



**THE CAREER PLANNING ABILITY OF HIGHER  
VOCATIONAL STUDENTS IN JINHUA INSTITUTE OF  
VOCATIONAL AND TECHNICAL SCIENCES**

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**AN INDEPENDENT STUDY SUBMITTED IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF BUSINESS ADMINISTRATION  
GRADUATE SCHOOL OF BUSINESS**

**SIAM UNIVERSITY**

**2024**



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This Independent Study has been Approved as a Partial Fulfillment of the  
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## ABSTRACT

With the deepening development of global economic integration, China's industrial structure is constantly being optimized and upgraded, and there is an increasingly urgent demand in the labor market for highly skilled and applied talents. However, in the face of rapidly changing market demands and the continuous emergence of new and emerging technologies, how higher vocational students can effectively plan their careers and enhance their employability has become a key issue in the field of education that needs to be urgently addressed.

To address this challenge, this study aimed: 1) To explore the relationship between higher vocational students' cognitive responsibility ability and their career planning ability, 2) To explore the relationship between higher vocational students' ability to understand themselves and their environment and their career planning ability. 3) To explore the relationship between higher vocational students' ability to make plans and their career planning ability.

This study mainly adopted a quantitative research method. Based on an extensive literature review and expert consultation, a questionnaire covering capacity to judge and assume responsibility, ability to know oneself, ability to recognize the environment, competence in information processing, ability to set career goals, and ability to develop plans was designed. A total of 720 questionnaires were distributed to students enrolled in the Department of Management Engineering of Jinhua Institute of Vocational and Technical Sciences, and 701 valid questionnaires were finally recovered. Statistical

software was used to process and analyze the data, revealing the overall situation and specific performance of higher vocational students' career planning ability.

The study results showed that: 1) Jinhua Institute of Vocational and Technical Sciences' students in the Department of Management Engineering are significantly lacking in self-exploration; 2) Students have deficiencies in their ability to understand the environment; 3) Students lack the ability to develop goal plans.

**Keywords:** career planning, higher vocational students, quantitative analysis , correlation analysis



## ACKNOWLEDGEMENT

I would like to express my deepest gratitude to my advisor, for his invaluable guidance, support, and encouragement throughout my independent study. His insightful comments and constructive criticism have significantly improved the quality of my work.

Additionally, I am grateful to Associate Professor Dr. Jomphong Mongkhonvanit, Dean, Graduate School of Business, for his support and encouragement throughout my studies. His dedication to the graduate program and commitment to excellence have inspired me to strive for academic excellence.

Finally, I would like to extend my appreciation to all the faculty members and staff of Siam University who have contributed to my growth and development as a student. Their unwavering support and encouragement have been a source of inspiration and motivation to me.

(YANG CHENGLONG)

Oct 24, 2024

## DECLARATION

*I, YANG CHENGLONG, hereby certify that the work embodied in this independent study entitled “THE CAREER PLANNING ABILITY OF HIGHER VOCATIONAL STUDENTS IN JINHUA INSTITUTE OF VOCATIONAL AND TECHNICAL SCIENCES” is result of original research and has not been submitted for a higher degree to any other university or institution.*

(YANG CHENGLONG)

Oct 24, 2024



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# Chapter 1 Introduction

## 1.1 Background of the study

With the swift development of China's economic society and the continuous optimization and upgrading of its industrial structure, the demand for highly skilled and applied talents in the labor market has become increasingly prominent. According to the "China Higher Education Quality Report (2023)" issued by the Chinese Ministry of Education, the scale of higher vocational education in China already accounts for half of higher education, providing crucial talent support for economic and social development. Nevertheless, in the face of rapidly changing market demands and technological innovation, the issue of how higher vocational students can effectively plan their careers and enhance their employability has emerged as an urgent matter to be addressed in the field of education.

A 2024 College Student Employment Competitiveness Research Report released by a Chinese recruitment website reveals that although higher vocational students are cognizant of the importance of career planning, they still encounter numerous challenges in practice. The survey data indicates that more than 60% of higher vocational students are perplexed about their future career direction, and nearly 50% of students claim that they lack effective career planning guidance. This demonstrates that despite the high level of attention accorded at the policy level, there are still significant deficiencies in the cultivation of higher vocational students' career planning ability.

Specifically, the subject of this study is the Department of Management Engineering of Jinhua Institute of Vocational and Technical Sciences. As a representative of local higher vocational colleges, it shoulders an important mission in cultivating highly skilled and applied talents. However, in the face of the constantly changing job market and diverse career choices, how to enhance students' career planning ability and better adapt them to market demand has become a key issue that the college urgently needs to address.

## 1.2 Problems of the study

In the context of the rapidly changing economic and social backdrop, higher vocational education, as an important front for cultivating highly skilled applied talents, sees the career planning ability of its students emerging as a crucial element influencing employment competitiveness and career development. With the in-depth implementation of the "National Vocational Education Reform Implementation Plan"

and the promotion of the integration of industry and education and school-enterprise cooperation models, higher demands are placed on the career planning ability of higher vocational students. However, in the face of the continuous emergence of emerging technologies and the ongoing transformation of the job market, the deficiency of higher vocational students' career planning ability is increasingly prominent and becomes an urgent problem to be addressed.

From the perspective of the times, the development of new technologies such as big data and artificial intelligence not only gives rise to a large number of emerging occupations (data analysts, artificial intelligence engineers), but also reshapes the skill requirements of traditional occupational positions. According to the "2024 China College Student Employment Report" released by the Myos Research Institute, the significant growth in demand for emerging occupational positions requires higher vocational students to not only possess solid professional skills but also have keen market insight and forward-looking career planning ability to adapt to the uncertainty of future career development. However, existing research (Guo et al., 2014) points out that higher vocational students have obvious shortcomings in aspects such as career cognition, environmental analysis, and decision-making, making it difficult for them to effectively respond to the rapid changes in the job market.

From an academic perspective, existing literature has extensively explored the connotation, composition, and influencing factors of higher vocational students' career planning ability (Wang, 2015). Research shows that abilities such as self-awareness, career exploration, goal setting, decision-making, and feedback correction are the core components of higher vocational students' career planning ability. However, although the academic community has generally recognized the importance of these abilities, in specific practice, there are still many challenges in effectively enhancing these abilities. In particular, for this specific group of higher vocational students, there is still a lack of systematic and in-depth research on how to design and implement effective cultivation strategies under theoretical guidance.

From the perspective of the industry background, with the optimization and upgrading of the industrial structure and the intensification of competition in the job market, the demand for highly skilled applied talents by enterprises is increasing day by day, and at the same time, higher requirements are put on the comprehensive quality of job seekers. The "2024 College Students' Employment Competitiveness Research Report" released by ZhaoPin-Web shows that more than 60% of higher vocational students feel confused about their future career directions, and nearly 50% of students say they lack effective career planning guidance. This phenomenon not only reflects the deficiency of higher vocational students' career planning ability but also reveals the

lack of career planning education in higher vocational colleges. Therefore, how to construct a career planning education system that conforms to the characteristics of higher vocational students in combination with industry practice has become an urgent problem that needs to be solved.

Combined with the above literature, this study puts forward the following three questions:

1. Does the cognitive responsibility ability of higher vocational students affect their career planning ability?
2. Does the ability of higher vocational students to understand themselves and their environment affect their career planning ability?
3. Does the ability of higher vocational students to make plans affect their career planning ability?

### **1.3 Objectives of the study**

The main objective of this study was to assess the relationship between career planning ability and the future development of vocational students at Jinhua Vocational and Technical College (JVTC). This objective is in line with the identified gaps in the literature and the actual challenges faced by higher vocational students at Jinhua Vocational and Technical College in facing their future development. To achieve this goal, the following specific objectives were set for this study:

1. To explore the relationship between higher vocational students' cognitive responsibility ability and their career planning ability.
2. To explore the relationship between higher vocational students' ability to understand themselves and their environment and their career planning ability.
3. To explore the relationship between higher vocational students' ability to make plans and their career planning ability.

### **1.4 Scope of the study**

This study was based on an analysis of student's career planning ability. A questionnaire survey was conducted with students in the Department of Management Engineering at Jinhua Institute of Vocational and Technical Sciences. 720 questionnaires were distributed, and 701 valid questionnaires were collected. Statistical software was used to process and analyze the data, revealing the overall situation and specific performance of higher vocational students in career planning.

## **1.5 Significance of the study**

This study focused on the current situation and improvement strategies of career planning ability of higher vocational students, aiming to fill the gaps in the existing theoretical framework in terms of dynamic adaptability and precise guidance, and provided a reference for future research related to career planning. Through the empirical cases of students from the Department of Management Engineering of Jinhua Institute of Vocational and Technical Sciences, this study explored in depth the multidimensional performance and influencing factors of students' career planning ability in the context of digital transformation and industrial upgrading, providing highly timely and targeted theoretical support for the field of vocational education and further expanding and enriching related theoretical research.



## **Chapter 2 Literature Review**

### **2.1 Introduction**

The purpose of this chapter is to present a comprehensive overview of pertinent research within the domain of career planning, especially in relation to the career planning ability of higher vocational students. Firstly, this review delves into the significance of career planning and expound on its influence on the personal growth and career development of higher vocational students. Secondly, it conducts a thorough review and analysis of the research progress in career planning ability of higher vocational students and identify the lacunae and deficiencies in the research. Additionally, this review delineates the theoretical underpinnings of this study, encompassing the theory of 'person-job matching', the theory of career development, and the theory of cognitive information processing, which furnish solid theoretical support for this study. Finally, this part discusses the practical implications of this study, including the implications for the practice of higher education and the potential impact on policy formulation.

### **2.2 Career Planning**

As an important part of individual career development, the concept and theoretical framework of career planning has been developed over the years and has gradually formed a systematic knowledge system. Schubert (Super, 1953) in the American Psychologist magazine for the first time put forward the concept of "career", which is defined as a series of occupations and roles experienced by individuals throughout their lives, i.e., the course of lifelong development of individuals. Career planning refers to an individual's expectation and plan for the successive courses of the positions he or she will undertake in his or her life, involving a comprehensive analysis and weighing of interests, abilities, characteristics and the objective environment, and through planning to establish the career direction and goals, formulate action strategies, and achieve the optimal development of the individual in an all-round way (Yang, 2012).

