. Moreover, in the analysis of the quality models of managers in developed countries and regions, it is found that many countries and regions have mentioned the ability to learn and listed it as an important quality in the quality model. For example, the United States proposed continuous learning ability in its senior management quality model; The Netherlands also proposed that managers must have the ability to learn.

1.2 Professional ability requires administrators to love the administration of colleges and universities, put the needs of teachers and students in the first place, abide by the professional ethics of teachers and abide by the rules and regulations of colleges and universities. Have systematic knowledge of administrative management, master specialized management skills, clear their own job

responsibilities, and have a high degree of autonomy in their own responsibilities. This is in line with what He Meng proposed in his doctoral thesis *Research on Core Competence Construction of College Counselors*. (2016, p.55). "Business competence, from the perspective of competence, is a subset of competence, a synthesis of various competencies necessary for people to engage in their professional activities, and a basic guarantee for them to be competent for their industry positions and to obtain a sense of professional identity. Is an individual psychological trait that affects work efficiency. It is determined by the characteristics of a particular industry and several basic abilities. It is the most basic job quality required by people to complete the task of the occupation, and it is an important factor reflecting a person's competence and identity in the occupation." It's consistent.

1.3 Communication and coordination ability requires administrators to have good psychological quality, get along well with leaders, teachers and students, clearly express the subject and content to be communicated, have certain empathy ability, and be able to understand the content and emotion conveyed by the other side. In addition, I can master certain communication skills and methods, solve some conflicts through communication, coordinate complex work or problems, handle the relationship between various aspects well, and cooperate with each other to complete tasks. This is in line with Song Yingjun. (2006). 'National managers should have strong communication and coordination ability, at the same time, they should learn and master various communication skills and methods, and flexibly use the art of communication and coordination to give full play to their own role in communication and coordination', Zhou Shuhui. (2015, p.112). 'University managers should have communication and coordination ability, Good communication and coordination ability, so that we are good at dealing with superiors, colleagues, students and other personnel communication; It means that we have the ability to deal with all kinds of contradictions, coordinate all kinds of relations and finally achieve the goal.

1.4 Problem solving ability requires administrators to have a high sense of responsibility, try their best to do every job well, often apply new methods and new

ideas to work, quickly judge and deal with problems after finding them, have the ability to analyze problems and explore solutions to similar problems, and be able to predict problems prone to occur in work and solve them in the bud in advance. Be able to carry out work according to plan and get recognition from teachers, students and other departments. This is in line with the famous psychologist Gagne's idea that problem solving, as the highest level of wisdom skill, is a process in which an individual chooses and applies rules in a new situation to seek for problem solving. In problem solving, the individual obtains a new high-level rule, which can be used by the individual to solve other problems of the same type. "Learners can apply what they've learned to new situations, especially to situations they've never encountered before." It's consistent.

2. The model of ability development includes: (1) the degree to which universities attach importance to first-level administrators; (2) the intensity of training of first-level administrators in universities; (3) the incentive system for first-level administrators in universities; (4) the first-level administrators make their own efforts. This is in line with the "hierarchy of needs theory" proposed by Maslow, an American humanistic psychologist. In his book *The Theory of Human Motivation*. (1943). Maslow first proposed that human needs are divided into five levels from low to high. That is, "biological (food, sex, etc.) needs, safety (physical protection) needs, social interaction (an organized sense of belonging) needs, respect (to be valued and appreciated) needs, and self-actualization (to be free and well-rounded) needs." That is to say, the first-level administrators of colleges and universities should first guarantee their welfare benefits and work environment safety; secondly, they should care about and give full support to the first-level administrators and respect them so that they can have a higher autonomy in their work. After the first four needs are satisfied, the self-actualization needs of the managers are generated, that is, their own efforts require progress and realize their own career development. At the same time, it also conforms to the "two-factor theory" of motivation proposed by the American psychologist Herzberg. In *Work and Motivation*. (1959). Herzberg formally proposed that the health factor is the most basic incentive factor. When the health

