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**STUDY ON THE GRADUATE EMPLOYABILITY OF
CHINESE REGIONAL PUBLIC UNIVERSITIES
(PRIMARILY TEACHING-ORIENTED)**

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ABSTRACT

Jin TAO: Study on the Graduate Employability of Chinese Regional Public Universities (Primarily Teaching-oriented)

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Employment of university graduates is an important issue that the society pays close attention to. With the expansion of China's higher education system, the employment situation of graduates from regional public higher education institutions (primarily teaching-oriented) has become increasingly severe. In the meantime, research on the employability of regional public university graduates remain underdeveloped. This paper carried out a two-phased mixed-methods empirical research to explore the graduate employability of regional public HEIs. Specifically, a quantitative survey was employed among 729 graduates of Xi'an University; 12 interviews were conducted with staff from Xi'an University, Baoji University of Arts and Sciences, Yulin University and Ankang University, which locate in different regions of Shaanxi Province. Overall, the analysis results showed that personal qualities and generic skills are the most important components of graduate employability, and university's strategy has the greatest significance on graduate employability. A graduate employability model was further developed based on findings of the data.

Keywords: Employability, graduate employability, employability skills, Chinese regional public HEIs.

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1 Introduction

Since the emergence of modern universities in the West, universities, as the center of knowledge and its application, have played a prominent role in scientific research and technological innovation, in developing new cultural values, and in training and socializing people. Higher education, as a leading determinant of social development, has made great contributions to economic growth, employment, and earnings. Taking the United States as an example, the Morrill Act was promulgated in 1862, which set off a climax in the development of American universities. Along with the development of American higher education, American society and economy developed rapidly. Since the 1980s, its economy has been on the rise. In the 1990s, a golden age of high economic growth, high labor productivity and low unemployment rate emerged.

Since the “reform and opening up”, China has begun to learn from the West, in developing its higher education system. After “revitalizing China through science and education” was promulgated as a national strategy in 1995, China’s higher education has entered a period of vigorous development, along with the prosperity of society and economy.

With the continuous development of China’s higher education system and the continuous expansion of its scale, many problems have come. The employment problem of university graduates is becoming increasingly prominent, which has become one of the practical problems of social concern. And with a hierarchical higher education system taken shape in present-day China, those higher education institutions (HEIs) located in the middle and lower level of the system, which occupy most of the proportion, are calling for more attention.

1.1 Background of Research

Higher education in China has moved from massification stage to universal access, with intensified competition for graduate employment.

China’s higher education has expanded dramatically during the last twenty years. In 1999, with the initiation of government’s policy on higher education massification, the enrollment of higher education institutions began to soar. According to the statistics of the Ministry of Education, the number of enrolled students of universities and colleges in China in 2019 was 9.14 million (Ministry of Education of the People’s Republic of China, 2020b), up from 1.08 million in 1998 (Ministry of Education of the People’s Republic of China, 1999). On February 26, 2019, Fan Hailin, deputy director of the Higher Education Division of the Ministry of Education, stated at a press conference that China had built the world’s largest higher education system (Ministry of Education of the People’s Republic of China, 2019).

China's higher education, with the gross enrollment rate reaching 51.6% (Ministry of Education of the People's Republic of China, 2020b), is about to enter a new phase, transiting from mass higher education to universal access.

The number of HEIs has grown considerably as well, having tripled in the past two decades. By the end of June 2020, there are a total of 2740 regular higher education institutions in China, excluding Hong Kong, Macao, Taiwan and 265 adult HEIs, of which: 1272 undergraduate HEIs and 1468 junior colleges and higher vocational colleges (Ministry of Education of the People's Republic of China, 2020c). There is a common view in China that HEIs are categorized in a tiering system, which specifies the order in which colleges and universities process students' applications after the National Higher Education Entrance Examination (*gaokao* in Chinese): the first-tier (*yiben* in Chinese) universities admit students before the second-tier (*erben* in Chinese) universities can enroll them, and so on (Yang, 2015). This system is to ensure that HEIs get the students they deserve and vice versa. Therefore, it is also an important index of HEIs' real and perceived academic prestige and quality. Another widely accepted classification is that HEIs in China are vertically divided into four levels, namely research institutions, research and teaching institutions, teaching institutions and application-oriented institutions (Cai & Yan, 2017). The first and second level comprise 137 national key universities who are in the list of "Project 985, "Project 211" and "Double First-Class Initiative". The fourth level HEIs are the 1468 junior colleges and higher vocational colleges. The third level HEIs consist of the rest approximately 1135 universities and colleges, which are chiefly engaged in teaching activities, and are mainly regional public HEIs administered by local provincial governments.