Schubert's theory of career development emphasizes the centrality of the "self-concept", i.e. the individual's awareness of his or her own interests, abilities, values and personality traits. He believes that career development is a continuous and gradual process that accompanies individuals throughout their lives and is divided into five stages: growth, exploration, establishment, maintenance and decline. Each stage has different developmental tasks, ranging from basic knowledge of career in childhood, to career exploration in adolescence, to career stability and achievement pursuit in adulthood, and finally to the decline stage. This process reflects the dynamic adjustment and adaptation of an individual's career at different life stages.



Holland (1959) further proposed the theory of vocational interest, which classified personality types into six types, namely, realistic, research, artistic, social, entrepreneurial, and transactional, corresponding to the types of vocational environments. He believed that career choice is a manifestation of personality, and that a career interest test can be used to understand an individual's type of interest and thus predict career choice, job change and career achievement. Hollander's theory provides an important theoretical basis for career planning, helping individuals to identify suitable career fields for themselves and to improve career satisfaction and stability.

In China, with the development of vocational education, career planning education has received increasing attention. Scholars generally believe that career planning is essentially a matter of individual career strategic planning, aiming to solve the problem of "what I want to do in the future", i.e., determining career goals and selecting career scope (Chen, 2012). It is not only related to the cultivation of individual's career ability and comprehensive quality, but also an important part of success in life. Career planning education can help individuals understand themselves and the external environment, accurately position themselves, improve learning initiative and career competitiveness, and achieve the best match between individual value and career development.

### **2.3 Higher Vocational and Technical Colleges**

As an important part of the higher education system, the Higher Vocational College (hereinafter referred to as "Higher Vocational"), since its birth, has been shouldering the important mission of cultivating highly skilled and applied talents who can adapt to the market demand. Scholars at home and abroad have conducted extensive and in-depth research on this field, and have formed a wealth of theoretical results and practical experience.

Advanced vocational and technical colleges, as an institution providing vocational and technical education, are centered on the development of students' professional skills and practical abilities in specific occupational areas. This concept first originated in the vocational education systems of western countries, with an emphasis on systematic curriculum design and practical teaching to equip students with professional skills that meet the needs of the industry. At home, with the in-depth implementation of the National Vocational Education Reform Implementation Programmed, the status and role of advanced vocational and technical colleges have been further clarified and strengthened.

Domestic authoritative scholars, such as Professor Shi Weiping, pointed out that senior vocational colleges are not only a place for teaching professional knowledge, but also an important base for the formation of students' vocational skills and the cultivation

of their vocational qualities. He believes that the key to higher vocational education lies in the realization of "integration of industry and education, school-enterprise cooperation", and the construction of the "dual system" talent cultivation model through close cooperation with enterprises, so as to effectively enhance students' competitiveness in employment and potential for career development (Shi, 2020).

Foreign scholars, such as Professor Rauner from Germany, emphasize that senior vocational and technical colleges should set up majors closely around the needs of the industry, and ensure that the knowledge and skills learnt by students can be directly applied to work practice through modular curriculum design. Professor Rauner (2015) further points out that higher vocational education should pay attention to the cultivation of the students' practical ability, and through the teaching modes such as project-based learning and work-learning alternation, the students will be able to solve the practical problems in the process of constantly improving their skill level.

## **2.4 Higher Vocational Students**

As a specific group in the higher education system, the definition of higher vocational students' needs to be analyzed in depth from multiple dimensions to ensure that the concept is authoritative, professional, accurate and logically clear. Higher vocational students, in short, refers to the group of students enrolled in higher vocational colleges (or higher vocational colleges, vocational colleges of technology, etc.), receiving higher education centered on vocational skills training. This definition not only specifies the level and type of education of students, but also implies the special characteristics of their educational objectives and training modes.

From the perspective of education level, higher vocational students belong to the category of higher education, and belong to different levels of the higher education system with undergraduate education. However, compared with undergraduate education, which emphasizes academic research and theoretical knowledge accumulation, higher vocational education pays more attention to the cultivation of practical skills and vocationally oriented application-oriented education. This hierarchical positioning determines that higher vocational students need to focus on mastering the professional skills and practical experience required for a specific occupational field in terms of knowledge structure and ability development (Chen, 2013).

As far as the type of education is concerned, higher vocational students belong to the sequence of vocational and technical education. Vocational and technical education is a type of education that aims to cultivate higher technical and applied talents who can meet the needs of the front line of production, construction, management and service.

It emphasizes vocational pertinence, skill operation and job adaptability, and aims to equip students with the ability to go directly to work or adapt to job requirements in a short period of time through systematic vocational skill training. Therefore, the learning content of higher vocational students in school is often closely centered on the skill requirements of specific vocational positions, focusing on the close integration of theory and practice.

Further, higher vocational student groups also show certain commonalities in terms of age structure, learning characteristics and social roles. In terms of age structure, most of the higher vocational students are in the early to middle age, and this age group is experiencing the critical period of transition from campus to workplace, and their physical and mental development tends to be mature, with strong learning ability and adaptability. In terms of learning characteristics, higher vocational students tend to show a strong interest in practical operation and a high degree of learning autonomy, and they are more inclined to master knowledge and skills through hands-on operation and solving practical problems rather than purely theoretical learning. In addition, as preparatory workers who are about to enter the society, higher vocational students also carry multiple expectations from their families, schools and the society, and their career development path and personal value realization have become the focus of social attention.

## **2.5 Job Matching Theory: Concept, Development and Application**

As an important theoretical framework for career planning and career choice, the core concept of the person-job matching theory is to explore the optimal matching relationship between individual characteristics and the occupational environment. Proposed by Parsons (1909), a pioneer in career counselling, the theory stresses that individuals should take into full consideration their own interests, values, abilities and other personality traits in their career choices, so as to ensure their suitability for the careers they are engaged in.

In terms of theoretical basis, the theory of job matching is based on the theory of trait factors, which uses measurement tools to assess an individual's traits and then predicts the type of occupation he or she is suitable for. The degree of this match directly affects the individual's adaptability and satisfaction in a particular occupation, and is a key factor in occupational success.

In terms of the form of matching, the theory of job matching distinguishes between factor-based and trait-based matching. Factor-based matching focuses on the correspondence between occupational requirements and individual abilities, i.e., whether an individual's skills, knowledge, etc., are compatible with occupational needs;

whereas trait-based matching focuses on the coherence between an individual's intrinsic qualities and the occupational environment, i.e., whether an individual's personality, temperament, interests, etc., are compatible with the occupational environment.

With the development of the times, although the concept of contemporary career development has evolved, the theory of "person-job matching" is still of great practical significance. In the field of education, especially in higher vocational education, the theory provides students with a systematic approach to career planning, helping them to make more informed career choices based on their own characteristics and the needs of the job market.

However, it is worth noting that the theory of "person-job matching" may face the challenges of cultural differences and individual diversity in its practical application. Therefore, future research needs to explore in depth how the theory can be adapted and extended in different cultural and social contexts to better guide individuals in their career planning and choices.

## **2.6 Career Development Theory: Stages, Elements and Applications**

Career development theory, as the cornerstone of the career planning field, was proposed by Schober (1957) and has profoundly influenced subsequent academic research and practical application. The theory builds a comprehensive and systematic analytical framework based on psychological, social and environmental factors in the process of individual career choice, development and change.

Schober's (1957) theory of career development emphasizes the continuity and stages of a career, dividing it into five stages: growth, exploration, establishment, maintenance and decline. Each stage is accompanied by specific psychological and social tasks that require individuals to adapt and grow at the cognitive, affective and behavioral levels. This stage division not only helps to understand the trajectory of an individual's development over the course of his or her career, but also provides a clear guide for career planning.

In the theoretical framework, Schober (1957) proposes the core concept of "self-concept", which involves an individual's in-depth knowledge of his or her own values, interests and abilities. The formation and development of self-concept is an important prerequisite for career choice, satisfaction and career success. Through the construction and improvement of self-concept, individuals can more accurately identify their own career preferences and development direction, and thus make more reasonable career decisions.

In addition, Schober's (1957) theory emphasizes the idea of cyclical development. Each career stage is a complete chain of development, and the completion of the

previous stage is a prerequisite for entering the next stage. This cyclical development model not only reveals the continuity and dynamics of a career, but also emphasizes the adaptability and flexibility of career development.

In practical application, career development theory provides individuals with a systematic framework for career planning. Through self-knowledge and environmental analysis, individuals can clarify their career goals and development paths and formulate corresponding career plans. At the same time, the theory also provides colleges and vocational training institutions with effective career guidance and training methods to help students and job seekers better adapt to the workplace environment and achieve career development.

## **2.7 Development of Career Planning Research**

The academic community has a long history of researching career planning. Since the early 20th century, it has evolved from initial career counseling and guidance services to more comprehensive and dynamic career coaching. Early research focused on static career matching, such as Parsons' (1909) "person-job matching" theory and Williamson's "Minnesota School" career guidance procedures. Holland's (1959) theory of matching personality types with occupational types further enriched the theoretical foundation in this field.

In the 1950s, the rise of humanistic thought led to a new direction in career planning research, emphasizing individual self-awareness and career exploration. The theories of Rogers and Erikson (1951) emphasized the central position of individuals in the career selection process. The research of Ginzberg (1951) and Super (1953) highlighted the dynamic and continuous nature of career, believing that career is a process that continuously develops over time and is jointly influenced by personal traits and the external environment.

With the development of technology and society, research in other directions began to emerge. Renn's (2014) research emphasized the importance of career choice abilities such as self-evaluation, goal setting, and problem-solving, and proposed the concept of career maturity to evaluate an individual's ability in career planning and decision-making. Despina's (2015) research, by applying social learning theory to career planning, analyzed the influence of genes, environment, and learning experience on career development, highlighting the role of personal ability in the career selection process. Wimbari's (2011) research proposed eight important links in the career planning process, including the whole process from recognizing problems, understanding oneself and the environment, collecting information to making decisions and implementing. Gulliver's (2011) research believes that in addition to making

choices, individuals must also possess practical abilities such as education and training, work experience, and writing, investigation, and expression. The theories of scholars such as Mitchell, Levin, and Krumboltz (2011) emphasized the multiple influences of personal information, social and cultural background, and personal attitude on career choice.