factor is completed well, the basic work requirements of employees can be maintained. However, when the health factor is not completed well, the employees will be strongly dissatisfied, which will seriously affect the work efficiency. This requires colleges and universities to care for first-level administrators in daily life, try to help them solve the difficulties in life, and do a good job in relevant services (such as medical treatment, children's education, etc.), more importantly, improve the salary system, improve the welfare benefits of first-level administrators. The two-factor theory also mentions that "when the incentive factors are completed very well, it can play a very obvious incentive effect". The incentive factors mainly include the following aspects: Good reward mechanism, the honor and glory experienced, the sense of achievement and mission in work, the attention and appreciation of leaders, the promotion in the job title, the individual can develop comprehensively and freely in the unit, etc. The incentive measures for first-level administrators and the improvement of the promotion system of professional titles mentioned by the researchers are in line with the two-factor theory.

## **Recommendations**

1. Recommendations on the lowest score among the four ability variables of the first-level administrators in universities in Guangxi.

1.1 Among the status quo of learning ability, the average score of "able to persist in reading literature or related materials" was the lowest. Because the first-level administrators in universities have a heavy workload in their daily work, they cannot spare a full amount of time for reading, so they should learn to use fragmented time for reading and improve the efficiency of reading. such as: you can use the transportation time, half an hour before going to bed, or waiting for something to read, make good use of these fragmentary time, you can read a lot of documents or materials; At the same time, learn some reading skills, improve reading efficiency, learn how to do extensive reading, intensive reading, selective reading, etc.

1.2 The lowest average score was "having a high degree of autonomy within one's area of responsibility" in the status quo of professional ability. Because



the current management concept of colleges and universities is not advanced enough, the decision-making power of some affairs still stays in the hands of department heads or university leaders, colleges and universities should consider decentralization of power, to mobilize the enthusiasm, creativity and initiative of the first-level administrators of colleges and universities. Such as: Colleges and universities will introduce the post responsibilities of managers and clarify the working rights and tasks of specific posts; At the same time, improve the supervision and assessment system for first-level administrators, stimulate their sense of responsibility and mission, and complete their own work.

1.3 The average score of "mastering certain communication skills and methods" was the lowest among the current situation of communication and coordination ability. Because first-level administrators do not pay enough attention to communication and do not realize that communication and coordination ability is the most important ability of managers. Colleges and universities should to train managers, such as holding special training courses to strengthen communication skills and methods. First-level administrators should strengthen the study of communication skills, and after learning repeatedly practice, application, summary, find out a set of effective communication methods and skills suitable for their own.

1.4 In the current situation of problem-solving ability, the average score of "able to predict the problems that are prone to occur in work and solve them in the bud in advance" is the lowest, Because the first-level administrators have limited cognitive power, unclear working ideas, lack of responsibility awareness and initiative. First-level administrators should strengthen the consciousness of decision making and learn to master the forecasting technology, such as qualitative forecasting, quantitative forecasting, timing forecasting, probability forecasting, etc. Pay attention to investigation, timely understanding of the actual situation, timely summing up experience, improve judgment in work.

2. Recommendations on developing the ability of first-level administrators in universities in Guangxi.

2.1 The degree to which universities attach importance to first-level

administrators including: (1) universities shall provide the hardware conditions and environment to meet the daily work needs of first-level administrators, such as: replacing the old office computers, equipped with complete printers, scanners, etc., to improve the efficiency of managers; (2) the leader cares for and supports first-level administrators. For example, they often care about whether first-level administrators meet difficulties in work and life, help them to solve them, so that they can work at ease. At the same time, they do not hesitate to affirm and encourage their work, so as to stimulate the enthusiasm of first-level administrators to work and deal with daily affairs with enthusiasm; (3) universities guide first-level administrators to make good career planning and promote their career development, such as: Guide managers to make long-term and short-term career plans, so that their career development is operable and purposeful. In daily work, first-level administrators in colleges and universities can clearly according to the design of the plan, through improving their ability in certain aspects to achieve the expected goal, committed to the development and improvement of their own ability; (4) universities respect first-level administrators and allow them to have a higher autonomy in their work, such as: The management of first-level administrators should not be too detailed. In their work, they should be able to adapt to the specific work situation, choose appropriate methods to work independently within their own scope of authority, and have the right to solve problems without too much interference. Only in this way can the creativity and initiative of first-level administrators in colleges and universities be fully brought into play.