The massive expansion of Chinese higher education, on one hand, has brought tertiary educational opportunities to a wider population and has enabled more people to realize their potentialities and to have a sustainable development for their future. While on the other hand, employment competition intensifies. The rapid growth of college and university graduates has had a significant impact on China's labor market. According to the statistics of the Ministry of Education, there are 8.74 million graduates in 2020, an increase of 400,000 over the same period of last year, and the number of graduates has set a new record (Ministry of Education of the People's Republic of China, 2020a). With continuous graduates' entry into the market, the phenomenon that 'graduation means unemployment' has become a serious social problem troubling college and university students and their families (Ye et al., 2018). The situation for graduates from regional public universities is even severe. Statistics from the Ministry of education indicate that the expansion has mainly occurred in regional higher

education institutions, instead of national universities under the administration of central government (Liu & Wang, 2015). And as said by Wu Qidi, former Vice Minister of Education, comparing to students from key universities, students from regional public HEIs are more difficult to be recognized by employers (Xi & He, 2014).

Graduate employability remains under-developed.

With the continuous development of China's economy and the fast-changing job market, employers' requirements for graduates' abilities also improve gradually. However, the gap between graduates' qualification and employers' expectation do exists. According to a recent survey of 104 enterprises in Zhejiang Province, the majority of the employers' evaluation of college graduates' employability was "not satisfying", with an average score of 67.4% (W. Li, 2018). A report from Renmin University of China also pointed out that the employability of college students generally fails to meet the requirements of employers (F. Han et al., 2015). Another investigation of college graduates in Henan Province revealed that graduates themselves were unsatisfied with their own employability as well, with only 4% of interviewed students considering their skills can gratify the demands of enterprises (Zhou, 2018).

Graduates are deficient in certain requisite skills in the workplace:

Professional knowledge and skills. Professional knowledge and skills are one of the key criteria for employers to recruit employees. But in reality, many graduates do not have a solid grasp of their discipline-specific knowledge and the professional capabilities are hardly up to scratch.

Hands-on skills and practical abilities. While recruiting personnel, employers not only pay attention to professional knowledge, but also the practical abilities. However, most employers believe that college graduates lack practical experiences, hands-on skills and basic viability in the workplace (G. Chen, 2010; P. Li & Yang, 2010; W. Li, 2018; Qiu, 2009). Data suggested that nearly 30% of college students do not have any internship experience before looking for a job, and about half of the graduates need 6 months or even a year to adapt after taking up the job. In contrast, the period of adaptation for college students in some developed countries is only 2-3 months. Moreover, according to a survey on the labor market demand for college graduates in Beijing, over 60% of the surveyed companies reported that the fresh graduates were lack of the capabilities to apply their knowledge in practice (G. Chen, 2010).

Personal qualities. Employers generally prefer employees with personal qualities and work attitude in line with corporate culture, requiring graduates not only to have a solid knowledge

foundation, excellent skills, but also to have qualities such as sense of responsibility, independency, self-efficacy, etc. College students in large part ignore the development of these non-intellectual factors (Ren, 2005; Zhao & Chen, 2006).

Innovative awareness and abilities. College students tend to think and deal with problems following the same pattern, lack of creative ideas and innovations (Fu, 2013). According to the survey, 65.1% of employers take certain innovation ability as necessary qualification of employment. Nevertheless, 40.7% of college students feel that they lack innovation ability, and only 17.3% of college students are satisfied with their innovation ability (G. Chen, 2010). Besides, the learning skill is at a comparatively low level too (Qiu, 2009). Many college students lack the awareness and attitude of being proactive learners and are satisfied with the existing body of knowledge, lack of the desire and motivation to constantly obtain new knowledge in the relevant field of expertise.