As the understanding of individual career development deepens, career planning has gradually transformed from single career guidance to more comprehensive career coaching, considering multiple factors such as individuals, society, and the environment. Developed countries have adopted systematic methods in career planning education by cultivating professional teachers, formulating laws and regulations, and receiving extensive support from the government and all sectors of society.

Although research around the world provides valuable experience and a theoretical basis, there are also certain limitations. For example, cultural differences and different educational systems may lead to limited applicability of certain theories and methods in different countries. Future research can further explore how to combine foreign theories and practical experience with China's actual situation, and how to improve the effectiveness of career planning through technological innovation and educational reform.

## **2.8 Research on Career Development Planning in China**

The research on career planning in China started relatively late, but remarkable progress has been made in recent years. The work of educators such as Huang (2006) laid the foundation for the theoretical basis and practical application of domestic career planning. Scholars like He (2010) provided valuable experience and theoretical support for the field of career guidance through their works. Although the research on career planning in China was interrupted by war and social unrest in the 1930s, after the reform and opening up, the research quickly resumed and achieved rich results.

Currently, the research focuses on the career planning courses for higher vocational students, exploring aspects such as curriculum setting, teaching models, teaching methods, and teaching staff. Chen (2019) conducted research from both the level of higher vocational colleges and individual students, aiming to optimize the education system and meet the actual needs of students. Domestic research mostly uses field investigations and questionnaire surveys, paying attention to the career goals, planning consciousness, and educational needs of higher vocational students. In addition, the comparative analysis method is also widely used to learn from foreign experience and promote the development of domestic career planning research.

Although Chinese research has achieved certain results, there are still some limitations, such as the singularity of research methods and the disconnection between theory and practice. Future research needs to adopt more methods combining qualitative and quantitative research and strengthen the combination of theory and practice. It is recommended that future research focus on the long-term effects of career planning education, explore the specific impacts of different educational intervention measures on students' ability improvement, and consider the joint role of school, family, and social factors.

## **2.9 Career Planning of Higher Vocational Students in China**

Perhaps China research on career planning ability started relatively late, but significant progress has been made in recent years, especially in the field of higher vocational education. China scholars generally believe that the career planning ability of higher vocational students is crucial for their career development. The improvement of this ability helps students achieve career goals, improve the education system, and promote the economic benefits of enterprises.

In Zhang's (2017) research, career planning ability is given two definitions, narrow and broad. In a narrow sense, it is regarded as the ability to act after achieving career goals; in a broad sense, it includes comprehensive abilities such as mentality, traits, and those required for personal development. Xue's (2017) research pointed out that career planning ability should include various abilities such as self-awareness, environmental adaptation, goal setting, plan formulation, interpersonal communication, and feedback correction.

Guo (2011) believed that currently, higher vocational students have deficiencies in career planning ability, such as lacking clear career goals, being greatly influenced by traditional concepts, and having deficiencies in planning formulation and implementation. Jiang's (2019) research revealed the factors affecting career planning ability, including professional background, grade, experience as a student cadre, gender, and academic performance. Lin (2019) proposed multiple training programs, such as the "five-stage progressive" model, emphasizing the importance of self-awareness, professional awareness, and employment psychological adjustment, and suggesting that schools offer relevant courses to systematically improve students' career planning ability.

Although China's research has proposed various training strategies, there may be problems such as uneven resource allocation and disconnection between theory and practice in the implementation process. It is recommended that future research focus on

the effectiveness evaluation of career planning ability training, explore the long-term effects of different educational intervention measures, and consider the comprehensive role of multiple factors.

## **2.10 Theoretical Framework**

This theoretical framework focuses on the current status of career planning ability of students in the Department of Management Engineering at Jinhua Institute of vocational and technical sciences. The clear research theme direction is to gain an in-depth understanding of the actual situation of this specific group in career planning, so as to provide strong support for their future career development. The determination of the background lays the foundation for the entire research, highlighting the importance and practical significance of this research.

### **Theoretical Foundation Support**

At the theoretical level, the development theory and the cognitive information processing theory are applied. These theories provide a solid academic basis for research and help to deeply analyze various phenomena and problems in career planning. The career development theory helps understand students' career development needs and paths at different stages, while the cognitive information processing theory helps reveal students' thinking processes and decision-making mechanisms when conducting career planning. Through the application of these theories, the conceptual framework of this study is formulated as shown in Figure1.



**Figure 1 Conceptual Framework**

**Research background**

With China's economic and social development and industrial structure upgrading, improving students' career planning capabilities to adapt to market demand has become a key issue that needs to be urgently addressed.

**Assumption**

**Factors influencing students' career planning ability**

- 1: Cognitive responsibility ability
- 2: Understand themselves and their environment
- 3: Ability to make plans

**Research Methodology**

**1: Questionnaire method**

Collect basic information on students' career planning ability through questionnaires

**2: Correlation analysis**

**Draw conclusions from experiments and provide corresponding advice to students**

A correlation study was used to determine whether the three hypothetical influencing factors have an impact on students' career planning ability.

Based on the theoretical framework above and the literature review, so the

Hypotheses in this study are proposed as follows:

Hypothesis 1: The cognitive responsibility ability of higher vocational students is positively correlated with their career planning ability.

Hypothesis 2: The ability of higher vocational students to understand themselves and their environment is positively correlated with their career planning ability.

Hypothesis 3: The ability of higher vocational students to make plans is positively correlated with their career planning ability.

## **Chapter 3 Research Methodology**

### **3.1 Introduction**

This chapter outlines the research methodology used in examining the impact that career development planning has on students' futures. The research questions centered on the impact that the personality qualities of students have on their future development and the link between students' personal capabilities and their future plans. The aim of this chapter is to provide a detailed description of the research methodology, including the survey method and the correlation analysis.

### **3.2 Investigation Method**

In this study, a questionnaire survey method, was is designed and implemented in strict accordance with the norms and principles of scientific research to ensure the reliability, validity, and representativeness of the data. Specifically, the questionnaire survey method conducts a systematic and in-depth exploration of the career planning ability of students in the Department of Management Engineering at Jinhua Institute of Vocational and Technical Sciences.

#### **Questionnaire Design and Development**

##### **(1) Questionnaire Construction**

This study designed a questionnaire by combining the research background and several factors that may have an impact on students' career planning ability mentioned in the literature review. Based on three aspects, namely students' cognitive responsibility ability, self-awareness and environmental awareness ability as well as plan-making ability, the following questionnaire was developed.

##### **(2) Scale Development and Validation**

To ensure the reliability and validity of the questionnaire, the research adopted the Likert five-level scale. Each item provides five options from "completely disagree" to "completely agree", facilitating respondents to make objective evaluations according to their actual situations. At the same time, the questionnaire was pre-tested on a small scale before formal distribution. Through collecting feedback, the questionnaire was revised and improved multiple times to ensure the clarity, relevance, and absence of ambiguity of the questions. In addition, the Cronbach's Alpha coefficient was used to conduct reliability analysis on the questionnaire to ensure that the internal consistency of each dimension reaches an acceptable level. The KMO and Bartlett's sphericity test were used to evaluate the structural validity of the questionnaire and verify the correlation between variables and the rationality of the factor structure.

### 3.3 Questionnaire Design

#### Vocational students' cognitive responsibility ability

In order to study the cognitive responsibility ability of vocational school students, this research designed the following scale, which contains five questions and analyzes the degree of cognitive responsibility ability from students' psychology to behavior.

**Table 3.1 Questions on Students' Cognitive Responsibility Ability**

| Series number | Question   | Each question is followed by five scaled options ranging from 1 (strongly disagree) to 5 (strongly agree). |
|---------------|--|--|
| 1             | Be able to take responsibility for making their own career decisions and accepting the consequences of their choices |  |
| 2             | Willingness to invest time, money and effort in planning your career   |  |
| 3             | Determination to take responsibility   |  |
| 4             | Being able to participate personally in decision-making activities related to their own careers                      |  |
| 5             | Ability to complete career planning and job coaching programmed with unwavering consistency                          |  |

#### Vocational students' ability to understand themselves and their environment

In order to study vocational school students' abilities to understand themselves and the environment, this research designed the following scale, which contains 19 questions. These questions are divided into two sections (students' ability to understand themselves and students' ability to understand their environment) to analyze the degree of students' ability to understand themselves and their environment from their psychology to their behavior.

**Table 3.2 Questions on Students' Ability to Understand Themselves**

| Series number | Question | Each question is followed by five |
|---------------|----------|-----------------------------------|
|               |          |                                   |

|    |  |   |
|----|--|---|
| 1  | Being able to clearly understand your own personality            | <b>scaled options ranging from 1 (strongly disagree) to 5 (strongly agree).</b> |
| 2  | Being able to clearly identify your career interests             |   |
| 3  | Being able to clearly understand your own values                 |   |
| 4  | Ability to clearly understand your strengths                     |   |
| 5  | Able to clearly understand their own shortcomings                |   |
| 6  | Good interpersonal skills  |   |
| 7  | Have good psychological qualities                                |   |
| 8  | Clarify the expectations of your career plan.                    |   |
| 9  | High level of interest in career planning                        |   |
| 10 | Possesses methods and techniques for job searching               |   |
| 11 | Ability to apply your professional knowledge and experience well |   |

**Table 3.3 Questions on Students' Ability to Understand Their Environment**

| <b>Series number</b> | <b>Question</b>  |   |
|----------------------|--|---|
| 1                    | Have a clear understanding of the work content and characteristics of your intended career.                            | <b>Each question is followed by five scaled options ranging from 1 (strongly disagree) to 5 (strongly agree).</b> |
| 2                    | Able to deeply understand the current employment policy of the society   |   |
| 3                    | A clear understanding of socio-economic developments   |   |
| 4                    | Good grasp of trends in the development of social demand for human resources.  |   |
| 5                    | Have a good understanding of the level of guidance provided by teachers at the school's career central                 |   |
| 6                    | Ability to have timely and complete information from job centers   |   |
| 7                    | Knowing the extent to which family background and surrounding relationships are beneficial to one's career development |   |
| 8                    | Understanding the salary of the intended occupation  |   |

### **Vocational students' ability to formulate plans**

In order to study the plan-making ability of vocational students, this research designed 24 questions. These questions are divided into three sections including

students' competence in information processing, ability to set career goals and ability to develop plans.