2.2 The intensity of training of first-level administrators in universities including: (1) universities organize first-level administrators to conduct hierarchical and classified training, such as: The education and training of first-level administrator in colleges and universities can be divided into two situations. One is the training of basic skills, basic qualities and basic values of all first-level administrator. In addition, there is the fixed-point training for specific positions and personnel, such as information technology and office automation training for office personnel. That is, colleges and universities should make reasonable arrangements according to the

post demand; (2) universities support first-level administrators to go out to study or improve their academic qualifications, such as: Encourage and support those managers who have worked for a long time and do not have a high education structure to participate in the opportunity to improve their own education, tuition loans, transportation expenses and living allowances, so that they have the opportunity to obtain a relatively high degree, so as to have more advantages in the competition of colleges and universities; (3) universities provide opportunities for first-level administrators to go out for investigation and exchange. For example, relevant departments take the initiative to contact government units or other colleges and universities to organize the management personnel of the university to learn more advanced management ideas and experience in foreign units, broaden their horizons and improve their management ability; (4) universities should carry out forums to promote exchanges among first-level administrators, such as: first-level administrators are organized to exchange and discuss frequently. Experienced colleagues play a role of "helping, passing on and guiding" to young colleagues, and they learn from each other, exchange and learn from each other. Excellent seniors can share their experiences and successful cases with young managers through exchange meetings, helping them grow up quickly.

2.3 The incentive system for first-level administrators in universities including: (1) universities introduce incentive measures for first-level administrators. For example, referring to the double-line promotion plan for administrative personnel that has been implemented in public institutions, exploring the double-line promotion of managerial personnel in colleges and universities; Formulate commendation programs to reward managers with excellent performance in material and spiritual terms; (2) universities should improve the evaluation system of management personnel and link it with the promotion and treatment of their positions and professional titles, such as: In terms of assessment methods, the combination of internal assessment and external assessment can be adopted, with internal assessment as the main method and external assessment as the auxiliary method. In external assessment, professional evaluation organizations and third-party

evaluation agencies can be introduced to carry out assessment, so as to obtain more objective and professional evaluation standards. In the process of external assessment, the public and service objects should be constantly enhanced to evaluate. The assessment results shall be published in a timely manner, and priority shall be given to excellent managers in the promotion of managerial positions and titles; (3) universities provide support and policy guarantee for the title evaluation of first-level administrators. For example, considering the lack of experience of first-level administrators in teaching or scientific research positions, they should often organize them to provide guidance on professional title promotion. At the same time, they should take the initiative to contact the scientific research team to connect with first-level administrators; It can also set up professional and technical posts for educational management research, determine the post responsibilities and qualifications, engage in higher education research full-time or part-time, and encourage first-level administrators to assess professional and technical posts for educational management research. (4) universities should expand the promotion space for first-level administrators and provide fair competition opportunities. For example, to establish a scientific and reasonable promotion mechanism, the first principle is fairness and justice; We can consider selecting part of the posts to compete in the whole school, so that more first-level administrators can take the initiative to come out and show their abilities. first-level administrators with strong professional ability and excellent in all aspects can adopt the way of exceptional promotion, so as to select young cadres with more sense of responsibility, more service spirit and more emphasis on the development of colleges and universities to serve all teachers and students; (5) universities should improve the salary system and improve the welfare benefits of first-level administrators. For example, competition mechanism should be actively introduced into the salary system, and salaries should be differentiated for personnel with different labor requirements, labor intensity and labor benefits. Organize regular annual physical examination for first-level administrators; Traditional festivals and management birthdays can be considered to send gifts.