Career management skills. Employment requires college students to be sufficiently prepared but certain abilities seem to be missing. Most college students are not fully aware of the employment procedures and policies, contract matters, etc. (Zhou, 2018), and there are students being attractive in the written application materials yet being poor in the interview (Qiu, 2009). A large number of college students appear to have little understanding of their career goals and blindly apply to any and every position that they come across. According to the Chinese 4-Year College Graduates' Employment Annual Report released by Mycos Research Institute, the turnover rate of the 2017 college graduates within six months of graduation is 33%, and 98% of them have left voluntarily. The unemployment rate after six months of graduation reached 8.1%, with 31% of those who left deeming that their work was "not in line with their career development plan" (Mycos, 2018).

Core competitiveness. Employment is not only a display of comprehensive qualities, but also a contest of core competitiveness. Presently in China all types of colleges and universities are apt to have similar talent training mode, neglecting the diversity of market demand for talents, resulting in the homogenization of graduate employability and lack of core competitiveness. (G. Chen, 2010).

To note that, there is a certain gap between the graduate employability of regional public HEIs and that of key universities (Y. Han et al., 2015), and graduates from regional public universities, being placed in the middle layer of the stratified structure of higher education, have lower level of academic knowledge and skills, innovative abilities, etc., when compared with those from universities at the top of the pyramid (Deng & Wu, 2013).

HEIs' training for graduate employability is inadequate.

One study shows that around 80% of the fresh graduates believe that the lack of employability is mainly due to the lack of university training (F. Han et al., 2015). There exist many problems in terms of the training of employability in Chinese HEIs.

Insufficient understanding of graduate employability. Graduate employability has been a key concern for Chinese colleges and universities, nevertheless what it really is has been uncertain for most of the Chinese HEIs. The concept of graduate employability stays unclear, in most cases only understood as the ability of hunting for jobs, ignoring that employability is a comprehensive ability related to employment as a whole (Xie, 2005). This has caused some universities to offer graduate employability training and support merely in the form of employment information and guidance, psychological counseling (Qiu, 2009), which also leads to the misunderstanding that the development of employability is short-term and has no need for long-range planning.

Unclear positioning of HEIs' talent training. There is no substantial difference between different types of HEIs when it comes to training and learning goals for students, resulting in the homogeneity of students' employability (P. Li & Yang, 2010). Whether it is a research-oriented university or a teaching-oriented university, the mode of talent training is similar, without distinctive attributes. What's more, under the long-standing influence of first level HEIs, regional public universities have a tendency towards research-oriented HEIs, laying too much stress on academic research and theoretical studies, and overlooking application-oriented knowledge, resulting in convergent and unreasonable positioning of HEIs (Pan, 2007). Many regional public colleges and universities focus on the teaching of complicated theories, ignoring the cultivation of practical knowledge and abilities, and lack in-depth thinking and systemic design for the practical application in education. As a result, students neither have excellent theoretical research and innovative ability, nor have the required practical skills by the employers, which makes graduates from such HEIs unpopular in the job market (Qu & Zhao, 2014).

Outdated training mode. The traditional talent training mode in colleges and universities limits the improvement of graduate employability. Colleges and universities place too much emphasis on the mastery of professional knowledge and neglect the cultivation of practical ability. The course content is out of date and cannot keep up with the development of modern technology; the specialty setting, teaching staff and practical training are inconsistent with the social needs; the curriculum system is rigid; the teaching mode lacks adaptability to the actual needs of social reality. These are not conducive to the cultivation of the comprehensive

quality of undergraduates, hinder the all-round development of students, resulting in the deficiency of employability, such as innovative ability, practical ability, sustainable development ability, and social adaptability, et cetera (Zhou, 2018).

Research on graduate employability of regional public HEIs is under-explored.

In general, scholars worldwide look at graduate employability either from an individual perspective or from an institutional perspective. Most of them examine graduate employability from individual view, namely focusing on a collection of employability attributes and skills. Chinese academics also carry out their studies conforming to this trend. But according to the existing literature on employability, there are many deficiencies in the current research. For one, the structure of employability is hardly researched. Most papers are simply a general elaboration of the status quo of graduate employability. The descriptions of the concept and elements of employability can be found, yet there is a short of in-depth analysis on the composition and structure of employability. Second, the influencing factors of university training on employability is less discussed. There are certain number of articles presenting current situation and existing problems, as well as putting forward general suggestions on employability-development opportunities and training in colleges and universities, but systematic research on the influencing factors of HEIs on employability shows inadequacies. Thirdly, quantitative and empirical research is insufficient. The vast majority of research papers on employability are qualitative, descriptive, and desk research. There are only a few surveys and case studies on graduate employability, which are seldom used to support further in-depth analysis or innovative ideas, mostly just giving descriptive statistical conclusions. The last which must be emphasized is that the research on graduate employability of regional public HEIs shows obvious neglect and deficiencies both in quantity and quality. Relevant papers mostly tend to introduce and analyze the employment dilemma of regional public HEIs, and offer advices based on former research and experiences. In the few empirical studies of regional public HEIs, the conclusion is only drawn on their chosen research object, giving no generalized discussions on the employability of regional public universities. There is barely any systematical and theoretical analysis of the structure and the influencing factors of employability of regional public universities.