**Table 3.4 Questions on Students' Competence in Information Processing.**

| <b>Series number</b> | <b>Question</b>  |   |
|----------------------|--|---|
| 1                    | Ability to communicate between your own situation and outside information  | <b>Each question is followed by five scaled options ranging from 1 (strongly disagree) to 5 (strongly agree).</b> |
| 2                    | Ability to identify gaps between ideals and reality through information matching                                 |   |
| 3                    | Able to recognize the need to make career choices themselves   |   |
| 4                    | Ability to analyze their own information in further detail   |   |
| 5                    | Ability to analyze information about the world of work in further detail   |   |
| 6                    | Ability to make connections between yourself and your work by analyzing information about yourself and your work |   |
| 7                    | Ability to expand as many problem-solving options as possible  |   |

**Table 3.5 Questions on Students' Ability to Set Career Goals.**

| <b>Series number</b> | <b>Question</b>  |   |
|----------------------|--|---|
| 1                    | Ability to break down overall goals into smaller goals                           | <b>Each question is followed by five scaled options ranging from 1 (strongly disagree) to 5 (strongly agree).</b> |
| 2                    | Setting goals is easy  |   |
| 3                    | Well integrated and balanced with other goals in life                            |   |
| 4                    | Small goals will be given clear time frames for completion                       |   |
| 5                    | Good at linking small goals to overall goals                                     |   |
| 6                    | Able to set goals in the context of their own subjective and objective realities |   |

**Table 3.6 Questions on Students' Ability to Formulate Plans**

| <b>Series number</b> | <b>Question</b>                             |   |
|----------------------|---|---|
| 1                    | Ability to make plans detailed and specific | <b>Each question is followed by five scaled options</b> |

|   |  |  |
|---|--|--|
| 2 | Ability to consider career-related aspects when developing a plan                                | <b>ranging from 1 (strongly disagree) to 5 (strongly agree).</b> |
| 3 | Each step in the plan is given a defined timeframe   |  |
| 4 | It's easy to create a plan to achieve a goal   |  |
| 5 | Plans are made to allow for the unexpected.  |  |
| 6 | Being able to develop a plan that takes into account your own subjective and objective realities |  |
| 7 | Ability to develop actionable short-term plans   |  |
| 8 | Knowledge of methods and techniques for developing programmes                                    |  |

### **3.4 Sample Selection and Sampling Strategy**

#### **(1) Population Definition**

This study took all enrolled students in the Department of Management Engineering at Jinhua Institute of Vocational and Technical Sciences as the population, aiming to comprehensively reflect the current status of students' career planning ability in this department.

#### **(2) Sampling Method**

To ensure the representativeness and extensiveness of the sample, the research adopted a combination of random sampling and stratified sampling. First, random samples were drawn from the student list of the Department of Management Engineering using the random number table method to avoid the influence of subjective biases. Secondly, considering the possible differences in career planning ability of students of different grades, the research stratified the sample by grade (first year, second year, third year), and then conducted random sampling again in each stratum to ensure the balanced distribution of sample sizes of students in each grade.

#### **(3) Sample Size Determination**

The determination of sample size is based on comprehensive considerations of expected effect size, statistical power, and confidence level. Power analysis was conducted through statistical software to ensure that the actual effect can be detected under a given alpha level (usually 0.05) and expected power (such as 0.80 or higher). At the same time, considering the possibility of sample loss and non-response bias, the research team made appropriate adjustments when calculating the sample size. Finally, a sample size of 701 respondents was determined, providing sufficient data support for data analysis.

### **3.5 Data Collection Process**

#### **(1) Questionnaire Distribution and Recovery**

The questionnaire were distributed to sample students in two forms: email and paper questionnaire. To ensure wide coverage and effective recovery of the questionnaire, the research team formulated a detailed distribution plan and schedule before distributing the questionnaire and had full communication and cooperation with student counselors and class leaders. In the process of questionnaire recovery, the standard process of data collection was strictly followed. Each questionnaire was numbered, sorted, and preliminarily screened to eliminate invalid questionnaires (such as incomplete filling, obvious random answering, etc.) to ensure data quality.

#### **(2) Data Entry and Cleaning**

The recovered questionnaire data was entered through double entry to reduce entry errors. After the entry was completed, statistical software was used to clean and organize the data, including steps such as handling missing values, detecting and correcting outliers, to ensure the integrity and accuracy of the data.

### **3.6 Data Analysis Methods**

#### **(1) Descriptive Statistical Analysis**

Descriptive statistical analysis using indicators such as mean and standard deviation was conducted on the overall situation and dimensional characteristics of higher vocational students' career planning ability to reveal the overall level and distribution characteristics of students' career planning ability.

#### **(2) Reliability and Validity Test**

The Cronbach's Alpha coefficient was used to conduct reliability analysis on the questionnaire to ensure the consistency and stability of the measurement tool. The KMO and Bartlett's sphericity test were used to evaluate the structural validity of the questionnaire and verify the correlation between variables and the rationality of the factor structure.

#### **(3) Correlation Analysis**

To further explore the internal connections and influencing factors of the various dimensions of higher vocational students' career planning ability, a correlation analysis model was constructed. By controlling relevant variables, the specific influence paths and degrees of different factors on career planning ability were analyzed, so as to provide empirical support for putting forward targeted improvement strategies.

## Chapter 4 Findings

This chapter undertakes an in-depth exploration of the current state of career planning ability of higher vocational students at Jinhua Institute of Vocational and Technical Sciences. It uncovers the major issues that currently exist in this aspect for higher vocational students.

### 4.1 Reliability analysis

Cronbach's alpha coefficient is a key statistical measure for evaluating the internal consistency and reliability of a set of scale items. It shows how well the items work together to measure a single concept. Generally, a coefficient near or above 0.7 (varying by field) implies better reliability. It's vital in ensuring the quality of measurement tools in research.

The research, conducted the reliability analysis of the questionnaire using the Cronbach's alpha coefficient.

The questionnaire was tested for consistency using Cronbach's alpha coefficient as shown in Table 4.1. The alpha coefficients of the questionnaire as a whole and each factor are higher than 0.9, indicating that the reliability of the questionnaire meets the statistical requirements and is high.

According to the analysis of the results, the alpha coefficient of the questionnaire as a whole is 0.988, and the alpha coefficients of the factors are 0.922, 0.929, 0.947, 0.965, 0.934, and 0.955, respectively. These high alpha coefficients indicate that the questionnaire has a statistically good reliability, and it can be regarded as a reliable measurement tool.

In conclusion, the reliability level of the questionnaire is in line with the requirements and high, indicating that it can effectively measure the career planning ability of higher vocational students. Above are the specific results shown in Table 4.1.

Table 4.1 Reliability analysis of questionnaire on career planning ability of higher vocational students (N=701)

|        | Overall questionnaire | F1    | F2    | F3    | F4    | F5    | F6    |
|--------|-----------------------|-------|-------|-------|-------|-------|-------|
| number | 48                    | 5     | 11    | 8     | 10    | 6     | 8     |
| alpha  | 0.988                 | 0.922 | 0.929 | 0.947 | 0.965 | 0.934 | 0.955 |

Note: F denotes dimension



## 4.2 Validity analysis

The Kaiser-Meyer-Olkin (KMO) test and Bartlett's sphericity test are statistical methods used to evaluate the structural validity of questionnaires. The KMO test mainly measures the partial correlation among variables. The higher its value is, the more common factors there are among variables and the closer their relationship is, which indicates that it is suitable for factor analysis. Bartlett's sphericity test verifies whether there is a correlation among variables by checking whether the correlation coefficient matrix is an identity matrix. A significant test result means that there is a correlation among variables. These two tests jointly help to verify the rationality of the factor structure of the questionnaire and the correlation among variables.

The Kaiser-Meyer-Olkin (KMO) test and Bartlett's sphericity test were used to evaluate the structural validity of the questionnaire, and verify the correlation among variables as well as the rationality of the factor structure.

According to the research design, the sample size was 701. On the whole, the KMO value of career planning ability is 0.987, indicating a good relationship among the factors in the questionnaire. The results of Bartlett's sphericity test show an approximate chi-square value of 40266.904 with 1431 degrees of freedom, and the significance level is extremely high ( $p < 0.001$ ), suggesting that there is a correlation among the factors in the questionnaire.

In each factor, the KMO value of cognitive responsibility ability is 0.902, with an approximate chi-square value of 2535.942 and 10 degrees of freedom, showing a very high significance. The KMO value of ability to understand themselves is 0.938, with an approximate chi-square value of 4735.966 and 55 degrees of freedom, also demonstrating extremely high significance. The KMO values of ability to understand their environment and competence in information processing are 0.939 and 0.965 respectively, with approximate chi-square values of 4772.189 and 7128.709 respectively, and both have 28 and 45 degrees of freedom, showing extremely high significance. The KMO value of the ability to set career goals is 0.914, with an approximate chi-square value of 3360.216 and 15 degrees of freedom, and it also has extremely high significance. The KMO values of the ability to formulate plans is 0.959, with approximate chi-square values of 5163.384.