2.4 The first-level administrators make their own efforts including: (1) first-level administrators should strengthen learning, for example: first of all, you can give yourself a study plan, according to their career development and work needs, develop a clear school plan, including learning content, learning time, and the study plan into the personal work plan, to ensure that it can adhere to the implementation; Secondly, we can purchase relevant courses and learn by ourselves through online courses. You can also buy books and stick to reading. Through reading relevant professional books, you can understand the subject knowledge and management experience, and improve your professional quality and ability. (2) first-level administrators take the initiative to learn and consult leaders or outstanding colleagues. For example, they can take the initiative to find experienced mentors or friends in the same or similar fields, consult and learn from them, and learn from their experience and methods; After consulting with leaders or excellent colleagues, summarize the experience and knowledge gained to find out the advantages and disadvantages, so as to better apply and improve in the future work; Consulting leaders or excellent colleagues is a very effective learning method. For the first-level administrators in colleges and universities, they should be good at learning from the experience and methods of others and constantly improve their management level and ability. (3) first-level administrators should establish a sense of service for teachers and students and enhance their sense of responsibility. For example, first-level administrators should change the idea of serving only leaders and enhance their sense of mission rather than task. In this way, they will take the initiative to serve teachers and students. Only by taking the initiative to establish a sense of service and dedication, can we reflect our own service mission, have a good attitude and serious attitude to treat first-level work in the work, and then give full play to their own maximum energy; (4) first-level administrators self-regulate to relieve work pressure, for example, arrange regular rest time to avoid overwork and fatigue. Can have a proper rest in the work, relax the body and mind, avoid long continuous work and overtime; Appropriate participation in sports, such as jogging, swimming, yoga, etc., can relieve work pressure and physical tension, improve physical fitness; Can

take relaxing methods, such as listening to music, reading, travel, so that you away from the work pressure, relax, adjust their mind; When encountering difficulties and setbacks in work, keep a positive and optimistic attitude, look for ways to solve problems, avoid negative depression and emotional loss of control; When you can't relieve the work pressure, you can seek support and help from family, friends, colleagues or professional psychological counselors and other people to get psychological support and help.

### **Future Researches**

1. In terms of research content, further detailed research can be carried out.

This paper puts forward the constituent elements of the ability of the first-level administrators in Guangxi colleges and universities, and makes a preliminary study on the model of ability training. However, in practice, the content and influencing factors of the ability training of first-level administrators in colleges and universities can be further carried out specific research. For example, further detailed research can be carried out on how to cultivate the learning ability, professional ability, communication and coordination ability and problem-solving ability of the first-level administrators in colleges and universities. In this paper, the ability development model of first-level administrator in colleges and universities is divided into four aspects according to the implementation subject. In fact, there are many modes about the ability of first-level administrator in colleges and universities. In what circumstances these modes are used and what problems exist, we can further carry out in-depth research.

2. In terms of research methods, a variety of research methods can be used to carry out further research.

A variety of research methods can be used to study the same problem. This paper mainly adopts literature research, questionnaire research and interview methods to study. There are four main research methods in sociological research: (1) survey research (2) experimental research (3) field research and (4) literature research. A variety of research methods are also needed to study the ability training of college administrators in Guangxi. For example, carrying out field research and

selecting typical representatives of certain types of first-level administrators in universities to carry out field research can further deepen our understanding of the ability training of first-level administrators in universities.

3. In terms of research objectives, further research can be carried out around different target orientations.

The ability training of first-level administrators in Guangxi is mainly a practical and technical problem, but it is also closely related to the specific cultural traditions and system environment in different regions. Therefore, for different research objectives, different methods can be adopted to carry out research, which can be further explored in the follow-up research.