1.2 Research Purpose and Significance

The purpose of this study is to understand the graduate employability of Chinese regional public HEIs (primarily teaching-oriented). The paper aims to clarify the components of graduate employability and the factors affecting graduate employability in Chinese regional public HEIs as well as construct a model of the components and the influencing factors of graduate employability in Chinese regional public HEIs.

The specific objectives of this research have been:

1. Conduct desk research to understand the concept of graduate employability, its components and factors affecting graduate employability.
2. Conduct empirical research in regional public universities and colleges in Shaanxi Province, China, to investigate the graduate employability of regional public HEIs.
3. Develop a model of graduate employability of Chinese regional public HEIs to determine the relationship between the employability skills and influencing factors.

This paper sets the research object as Chinese regional public HEIs (primarily teaching-oriented) and focuses on the employability of their graduates in both theory and practice. The findings of this study will redound to the benefit of society considering that this group accounts for a vast number of students in the regular tertiary education institutions of China and plays an important role in the regional social and economic development today. The greater and higher demand for graduates from regional public universities justifies the need for more effective approaches in the training of employability. Therefore, HEIs that apply the recommendation derived from the results of this paper will be able to train students better. University administrators will be guided on what should be emphasized in the cultivation of employability to improve graduates' performance in the job market. For the students from these universities, the study could prompt reflection on their employability and career development.

Moreover, this study will make intellectual contribution to the body of knowledge that has been built thus far in the field of graduate employability. In light of the various aspects discussed so far, there are still certain research deficit areas and major lacunae in the theoretical research on graduate employability in China. This paper will be a significant endeavor in filling the gap of empirical research and theoretical research on the graduate employability of Chinese regional public HEIs. It will also serve as a future reference for

researchers in the area of graduate employability, to help them further uncover relevant issues.

1.3 Definition of the Problem

Given the Chinese context, taking regional public HEIs (primarily teaching-oriented) as the object of study, the research questions of this paper are as follows:

What are the components of graduate employability?

What factors affect the employability of graduates?

1.4 Frame Structure of Thesis

The paper consists of two major sections, namely theoretical and empirical studies. First section is the theoretical basis which is identified in Chapter 2. The literatures needed to capture the empirical issues in the second section are reviewed.

Chapter 3 highlights the research methodology of the study. It includes research strategy, presentation of selected research methods, sample and data collection procedure, survey development and measurements, approaches of data analysis and following by the data analysis in Chapter 4.

After that, Chapter 5 refers to the results of data analysis. It provides a summary of what has been found in previous chapter.

Next, based on the findings in Chapter 5, Chapter 6 is aimed to have a discussion on the answer for the research questions.

Chapter 7 is conclusions which fulfill the core objectives of this thesis. Besides, this chapter also state scopes and limitation of the paper then provide suggestions for further studies in the respective field.

Furthermore, the structure of this thesis is illustrated in the following Figure 1, and the roadmap of research is depicted in the Figure 2.