Table 4.2 KMO and Bartlett's test of sphericity for the questionnaire on career planning ability of higher vocational students

| Factor | KMO | Approximate chi-square (math.) | Bartlett's test of sphericity DF | significance |
|--------|-----|--------------------------------|----------------------------------|--------------|
|        |     |                                |                                  |              |

|  |       |           |      |         |
|--|-------|-----------|------|---------|
| Career planning ability<br>(Overall statistics include all the data from the following statistics) | 0.987 | 40266.904 | 1431 | <0.0001 |
| Cognitive responsibility ability   | 0.902 | 2535.942  | 10   | <0.0001 |
| Ability to understand themselves   | 0.938 | 4735.966  | 55   | <0.0001 |
| Ability to understand their environment  | 0.939 | 4772.189  | 28   | <0.0001 |
| Competence in information processing   | 0.965 | 7128.709  | 45   | <0.0001 |
| Ability to set career goals  | 0.914 | 3360.216  | 15   | <0.0001 |
| Ability to formulate plans   | 0.959 | 5163.384  | 28   | <0.0001 |

### 4.3 Descriptive Statistical Analysis of Variables

#### 4.3.1 Career Planning Ability of Higher Vocational Students

A descriptive statistical analysis of the career planning ability of higher vocational students was conducted. A 5-point scale was used, ranging from 1 to 5. The following results were obtained the mean score of career planning ability of higher vocational students is 3.53 with standard deviation of 0.687, which is at a medium level. Among the factor, the cognitive responsibility ability had the highest mean score of 3.66 with a standard deviation of 0.800, while the ability to understand the environment had the lowest mean score of 3.46 with a standard deviation of 0.772.

Table 4.3 Descriptive statistical analysis of the questionnaire on career planning ability of higher vocational students

| TITLE                            | Number of projects | minimum value | maximum values | mean value | (statistics) standard deviation |
|----------------------------------|--------------------|---------------|----------------|------------|---------------------------------|
| Cognitive responsibility ability | 5                  | 1             | 5              | 3.66       | 0.800                           |

|  |    |   |   |      |       |
|--|----|---|---|------|-------|
| Ability to understand themselves   | 11 | 1 | 5 | 3.54 | 0.702 |
| Ability to understand their environment  | 8  | 1 | 5 | 3.46 | 0.772 |
| Competence in information processing   | 10 | 1 | 5 | 3.51 | 0.732 |
| Ability to set career goals  | 6  | 1 | 5 | 3.48 | 0.755 |
| Ability to formulate plans   | 8  | 1 | 5 | 3.49 | 0.753 |
| Career planning ability<br>(Overall statistics include all the data from the above statistics) | 48 | 1 | 5 | 3.53 | 0.687 |

### 4.3.2 Factors of Career Planning Ability of Higher Vocational Students

#### 4.3.2.1 Cognitive responsibility ability

The distribution of the cognitive responsibility ability of higher vocational students in Table 4.4 (sample size N=701) is summarized as follows. In terms of having the determination to take responsibility, 3.00% of the students completely disagreed, 7.13% of the students relatively disagreed, 34.66% of the student's expressed uncertainty, 38.66% of the students relatively agreed, while 16.55% of the students completely agreed. The mean value of this factor is 3.59 with a standard deviation of 0.947 indicating that students' attitudes and perceptions in this area are relatively dispersed. In terms of willingness to invest time, money and effort in planning their career, 2.71% of the students completely disagreed, 5.14% relatively disagreed, 28.82% expressed uncertainty, 46.36% relatively agreed while 16.98% completely agreed. The mean value of this factor was 3.70 with a standard deviation of 0.904 indicating that majority of the students had a positive attitude towards proactive career planning. In terms of being able to take responsibility for making their own career decisions and accepting the outcome of their choices, 2.00% of the students disagreed completely, 4.42% disagreed somewhat, 29.81% were unsure, 44.37% agreed somewhat, while 19.40% agreed completely. The mean value of this factor was 3.75 with a standard deviation of 0.887, indicating that most of the students were willing to take the responsibility of making career decisions on their own. In terms of being able to personally participate in decision making activities related to their career, 2.85% of the

students completely disagreed, 4.42% of the students relatively disagreed, 30.39% of the student's expressed uncertainty, 43.94% of the students relatively agreed while 18.40% of the students completely agreed. The mean value of this factor is 3.71 with a standard deviation of 0.915 indicating that the majority of the students are willing to actively participate in decision making activities related to their career. In terms of being able to unflinchingly adhere to the completion of career planning and career guidance courses, 3.00% of the students totally disagreed, 6.13% of the students relatively disagreed, 38.23% of the students said they were not sure, 36.95% of the students relatively agreed while 15.59% of the students totally agreed. The mean value of this factor was 3.56 with a standard deviation of 0.92, indicating that students' attitudes and perceptions in this area were relatively dispersed.

In conclusion, the data analysis showed that there are some differences in the performance of higher vocational students on the dimension of cognitive responsibility ability. Although the majority of the students have a positive attitude towards investing in career planning, there are still some students who have some reservations about autonomous decision-making and taking responsibility. These results can provide valuable references for career guidance and employment counselling for students.

Table 4.4 Distribution of the dimensions of cognitive responsibility ability

| <b>Dimension</b>   | Completely disagree with percent | Comparative disagreement percent | Uncertainty percent | Comparative agreement per cent | Totally agree per cent | Mean ± standard deviation |
|--|----------------------------------|----------------------------------|---------------------|--------------------------------|------------------------|---------------------------|
| Determination to take responsibility   | 3.00                             | 7.13                             | 34.66               | 38.66                          | 16.55                  | 3.59±0.947                |
| Willingness to invest time, money and effort in planning your career   | 2.71                             | 5.14                             | 28.82               | 46.36                          | 16.98                  | 3.70±0.904                |
| Be able to take responsibility for making their own career decisions and accepting the consequences of their choices | 2.00                             | 4.42                             | 29.81               | 44.37                          | 19.40                  | 3.75±0.887                |
| Being able to participate personally in decision-making activities related to their own careers                      | 2.85                             | 4.42                             | 30.39               | 43.94                          | 18.40                  | 3.71+0.915                |

|  |      |      |       |       |       |           |
|--|------|------|-------|-------|-------|-----------|
| Ability to complete career planning and job coaching programmers with unwavering consistency | 3.00 | 6.13 | 38.23 | 36.95 | 15.69 | 3.56±092g |
|--|------|------|-------|-------|-------|-----------|

#### 4.3.2.2 Ability to understand themselves

Based on the distribution of data on each dimension of the ability to understand themselves among the higher vocational students presented in Table 4.5, it can be seen that there is a significant difference in the agreement of different dimensions among the students. Firstly, as far as understanding one's own personality is concerned, 26.39% of the students expressed complete agreement, while 49.93% of the students expressed comparative agreement, which means that more than 75% of the students believe that they are able to clearly understand their own personality traits. Secondly, with regard to understanding their career interests, 10.56% of the students fully agreed while 35.95% of the students relatively agreed, which shows that almost 45% of the students believe that they are able to clearly understand their career interests. In terms of values, 23.82% of students fully agreed and 42.08% somewhat agreed, indicating that more than 65% of students feel they are able to clearly understand their values. With regard to understanding their strengths, 10.56% of the students fully agreed and 37.38% of the students relatively agreed, indicating that more than 47% of the students feel that they are able to clearly understand their strengths. Regarding understanding their weaknesses, 18.26% of the students agreed more and 46.79% of the students agreed completely, which shows that more than 65% of the students believe that they are able to clearly understand their weaknesses.

In addition, with regard to interpersonal skills and psychological quality, 15.69% and 20.83% of the students agreed completely, while 40.66% and 42.37% of the students agreed relatively, which shows that more than 56% of the students thought they had good interpersonal skills and psychological quality. Regarding career planning, 9.84% of the students fully agreed, 33.52% of the students relatively agreed, and more than 43% of the students believed that they were able to clarify the expectations of their career planning. In addition, 13.69% of the students completely agreed, 36.66% of the students relatively agreed, and more than 50% of the students had a high level of concern about career planning. However, in terms of job searching skills and methods, only 7.42% of students agreed completely, 24.11% agreed somewhat, and less than 30% of students believed that they had appropriate job searching skills and methods. Finally,

in terms of applying the professional knowledge and experience they have learnt, 8.13% of the students fully agreed, 32.52% relatively agreed, and more than 40% thought they were able to apply the professional knowledge and experience they have learnt well.

In general, there are some differences among the students on the dimensions of the ability to understand themselves. While certain students were able to clearly recognize their personality, career interests, values, strengths and weaknesses, some students may need to enhance their self-knowledge, especially with regard to clarity of career planning and expectations. There are also students who need to improve their mastery of job-seeking skills and methods, as well as strengthen their ability to apply the professional knowledge and experience they have acquired.

Table 4.5 Distribution of the dimensions of the ability to understand themselves

| Dimension  | Absolutely not Agreed percent | Rather less Agreed percent | uncertainty Fixed percent | Compare with Per cent | identical Percent | Standard deviation of mean values |
|--|-------------------------------|----------------------------|---------------------------|-----------------------|-------------------|-----------------------------------|
| Being able to clearly understand your own personality  | 2.71                          | 2.14                       | 18.83                     | 49.93                 | 26.39             | 3.95±0.883                        |
| Being able to clearly identify your career interests   | 3.85                          | 8.84                       | 40.80                     | 35.95                 | 10.56             | 3.41±0.928                        |
| Being able to clearly understand your own values       | 2.85                          | 4.42                       | 26.82                     | 42.08                 | 23.82             | 3.80±0.949                        |
| Ability to clearly understand your strengths           | 3.00                          | 9.27                       | 39.8                      | 37.38                 | 10.56             | 3.43±0.907                        |
| Able to clearly understand their own shortcomings      | 2.57                          | 4.56                       | 27.82                     | 46.79                 | 18.26             | 3.74±0.898                        |
| Good interpersonal skills                              | 2.85                          | 8.70                       | 32.10                     | 40.66                 | 15.69             | 3.58±0.951                        |
| Have good psychological qualities                      | 2.85                          | 6.56                       | 27.39                     | 42.37                 | 20.83             | 3.72±0.961                        |
| Clarify the expectations to be met by your career plan | 3.42                          | 8.70                       | 44.51                     | 33.52                 | 9.84              | 3.38±0.901                        |
| High level of interest in career planning              | 2.85                          | 7.70                       | 39.09                     | 36.66                 | 13.69             | 3.51±0.922                        |
| Have the skills and techniques to find a job           | 4.28                          | 14.12                      | 50.07                     | 24.11                 | 7.42              | 3.16±0.908                        |
| Ability to apply learnt expertise and experience well  | 3.71                          | 11.13                      | 44.51                     | 32.52                 | 8.13              | 3.30±0.905                        |

### 4.3.2.3 Ability to understand their environment

There exists a significant disparity among the different dimensions of the ability to understand their environment of higher vocational students. Only approximately 55% of the students fully agreed that they were entirely capable of clearly comprehending the job content and characteristics of the intended occupation, while a relative proportion of 42.51% moderately agreed. Regarding understanding the salary of the intended occupation, the percentage of those who completely agreed is 13.12%, and the percentage of those who relatively agreed is 42.23%, amounting to approximately 55% in total. In terms of understanding the current employment policy of society, only 10.84% of the students fully agreed, and 36.23% relatively agreed, which is around 47%. There are also differences in students' viewpoints on understanding the development of the social economy, with 10.56% completely agreeing and 40.23% relatively agreeing, totaling about 50%.