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## Appendices

Appendix A  
List of Specialists and Letters of Specialists Invitation  
for IOC Verification

## List of experts in survey tools

1. Mr. Guo Yonghua,  
Doctor of Education (Principles of Education)  
Hezhou University  
Position: Professor, School of Education and Music
2. Ms. Shen Ning,  
PhD (Business Administration)  
Hezhou University  
Position: Senior Human Resource Manager, School of  
Tourism and Sports Health
3. Miss Chen Xueli,  
PhD (Education Management)  
Hezhou University  
Position: Lecturer, School of Economics and Management
4. Miss Luo Xiaoyu,  
PhD (Education Management)  
Guangxi University of Science and Technology  
Position: Director of the Office of International  
Communication
5. Mr. Wang Dong,  
Ph.D. (Education Management)  
Hezhou University  
Position: Lecturer, School of Applied Technology

Appendix B  
Official Letter



ที่ อว ๐๖๔๓.๑๔/๘๐

มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา  
๑๐๖๑ ถนนอิสรภาพ แขวงหิรัญรูจี  
เขตธนบุรี กรุงเทพมหานคร ๑๐๖๐๐

๗ ธันวาคม ๒๕๖๕

เรื่อง เชิญเป็นผู้เชี่ยวชาญตรวจสอบความตรงเชิงเนื้อหาเครื่องมือในการทำวิทยานิพนธ์

เรียน Professor Yonghua Guo  
Hezhou University

สิ่งที่ส่งมาด้วย ๑. คำโครงวิทยานิพนธ์ จำนวน ๑ เล่ม  
๒. แบบสอบถาม จำนวน ๑ ชุด

เนื่องด้วย Mrs.Liao Lin นักศึกษาระดับบัณฑิตศึกษา หลักสูตรครุศาสตรดุษฎีบัณฑิต สาขาวิชาการบริหารการศึกษา มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา ได้รับการอนุมัติให้ดำเนินการวิจัยวิทยานิพนธ์เรื่อง “The Model for Developing the Grassroots Administrative Staff’s ability in Universities in Guangxi ” โดยมีคณะกรรมการที่ปรึกษาวิทยานิพนธ์ ดังนี้

- |  |                      |
|--|----------------------|
| ๑. ผู้ช่วยศาสตราจารย์ ดร.พัชรา เดชโฮม      | ประธานที่ปรึกษาหลัก  |
| ๒. รองศาสตราจารย์ ดร.นิรันดร์ สุธีนิรันดร์ | อาจารย์ที่ปรึกษาร่วม |
| ๓. ผู้ช่วยศาสตราจารย์ ดร.สัททยา สิทธิวิเศษ | อาจารย์ที่ปรึกษาร่วม |

ในการทำวิทยานิพนธ์ครั้งนี้ นักศึกษาจำเป็นต้องตรวจสอบความตรงเชิงเนื้อหา (Content Validity) ของเครื่องมือ เพื่อให้ได้เครื่องมือที่สมบูรณ์ที่สุด ทางบัณฑิตวิทยาลัยได้พิจารณาเห็นว่าท่านเป็นผู้ทรงคุณวุฒิ มีความรู้ความสามารถสอดคล้องกับหัวข้อการทำวิทยานิพนธ์ ดังกล่าวเป็นอย่างยิ่ง ซึ่งคำแนะนำของท่านจะเกิดประโยชน์ต่อการปรับปรุงแก้ไขในการสร้างเครื่องมือสำหรับกรวิจัยของนักศึกษาให้มีคุณภาพและเหมาะสมเพื่อใช้ในการเก็บรวบรวมข้อมูลในการวิจัยต่อไป

จึงเรียนมาเพื่อโปรดพิจารณาให้ความอนุเคราะห์แก่นักศึกษาด้วยจะเป็นพระคุณยิ่ง

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.คณกร สว่างเจริญ)  
คณบดีบัณฑิตวิทยาลัย