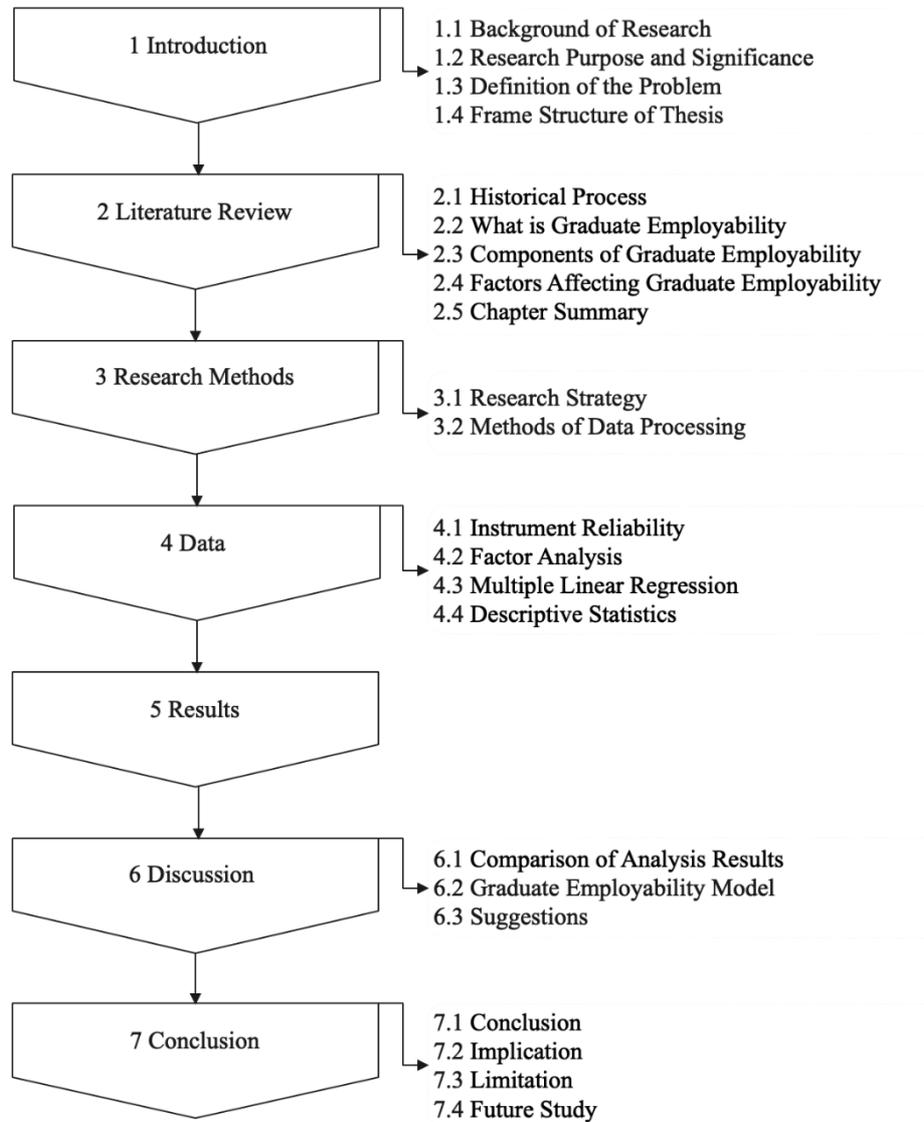
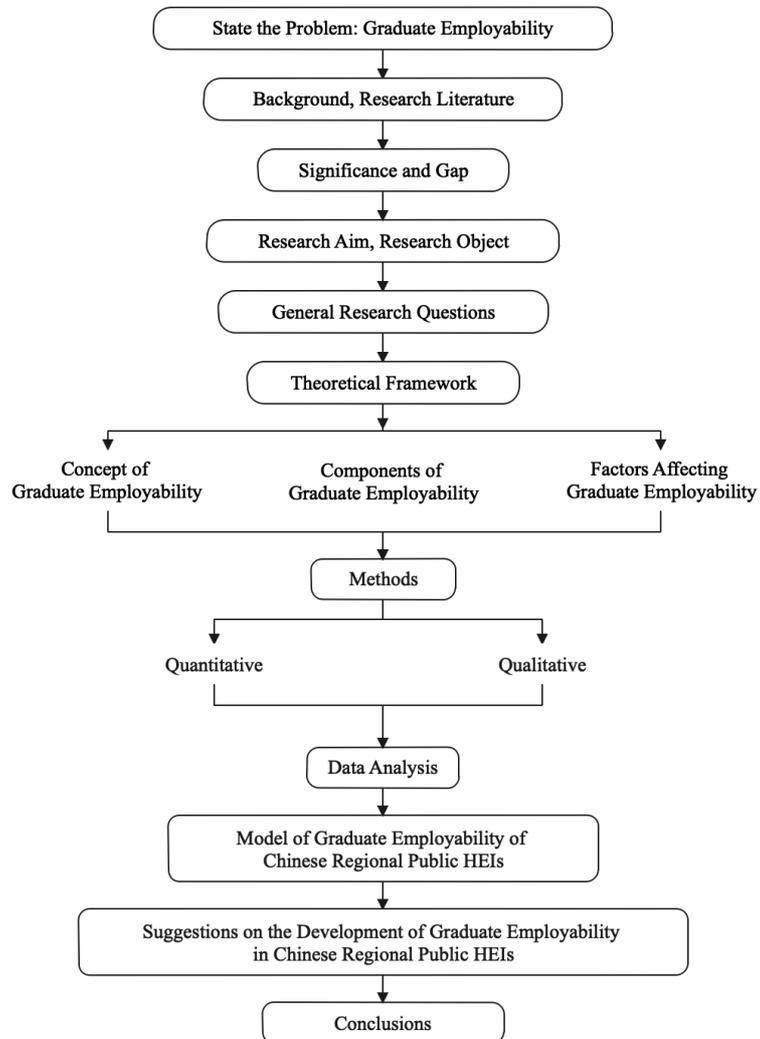
Figure 1*Structure of Thesis*