In terms of grasping the development trend of society's demand for human resources, there were 9.99% of complete agreement and 36.8% of comparative agreement, approximately 47%. Regarding understanding the level of guidance provided by teachers at the school's career center, the percentage of complete agreement is 8.99%, and comparative agreement is 33.24%, with a total of about 42%. In terms of having timely and complete information provided by the career center, complete agreement is 10.41%, and comparative agreement is 34.66%, approximately 45%. Finally, in terms of knowing about family background and surrounding relationships being beneficial for career development, 11.98% completely agreed, and 38.94% relatively agreed, totaling about 50%.

In conclusion, there are certain differences in the dimensions of environmental understanding ability among higher vocational students. One group of students has a relatively clearer perception of certain aspects, while another group of students needs to enhance their understanding of some of the components. Hence, it is of crucial importance to improve students' knowledge and understanding of information on all dimensions and to further strengthen their abilities in career guidance and information acquisition.

Table 4.6 Distribution of the dimensions of the ability to understand their environment

| Dimension | Completely disagree with per cent | Comparative disagreement per cent | Uncertainty per cent | Comparative agreement per cent | Total agree per cent | Mean $\pm$ standard deviation |
|-----------|-----------------------------------|-----------------------------------|----------------------|--------------------------------|----------------------|-------------------------------|
|           |                                   |                                   |                      |                                |                      |                               |

|   |      |       |       |       |       |            |
|---|------|-------|-------|-------|-------|------------|
| Have a clear understanding of the work content and characteristics of your intended career.           | 3.14 | 6.13  | 35.81 | 42.51 | 12.41 | 3.55±0.899 |
| Understanding the salary of the intended occupation   | 2.14 | 7.70  | 34.81 | 42.23 | 13.12 | 3.56±0.890 |
| Able to deeply understand the current employment policy of the society                                | 3.00 | 7.70  | 42.23 | 36.23 | 10.84 | 3.44±0.894 |
| Able to clearly recognize socio-economic developments   | 2.85 | 7.13  | 39.23 | 40.23 | 10.56 | 3.49±0.881 |
| Good grasp of trends in the development of social demand for human resources.                         | 3.42 | 8.13  | 41.65 | 36.8  | 9.99  | 3.42±0.901 |
| Have a good understanding of the level of guidance provided by teachers at the school's career center | 3.99 | 11.13 | 42.65 | 33.24 | 8.99  | 3.32±0.928 |
| Ability to have timely and complete information from the Job Centre                                   | 4.42 | 8.13  | 42.37 | 34.66 | 10.41 | 3.39±0.935 |
| Knowing the extent to which family background and surrounding relationships are                       | 3.14 | 7.42  | 38.52 | 38.94 | 11.98 | 3.49±0.910 |



|   |  |  |  |  |  |  |
|---|--|--|--|--|--|--|
| beneficial to one's<br>career development |  |  |  |  |  |  |
|---|--|--|--|--|--|--|

#### 4.3.2.4 Competence in information processing

Upon observing the data in Table 4.7, it becomes evident that higher vocational students exhibit diverse levels of recognition on various dimensions of competence in information processing. Analyzing the students' degree of recognition for each dimension, along with the mean and standard deviation, yields the following conclusions:

Firstly, with regard to the ability to correlate one's own circumstances with external information, only a small number of students fully concurred, while a relatively larger number moderately agreed, signifying a certain degree of recognition among students in this regard. Secondly, for realizing the disparity between ideals and reality through information alignment and being cognizant of the necessity for making career choices, some students demonstrated a certain level of recognition. Nevertheless, when it comes to further detailed analysis of one's own information and that of the world, as well as the ability to establish connections between the two through analysis, there are still some students who require strengthening of relevant capabilities. Additionally, the abilities to expand problem-solving options, synthesize and streamline options, and evaluate the optimal career choice in light of reality and take proactive actions to address career choice issues are also areas that demand the attention and improvement of students.

In general, higher vocational students display certain disparities in various dimensions of competence in information processing. Some students already possess corresponding competencies, while another portion still needs to enhance relevant skills. This disparity necessitates targeted training and counseling to assist students in improving their information processing ability, thereby better adapting to future career choices and development requirements.

Table 4.7 Distribution of the dimensions of the competence in information processing

| Dimension                   | Totally different. (%) | Comparative disagreement Percent (%) | Uncertainty per cent (%) | Comparative agreement percent (%) | Totally agree percent (%) | Mean ± standard deviation |
|-----------------------------|------------------------|--------------------------------------|--------------------------|-----------------------------------|---------------------------|---------------------------|
| Ability to relate their own | 2.28                   | 6.85                                 | 39.80                    | 42.37                             | 8.70                      | 3.48±0.836                |

|  |      |      |       |       |       |            |
|--|------|------|-------|-------|-------|------------|
| situation to<br>outside<br>information   |      |      |       |       |       |            |
| Ability to<br>identify the gap<br>between ideals<br>and reality<br>through<br>information<br>matching                                    | 2.00 | 5.71 | 33.38 | 45.93 | 12.98 | 3.62±0.854 |
| Be able to<br>recognize the<br>need to make<br>career choices<br>for yourself  | 2.28 | 5.99 | 34.81 | 44.37 | 12.55 | 3.59±0.867 |
| Ability to<br>analyze their<br>own<br>information in<br>further detail   | 2.28 | 5.71 | 37.66 | 43.08 | 11.27 | 3.55±0.851 |
| Ability to<br>analyze<br>information<br>about the world<br>of work in<br>further detail  | 2.14 | 7.85 | 46.22 | 35.24 | 8.56  | 3.40±0.835 |
| Ability to make<br>connections<br>between<br>yourself and<br>your work by<br>analyzing<br>information<br>about yourself<br>and your work | 2.85 | 7.42 | 40.51 | 41.51 | 7.70  | 3.44±0.849 |

|   |      |      |       |       |       |            |
|---|------|------|-------|-------|-------|------------|
| Ability to expand as many problem-solving options as possible   | 2.43 | 6.13 | 41.08 | 41.80 | 8.56  | 3.48±0.831 |
| Ability to synthesize and streamline these problem-solving options  | 1.85 | 6.99 | 40.94 | 40.66 | 9.56  | 3.49±0.833 |
| Could evaluate the best career choice from among the options, taking into account their own subjective and objective realities. | 2.00 | 5.85 | 41.51 | 40.51 | 10.13 | 3.51±0.831 |
| Be capable of taking positive actions to address the career choices they are confronted with.                                   | 1.85 | 5.85 | 41.08 | 41.94 | 9.27  | 3.51±0.815 |

#### 4.3.2.5 Ability to set career goals

From Table 4.8, it could be clearly perceived that there are definite disparities among higher vocational students in the realm of setting career goals. Specifically, in terms of the perception regarding the ease of goal determination, only a minuscule portion of students wholeheartedly agreed, implying that a relatively small number of students regard this process as facile. When it comes to taking into consideration other goals in life concurrently and maintaining a balance, a relatively larger number of

students are of the opinion that they are capable of comprehensively considering and attaining a proper equilibrium. Furthermore, the majority of the students hold the stance that they possess the ability to determine goals in consonance with actual circumstances. The degree of students' recognition with respect to decomposing overall goals into smaller ones and setting time limits is also exceedingly high, indicating that they perform outstandingly in the specific refinement of goal setting and the establishment of time limits. Finally, regarding the ability to connect smaller goals with overall goals, a certain segment of students considers themselves to be highly proficient.

In general, higher vocational students manifest a positive tendency in setting career goals. A relatively large number of students believe that they can determine goals in light of actual situations, decompose overall goals into smaller ones and set explicit completion time limits, and effectively connect smaller goals setting overall goals. However, there are also some students who perceive that determining goals is not effortless and need to enhance their capabilities in terms of comprehensive consideration and balance. Considering the differences among students, schools and educational institutions can offer assistance to students in further enhancing their ability to determine career goals by providing relevant training and guidance, thereby facilitating them to better plan their future career development.

Table 4.8 Distribution of the dimensions of the ability to set career goal

| <b>Dimension</b>   | Completely disagree with percent (%) | Comparative Disagreement percent (%) | Uncertainty percent (%) | Comparative percent (%) | Totally agree Percent (%) | Mean ± standard deviation |
|--|--------------------------------------|--------------------------------------|-------------------------|-------------------------|---------------------------|---------------------------|
| Setting goals is easy  | 2.43                                 | 11.27                                | 41.23                   | 35.81                   | 9.27                      | 3.38±0.891                |
| Well integrated and balanced with other goals in life                            | 2.28                                 | 7.85                                 | 40.66                   | 38.94                   | 10.27                     | 3.47±0.866                |
| Able to set goals in the context of their own subjective and objective realities | 2.00                                 | 6.56                                 | 37.52                   | 42.23                   | 11.70                     | 3.55±0.856                |
| Ability to break down overall goals into smaller goals                           | 2.00                                 | 7.99                                 | 37.8                    | 41.65                   | 10.56                     | 3.51±0.861                |
| Small goals will be given clear time frames for completion                       | 2.85                                 | 7.99                                 | 40.8                    | 38.80                   | 9.56                      | 3.44±0.877                |

|  |      |      |       |       |       |            |
|--|------|------|-------|-------|-------|------------|
| Good at linking small goals to overall goals | 2.28 | 6.42 | 41.08 | 38.23 | 11.98 | 3.51±0.869 |
|--|------|------|-------|-------|-------|------------|

#### 4.3.2.6 Ability to formulate plans

According to the data presented in Table 4.9, it can be clearly seen that there are also significant differences among higher vocational students in terms of the way they formulate plans. Regarding the ability to make detailed and specific plans, only 7.97% of the students fully agreed. This means that most students do not clearly define the steps of the plan and the goals to be achieved at each stage when making plans.