งานประสานบัณฑิตศึกษา  
โทร. ๐-๒๔๗๓-๗๐๐๐ ต่อ ๑๘๑๔



ที่ อว ๐๖๔๓.๑๔/๘๑

มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา  
๑๐๖๑ ถนนอิสรภาพ แขวงหิรัญรูจี  
เขตธนบุรี กรุงเทพมหานคร ๑๐๖๐๐

๗ ธันวาคม ๒๕๖๕

เรื่อง เชิญเป็นผู้เชี่ยวชาญตรวจสอบความตรงเชิงเนื้อหาเครื่องมือในการทำวิทยานิพนธ์

เรียน Ning Shen  
Hezhou University

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๒. แบบสอบถาม จำนวน ๑ ชุด

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งานประสานบัณฑิตศึกษา  
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- |  |                      |
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เรียน Xiaoyu Luo  
Guangxi University of Science and Technology

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Appendix C  
Research Instrument

## Research questionnaire

Subject: The current situation of first-level administrator's ability in  
universities in Guangxi

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### Clarification

1. This questionnaire involves the abilities of first-level administrators in Guangxi universities in various aspects, with the purpose of studying the status quo of the abilities of first-level administrators in Guangxi universities.

2. The questionnaire is divided into two parts. Part 1: Ask the respondents about their personal information. There are 6 questions. The second part: inquiring the current situation of the first-level administrator in Guangxi universities, there are 36 questions.

3. Please check your actual ability status or feeling, the standard is:

Level 5 indicates complete agreement and is consistent with the highest level of competence

Level 4 indicates comparative agreement and corresponds to a good level of competence

Level 3 indicates general agreement and meets the medium competency level

Level 2 indicates more disagreement and is consistent with a lower level of competence

Level 1 indicates disagreement and meets the lowest competency level

Thank you very much for your help.

Mrs Liao Lin

Doctoral student in Educational Administration

Bansomdejchaopraya Rajabhat University

**Part I: Respondent Status (Personal Information)**

problem
<p><b>1. Gender</b>            ( 1 ) male      ( 2 ) female</p>
<p><b>2. Age</b>            (1) 25 years old or below            (2) 26 to 35            (3) 36 to 45            (4) 46 to 55            (5) 56 years old or up</p>
<p><b>3. Status</b>            ( 1 ) single      ( 2 ) married</p>
<p><b>4. Education</b>            (1) Bachelor degree            (2) A master's degree            (3) Doctoral degree</p>
<p><b>5. Position</b>            (1) No title            (2) Teaching assistant            (3) The lecturer or Assistant Professor            (4) Associate professor            (5) Professor</p>
<p><b>6. Experience</b>            (1) within 5 year            (2) 5 to 10 years            (3) 11 to 15 years            (4) 16 to 20 years            (5) More than 20 years</p>

## Part II: The current situation of first-level administrator's ability in universities in Guangxi

NO	Ability	5	4	3	2	1
<b>Learning ability</b>						
1	Administrators have broad and perfect knowledge structure.					
2	Administrators be able to observe and learn continuously at work.					
3	Administrators take initiative in making work and study plans.					
4	Administrators keep reading literature or related materials.					
5	Administrators have good writing ability.					
6	Administrators can conduct self-monitoring management.					
7	Administrators have certain judgment.					
8	Administrators have a lifelong learning attitude.					
<b>Professional ability</b>						
1	Administrators love university administration work.					
2	Administrators put the needs of teachers and students first.					
3	Administrators have common teachers' professional ethics.					
4	Administrators have knowledge of systematic administration.					
5	Administrators master specialized management skills.					
6	Administrators strictly abide by the rules and regulations of the university.					
7	Administrators clarify their job responsibilities.					
8	Administrators have a high degree of autonomy in their responsibilities.					

NO	Ability	5	4	3	2	1
<b>Communication and coordination ability</b>						
1	Administrators have good psychological quality.					
2	Administrators have good relationship with leaders, teachers and students.					
3	Administrators be able to articulate the subject and content to be communicated.					
4	Administrators master certain communication skills and methods.					
5	Administrators have certain ability of empathy, can understand the content and emotion of the other party.					
6	Administrators can solve some conflicts through communication.					
7	Administrators have ability to coordinate complex tasks or problems.					
8	Administrators able to deal with all aspects of the relationship, mutual cooperation to complete the task.					
<b>Problem solving ability</b>						
1	Administrators have high sense of responsibility.					
2	Administrators try their best to do everything welll.					
3	Administrators always apply new methods and ideas to your work.					
4	Administrators identify and deal with problems quickly.					
5	Administrators have ability to analyze problems and explore solutions to similar problems.					
6	Administrators be able to predict the problems that may arise in the work and solve them in the bud in advance.					



NO	Ability	5	4	3	2	1
7	Administrators able to carry out work as planned.					
8	Administrators work is recognized by teachers, students and other departments.					

Appendix D  
The Results of the Quality Analysis of  
Research Instruments

## Research instrument consistency index ( IOC )

The model for developing the first-level administrators' ability in universities in Guangxi

Clause	The Model for Developing the First-level administrators' ability in Universities in Guangxi	Experts					IOC	result
		1	2	3	4	5		
<b>Learning ability</b>								
1	Administrators have broad and perfect knowledge structure.	1	1	1	1	1	1.00	valid
2	Administrators be able to observe and learn continuously at work.	1	1	1	1	1	1.00	valid
3	Administrators take initiative in making work and study plans.	1	1	1	1	1	1.00	valid
4	Administrators keep reading literature or related materials.	1	1	1	1	1	1.00	valid
5	Administrators have good writing ability.	1	1	1	1	1	1.00	valid
6	Administrators can conduct self-monitoring management.	1	1	1	1	1	1.00	valid
7	Administrators have certain judgment.	1	1	1	1	1	1.00	valid
8	Administrators have a lifelong learning attitude.	1	1	1	1	1	1.00	valid
<b>Professional ability</b>								
1	Administrators love university administration work.	1	1	1	1	1	1.00	valid
2	Administrators put the needs of teachers and students first.	1	1	1	1	1	1.00	valid
3	Administrators have common teachers' professional ethics.	1	1	1	1	1	1.00	valid
4	Administrators have knowledge of systematic administration.	1	1	1	1	1	1.00	valid
5	Administrators master specialized management skills.	1	1	1	1	1	1.00	valid

Clause	The Model for Developing the First-level administrators' ability in Universities in Guangxi	Experts					IOC	result
		1	2	3	4	5		
6	Administrators strictly abide by the rules and regulations of the university.	1	1	1	1	1	1.00	valid
7	Administrators clarify their job responsibilities.	1	1	1	1	1	1.00	valid
8	Administrators have a high degree of autonomy in their responsibilities.	1	1	1	1	1	1.00	valid
<b>Communication and coordination ability</b>								
1	Administrators have good psychological quality.	1	1	1	1	1	1.00	valid
2	Administrators have good relationship with leaders, teachers and students.	1	1	1	1	1	1.00	valid
3	Administrators be able to articulate the subject and content to be communicated.	1	1	1	1	1	1.00	valid
4	Administrators master certain communication skills and methods.	1	1	1	1	1	1.00	valid
5	Administrators have certain ability of empathy, can understand the content and emotion of the other party.	1	1	1	1	1	1.00	valid
6	Administrators can solve some conflicts through communication.	1	1	1	1	1	1.00	valid
7	Administrators have ability to coordinate complex tasks or problems.	1	1	1	1	1	1.00	valid
8	Administrators able to deal with all aspects of the relationship, mutual cooperation to complete the task.	1	1	1	1	1	1.00	valid