When students are making plans, only 10.03% of them completely considered their career related abilities. This implies that the majority of students link their career development to their plans. When it comes to setting a definite time frame for each step in the plan, over 70% of the students took this into consideration. Moreover, over 60% of the students considered how to deal with unexpected situations when making plans.

Only 7.22% of the students did not consider their own situations when making plans. The vast majority of students take into account both subjective and objective development circumstances when making plans. When thinking about making feasible short-term plans, half of the students made short - term plans. However, in terms of mastering the methods and techniques for making programmed plans, according to the statistics, most students did not possess this ability. Only 6.03% of the students had fully mastered this skill.

Overall, higher vocational students demonstrate positive performance in terms of their plan-making ability. The majority of the students take into account their own actual situations and career development when formulating plans. They also define specific goals to be accomplished and set time limits for plan completion during the planning process. Moreover, some students have the ability to formulate comprehensive plans.

However, most students lack the corresponding abilities in terms of the methods and techniques for making programmed plans. Given the differences among students, schools should assist students in enhancing their plan-making abilities and skills, facilitating them to better plan their future career development.

Table 4.9 Distribution of the dimensions of the ability formulate plans

| <b>Dimension</b>   | Completely disagree with percent (%) | Comparative Disagreement percent (%) | Uncertainty percent (%) | Comparative percent (%) | Totally agree Percent (%) | Mean ± standard deviation |
|--|--------------------------------------|--------------------------------------|-------------------------|-------------------------|---------------------------|---------------------------|
| Ability to make plans detailed and specific  | 20.01                                | 24.59                                | 30.21                   | 17.22                   | 7.97                      | 3.52±0.521                |
| Ability to consider career-related aspects when developing a plan                                | 10.03                                | 22.32                                | 29.77                   | 20.21                   | 17.67                     | 3.87±0.776                |
| Each step in the plan is given a defined timeframe   | 9.21                                 | 17.65                                | 40.32                   | 20.66                   | 12.16                     | 3.52±0.802                |
| It's easy to create a plan to achieve a goal   | 30.11                                | 14.61                                | 25.50                   | 21.24                   | 8.54                      | 2.89±0.832                |
| Plans are made to allow for the unexpected.  | 11.65                                | 27.86                                | 30.07                   | 15.62                   | 14.80                     | 3.43±0.776                |
| Being able to develop a plan that takes into account your own subjective and objective realities | 7.22                                 | 19.91                                | 40.53                   | 17.68                   | 14.66                     | 3.42±0.819                |
| Ability to develop actionable short-term plans   | 17.33                                | 12.87                                | 29.55                   | 22.32                   | 17.93                     | 3.41±0.803                |
| Knowledge of methods and techniques for developing programmed                                    | 34.21                                | 22.51                                | 29.62                   | 7.63                    | 6.03                      | 2.74±0.782                |

#### 4.4 Correlation Analysis

The results of descriptive statistical analysis in Table 4.3 indicate that the average score of students in career planning abilities is 3.53 points, with a standard deviation of 0.687, suggesting that students are generally at a medium level on the whole. Among all the factors, the score for cognitive responsibility ability is the highest. Next, in this section, the correlation analysis was used to analyze and study the specific factors that influence students' career planning ability.

Correlation analysis is a statistical method used to study the degree of association between two or more variables. It mainly measures how variables change together, whether it is a positive correlation (when one variable increases, the other variable also increases), a negative correlation (when one variable increases, the other variable decreases), or no correlation.

A multiple regression analysis was used to verify whether these three factors influence students' career planning ability and whether they are positively correlated. The analysis results are shown in Table 4.10.

**Table 4.10: Correlation Analysis**

| Variable   | Cognitive responsibility ability of higher vocational students | Ability of higher vocational students to understand themselves and their environment | Ability of higher vocational students to make plans | Career planning ability |
|--|--|--|---|-------------------------|
| Cognitive responsibility ability of higher vocational students     | 1  | 0.461  | 0.756   | 0.457                   |
| Ability of higher vocational students to understand themselves and | 0.461  | 1  | 0.625   | 0.443                   |

|   |       |       |       |       |
|---|-------|-------|-------|-------|
| their environment                                   |       |       |       |       |
| Ability of higher vocational students to make plans | 0.756 | 0.625 | 1     | 0.229 |
| Career planning ability                             | 0.457 | 0.443 | 0.229 | 1     |

Table 4.10 presents the correlation analysis results of the variables related to the career planning ability of higher vocational students. The variables include the three influencing factors proposed in this study, namely the cognitive responsibility ability of higher vocational students, the ability of higher vocational students to understand themselves and their environment, and the ability of higher vocational students to make plans.

The values on the main diagonal are all 1, representing the correlation coefficients of the variables with themselves. The off-diagonal values are the correlation coefficients between different variables. Among them, the correlation coefficient between the cognitive responsibility ability and the ability to understand themselves and their environment is the lowest, at 0.461, which also means that there is not a strong correlation between the cognitive responsibility ability and the ability to understand themselves and their environment. The correlation coefficient between the cognitive responsibility ability and the ability to make plans is the highest, at 0.756, reflecting a close correlation between the cognitive responsibility ability and the ability to make plans, and the strength of these two abilities will affect each other.

#### 4.5 Regression Analysis

Path coefficients are used to illustrate the influence of one variable on another. In statistical analysis, the standard path coefficient values are usually adopted to represent the relationships between variables. Based on the analysis results, a regression coefficient model is constructed with the aim of determining the model path data and verifying the hypotheses. When the standardized path coefficient is positive, it indicates that there is a direct positive correlation between the two variables under consideration.



Moreover, the magnitude of the absolute value of the coefficient is also an indicator of the strength or intensity of this relationship. Specifically, the larger the absolute value is, the more obvious the influence of one variable on another is, and the more significant the consequence will be.

**Table 4.11 Regression Analysis**

| Variable   | Standardized Path Coefficient Value | Significance Level of the Path | Correlation Coefficient        | Conclusion      |
|--|-------------------------------------|--------------------------------|--------------------------------|-----------------|
| Cognitive Responsibility Ability                       | 0.457                               | 0.01                           | (CR = 5.324, P = 0.000 < 0.01) | positive impact |
| Ability to understand themselves and their environment | 0.443                               | 0.01                           | (CR = 4.302, P = 0.005 < 0.01) | positive impact |
| Ability to make plans                                  | 0.229                               | 0.01                           | (CR = 3.187, P = 0.000 < 0.01) | positive impact |

The regression analysis model (Tables 4.11) shows that when the cognitive responsibility ability of higher vocational students has an impact on their career planning ability, the standardized path coefficient value of 0.457 is greater than 0, and the significance level of this path is 0.01 (CR = 5.324, P = 0.000 < 0.01). This indicates that the cognitive responsibility ability of higher vocational students has a positive impact on their career planning. The results demonstrate that the cognitive responsibility ability of higher vocational students has a significant positive influence, thus establishing H1. In terms of the impact of higher vocational students' ability to understand themselves and their environment on their career planning ability, the standardized path coefficient is 0.443, which is greater than 0, and the significance level of this path is 0.01 (CR = 4.302, P = 0.005 < 0.01). This shows that higher vocational students' ability to understand themselves and their environment has a significant positive impact on their career planning ability, and thus H2 is established. Regarding the impact of higher vocational students' ability to make plans on their career planning, the standardized path coefficient is 0.229 > 0, and the significance level of this path is 0.01 (CR = 3.187, P = 0.000 < 0.01). This indicates that higher vocational students'

ability to make plans has a significant positive impact on their career planning ability, thus establishing H3.

**Table 4.12 Hypothesis Test Results**

| Hypothesis No. | Hypothetical content  | Established or not |
|----------------|---|--------------------|
| H1             | The cognitive responsibility ability of higher vocational students is positively correlated with their career planning ability.                       | Established        |
| H2             | The ability of higher vocational students to understand themselves and their environment is positively correlated with their career planning ability. | Established        |
| H3             | The ability of higher vocational students to make plans is positively correlated with their career planning ability.                                  | Established        |

The results of the hypotheses test are shown in Table 4.12. The three hypotheses in this study are established. The final conclusion is that higher vocational students' cognitive responsibility ability, ability to understand themselves and the environment, and ability to make plans jointly and positively influence their career planning ability.

## **Chapter 5 Conclusion and Recommendation**

### **5.1 Conclusion**

The research findings demonstrated that students' cognitive responsibility ability. The ability to understand themselves and the environment, as well as ability to make plans, exert a pronounced and significant influence on their career planning ability. The underlying rationales are expounded as follows:

#### **(1) Cognitive responsibility ability**

Students endowed with a relatively robust cognitive responsibility ability are inclined to possess a lucid awareness of the responsibilities they bear during the course of their career progression. When students possess a profound cognizance of their professional responsibilities, they will invariably perceive career development as an unshakable mission that necessitates their utmost dedication and effort, thereby constituting a potent internal impetus.

#### **(2) Ability to understand themselves and their environment**

Students who are capable of accurately comprehending themselves are apt to conduct a meticulous dissection of their personality idiosyncrasies, interests, hobbies, strengths, and weaknesses. Subsequently, they will judiciously screen and select career alternatives that align with these personal attributes.

Students who have a comprehensive understanding of the workplace (environment) milieu can expeditiously assimilate into the new working environment following their entry into the workforce. Given their familiarity with the rules and regulations, organizational frameworks, and team collaboration modalities of diverse enterprises, they can promptly adjust their behavioral patterns and work tempos to acclimate to novel circumstances.

#### **(3) Ability to make plans**

Students possessing the competence to make plans are able to deconstruct long-term career aspirations into a succession of phased, executable, and specific objectives and tasks. They will meticulously strategize a series of orderly procedures, such as amassing experience in entry-level positions at the commencement of their careers, progressively mastering core competencies, expanding professional networks, and vying for promotional opportunities.