Clause	The Model for Developing the First-level administrators' ability in Universities in Guangxi	Experts					IOC	result
		1	2	3	4	5		
<b>Problem solving ability</b>								
1	Administrators have high sense of responsibility.	1	1	1	1	1	1.00	valid
2	Administrators try their best to do everything welll.	1	1	1	1	1	1.00	valid
3	Administrators always apply new methods and ideas to your work.	1	1	1	1	1	1.00	valid
4	Administrators identify and deal with problems quickly.	1	1	1	1	1	1.00	valid
5	Administrators have ability to analyze problems and explore solutions to similar problems.	1	1	1	1	1	1.00	valid
6	Administrators be able to predict the problems that may arise in the work and solve them in the bud in advance.	1	1	1	1	1	1.00	valid
7	Administrators able to carry out work as planned.	1	1	1	1	1	1.00	valid
8	Administrators work is recognized by teachers, students and other departments.	1	1	1	1	1	1.00	valid

## Interview form

Research Title : The Model for Developing the First-level administrators' ability in Universities in Guangxi

Interview question
1. What do you think are the abilities of first-level administrators in universities? How would you rate yourself on a scale of 5 (1-5, with the higher the stronger)?
2. What do you think are the major deficiencies of the first-level administrators in universities? Please list and analyze in detail the factors that hinder the ability of first-level administrators to improve.
3. When you feel inadequate in an area at work, what steps do you take to adjust? What do you think of the effect?
4. What do you think colleges and universities should do to help first-level administrators improve their abilities? In what ways? What are the specific measures?

## Pattern evaluation form

Evaluation questionnaire for ability development model of the first-level administrators in universities in Guangxi

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### Clarification

1. The tool used this time is a questionnaire to evaluate the ability training model of first-level administrators in colleges and universities in Guangxi.

2. Please fully consider and evaluate the appropriateness and feasibility of all aspects of the ability training of first-level administrators in colleges and universities in Guangxi.

3. Please check ✓ each comment box. The score is as follows:

5 indicates the most applicable/possible

4 indicates high applicability/high possibility

3 indicates the applicable/moderate possibility

2 indicates low applicability/possibility

1 indicates the least applicability/possibility

Very grateful for your help.







Appendix E  
Certificate of English



มหาวิทยาลัยราชภัฏจันทรเกษม

Bansomdejchaopraya Rajabhat University

This is to certify that

MRS. LIAO LIN

Achieved BSRU-TEST of English Proficiency (BSRU – TEP) level

C 1

Given on 20<sup>th</sup> January 2020

*Linda Gainma*

(Assistant Professor Dr. Linda Gainma)  
President

Appendix F  
The Document for Acceptance Research

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## Acceptance Letter

Dear Author(s): **Liao Lin, Asst. Prof. Dr. Patchara Dechhome**

Paper ID	RM_37
Paper Title	The Model for Developing the First-Level Administrators' Ability in Universities in Guangxi

This is to enlighten you that above manuscript reviewed and appraised by the review committee members of **IFERP** and it is accepted for the purpose of publication in the “**Res Militaris**”.

You have to send following documents at [swathi@iferp.net](mailto:swathi@iferp.net) before 23<sup>th</sup> February 2023.

1. **Proof of Registration/Payment - Scanned | Online Received Email**
2. **IFERP Copyright form** <https://www.iferp.in/copyright/>

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1. Above manuscript will be published on or before 30<sup>th</sup> March 2023.
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4. You will receive Volume/ Issue information of your paper very soon.
5. It is mandatory to submit the copyright form before the article gets processed for final publication.

## Researcher Profile

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- 2005-2009 Guangxi Yulin Normal University Bachelor of Science (Physics)
- 2010-2014 Guangxi University Master of Engineering (Computer Science and Technology)
- 2020-present Bansomdejchaopraya Rajabhat University Ph. D. Candidate (Education Management)

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- 2009 to present, administrator of Hezhou University

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