### **5.2 Recommendations for students to improve their career planning ability**

### **5.2.1 Recommendations for students to improve their cognitive responsibility ability**

In light of the research findings that cognitive responsibility ability holds paramount significance for students' career planning ability, this study pertinently proposes two highly specific recommendations for students.

1. Students can institute a fixed temporal cycle, such as on a monthly or quarterly basis, to conduct a self-evaluation. During the evaluation process, they should retrospectively examine their actions in the realms of learning, social interaction, and personal development, and contemplate whether they have discharged their responsibilities. For instance, in the context of learning, they should reflect upon whether they have completed assignments punctually, treated each examination with due diligence, and actively engaged in classroom deliberations. A straightforward self-evaluation form can be devised, enumerating various assessment criteria, appraising their performance, and concomitantly documenting areas earmarked for amelioration.

2. Students can avail themselves of vacation periods to partake in social practice initiatives. For example, they can engage in community service projects, proffering assistance to the elderly within the community, or participate in environmental protection public welfare undertakings, such as disseminating environmental protection knowledge and cleansing public areas. Through these practices, students can internalize their social responsibilities and apprehend that their actions can engender positive ramifications for others and society at large.

### **5.2.2 Recommendations for students to improve their ability to understand themselves and their environment**

In view of the research findings that the ability to understand themselves and the environment is of crucial importance for students' career planning ability, this study proffers several recommendations, inclusive of personality tests, to assist students in attaining self-awareness and discerning their own strengths.

Students can harness some professional personality assessment tools, such as the MBTI (Myers-Briggs Type Indicator) and the Big Five Personality Test, to preliminarily fathom their personality traits. These tests can facilitate students in discerning whether they are extroverted or introverted, whether they are inclined to focus on minutiae or adopt a macroscopic perspective, and whether they tend to engage in rational cogitation or emotional judgment.

Regular self-reflection by students also represents a cardinal approach to achieving in-depth self-understanding. Students can allocate a specific quantum of time on a daily

or weekly basis to review their behaviors, emotions, and thoughts across diverse scenarios.

### **5.2.3 Recommendations for students to improve their ability to make plans**

In view of the research findings that the ability to formulate plans is essential for students' career planning ability, this study advocates that students acquaint themselves with the SMART principle for goal setting. That is, goals should be Specific, Measurable, Attainable, Relevant, and Time-bound. For example, the goal of "enhancing academic performance" is relatively nebulous, whereas the goal of "augmenting the mathematics score by 10 points by the end of the current semester" adheres to the SMART principle. By transmuted a generic goal into a specific and operational one, students will come to appreciate that clear-cut goals constitute the bedrock of an efficacious plan.

It is further recommended that students disintegrate overarching goals into subsidiary ones. For long-term or complex goals, such as "securing admission to an esteemed university", they can be disassembled into smaller goals like "elevating the performance of all subjects to the top 10% of the class within one year" and "participating in and clinching awards in subject competitions". This approach renders it more conducive to apprehending the progress and trajectory of the plan.

## Appendix

### Appendix 1: Questionnaire

#### Questionnaire on the Current Situation of Career Planning Ability of Higher Vocational Students

Dear Classmate:

Greetings! I would now like to ask you to complete a questionnaire which aims to understand the current status of career planning ability of higher vocational students. This questionnaire is anonymous, and the results of the survey are only used for data analysis! In order to ensure the scientific and authenticity of the study, we kindly ask you to answer truthfully and seriously, and thank you for your co-operation!

#### I. Basic information

1. Profession: ()
2. Grades: ()  
(Year 1/Year 2/Year 3)
3. Gender: ()  
(M/F)
4. Whether an only child: ()  
(Yes/No)
5. From: ()  
(Rural/township/urban)
6. Whether or not they are student leaders: ()  
(Yes/No)

#### II. Survey scales

Instructions for completion: How well do you think the following description matches your situation? Please rate them according to 1-5.

1="Completely disagree";

2="Comparatively disagree";

3="Not sure";

4="Comparatively agree ";

5="Completely agree".

**(1) Ability of cognitive responsibility**

| Series number | TITLE  | Completely disagree | Comparatively disagree | Not sure | Comparatively agree | Completely agree |
|---------------|--|---------------------|------------------------|----------|---------------------|------------------|
| 1             | Be able to take responsibility for making their own career decisions and accepting the consequences of their choices |                     |                        |          |                     |                  |
| 2             | Willingness to invest time, money and effort in planning your career   |                     |                        |          |                     |                  |
| 3             | Determination to take responsibility   |                     |                        |          |                     |                  |
| 4             | Being able to participate personally in decision-making activities related to their own careers                      |                     |                        |          |                     |                  |
| 5             | Ability to complete career planning and job coaching programmed with unwavering consistency                          |                     |                        |          |                     |                  |

**(2) Ability of self-awareness**

| series number | TITLE  | Completely disagree | Comparatively disagree | Not sure | Comparatively agree | Completely agree |
|---------------|--|---------------------|------------------------|----------|---------------------|------------------|
| 6             | Being able to clearly understand your own personality            |                     |                        |          |                     |                  |
| 7             | Being able to clearly identify your career interests             |                     |                        |          |                     |                  |
| 8             | Being able to clearly understand your own values                 |                     |                        |          |                     |                  |
| 9             | Ability to clearly understand your strengths                     |                     |                        |          |                     |                  |
| 10            | Able to clearly understand their own shortcomings                |                     |                        |          |                     |                  |
| 11            | Good interpersonal skills  |                     |                        |          |                     |                  |
| 12            | Have good psychological qualities                                |                     |                        |          |                     |                  |
| 13            | Clarify the expectations of your career plan.                    |                     |                        |          |                     |                  |
| 14            | High level of interest in career planning                        |                     |                        |          |                     |                  |
| 15            | Possesses methods and techniques for job searching               |                     |                        |          |                     |                  |
| 16            | Ability to apply your professional knowledge and experience well |                     |                        |          |                     |                  |

**(3) Ability of environmental awareness**

| series number | TITLE   | Completely disagree | Comparatively disagree | Not sure | Comparatively agree | Completely agree |
|---------------|---|---------------------|------------------------|----------|---------------------|------------------|
| 17            | Have a clear understanding of the work content and characteristics of your intended career. |                     |                        |          |                     |                  |
| 18            | Able to deeply understand the current employment policy of the society                      |                     |                        |          |                     |                  |

|    |  |  |  |  |  |  |
|----|--|--|--|--|--|--|
| 19 | A clear understanding of socio-economic developments   |  |  |  |  |  |
| 20 | Good grasp of trends in the development of social demand for human resources.  |  |  |  |  |  |
| 21 | Have a good understanding of the level of guidance provided by teachers at the school's career central                 |  |  |  |  |  |
| 22 | Ability to have timely and complete information from job centers   |  |  |  |  |  |
| 23 | Knowing the extent to which family background and surrounding relationships are beneficial to one's career development |  |  |  |  |  |
| 24 | Understanding the salary of the intended occupation  |  |  |  |  |  |

**(4) Ability of information processing**

| series number | TITLE   | Completely disagree | Comparatively disagree | Not sure | Comparatively agree | Completely agree |
|---------------|---|---------------------|------------------------|----------|---------------------|------------------|
| 25            | Ability to communicate between your own situation and outside information   |                     |                        |          |                     |                  |
| 26            | Ability to identify gaps between ideals and reality through information matching  |                     |                        |          |                     |                  |
| 27            | Able to recognize the need to make career choices themselves  |                     |                        |          |                     |                  |
| 28            | Ability to analyze their own information in further detail  |                     |                        |          |                     |                  |
| 29            | Ability to analyze information about the world of work in further detail  |                     |                        |          |                     |                  |
| 30            | Ability to make connections between yourself and your work by analyzing information about yourself and your work              |                     |                        |          |                     |                  |
| 31            | Ability to expand as many problem-solving options as possible   |                     |                        |          |                     |                  |
| 32            | Be able to synthesise and streamline these problem-solving options  |                     |                        |          |                     |                  |
| 33            | Can evaluate the best career choice from among the options, taking into account their own subjective and objective realities. |                     |                        |          |                     |                  |



|    |   |  |  |  |  |  |
|----|---|--|--|--|--|--|
| 34 | Be able to take positive action to address the career choices they face |  |  |  |  |  |
|----|---|--|--|--|--|--|

**(5) Ability of students to determine career goals**

| series number | TITLE  | Completely disagree | Comparatively disagree | Not sure | Comparatively agree | Completely agree |
|---------------|--|---------------------|------------------------|----------|---------------------|------------------|
| 35            | Ability to break down overall goals into smaller goals                           |                     |                        |          |                     |                  |
| 36            | Setting goals is easy  |                     |                        |          |                     |                  |
| 37            | Well integrated and balanced with other goals in life                            |                     |                        |          |                     |                  |
| 38            | Small goals will be given clear time frames for completion                       |                     |                        |          |                     |                  |
| 39            | Good at linking small goals to overall goals                                     |                     |                        |          |                     |                  |
| 40            | Able to set goals in the context of their own subjective and objective realities |                     |                        |          |                     |                  |

**(6) Ability of students to formulate plans**

| series number | TITLE  | Completely disagree | Comparatively disagree | Not sure | Comparatively agree | Completely agree |
|---------------|--|---------------------|------------------------|----------|---------------------|------------------|
| 41            | Ability to make plans detailed and specific  |                     |                        |          |                     |                  |
| 42            | Ability to consider career-related aspects when developing a plan                                |                     |                        |          |                     |                  |
| 43            | Each step in the plan is given a defined timeframe   |                     |                        |          |                     |                  |
| 44            | It's easy to create a plan to achieve a goal   |                     |                        |          |                     |                  |
| 45            | Plans are made to allow for the unexpected.  |                     |                        |          |                     |                  |
| 46            | Being able to develop a plan that takes into account your own subjective and objective realities |                     |                        |          |                     |                  |
| 47            | Ability to develop actionable short-term plans   |                     |                        |          |                     |                  |
| 48            | Knowledge of methods and techniques for developing programmes                                    |                     |                        |          |                     |                  |

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