Figure 2*Roadmap of Research*

2 Literature Review

2.1 Historical Process

Employability is not a new term. It was first proposed by British scholars in the 1950s (Cui, 2011). Its connotation has been evolving with the development of society and economy. In the 1950s and 1960s, at that time, researchers mainly focused on the employability of disadvantaged groups and lower class such as the disabled. The reason why these groups have received special attention is because of the shortage of labor supply in some European and American countries after World War II, and the lack of skilled workers. Employability at this stage was seen as the individual's potential to be hired and to maintain employment. It paid attention to the employment attitude and self-image of disadvantaged groups. The dominant idea was how to solve the employment problem of the unemployed and achieve life-long employment. The government adopted intervention measures to encourage the disadvantaged and the unemployed enter the labor market.

In the 1970s, the research on employability still focused on how to achieve full employment through policies at the macro level but began to give more attention to the micro level, that is, individual's professional knowledge and skills. In the late 1970s, researchers realized that professional knowledge and skills alone were not enough to maintain their attractiveness in the labor market, therefore began to emphasize "transferable skills". Sociability for example, enables workers to maintain value in different work scenarios. During this period, due to the economic recession in European and American countries, it was hard for individuals to obtain or maintain a job. Employability was considered to be the future labor market output of individuals or specific groups based on their own human capital.

In the 1980s, research on employability began to transfer to the company level. Facing the changeable external environment, employability became a way for companies to cope with challenges and maintain flexibility within the organization. Research mainly focused on the functional flexibility of employees as well as how to enhance organizational flexibility in staff management. Thus, employability was no longer used as a tool of labor market, but as a tool of human resources, so as to better arrange employees in the company and optimize the use of human resources.

In the 1990s, with the advent of knowledge economy and economic globalization, personal careers became increasingly unpredictable and entered the era of borderless careers. Employability had once again become a tool of labor market, which was considered as a safe choice. Employability was important not only for stimulating the entire labor market, but also for the individual's career within and outside the organization; employability was important

not only for the disadvantaged and unemployed, but also for all. “Lifelong employability” replaced “lifelong employment” becoming the new protector of labor market. Research on employability during this period focused on the individual’s ability to maintain work in the internal and external labor markets. Moreover, from here on, researchers started to give more attention to the employability of graduates as well as how to integrate employability into specific training and school curriculum (Cui, 2011). Since the late 1990s, the study of graduate employability has become a hot issue and attracted widespread attention.

Discussions from different perspectives and disciplines have also led to the ambiguity and diversification of the concept (Zhu, 2009).

The research on employability in China started relatively late and was greatly influenced by studies of the West. The concept of employability was introduced into China in the 1990s, and it was initially applied to the reemployment research of laid-off workers. The study on graduate employability by domestic scholars originated from the reform of employment system. In 1997, the State Education Commission of the PRC promulgated provisional regulations concerning the employment of college graduates. With employment reform and large-scale expansion of college enrollment, the employment problem of college students has become prominent, and research on graduate employability emerged and has gradually developed (Tan, 2010).

Overall, in the past seventy years, although the research on graduate employability has different manifestations and focuses, it basically reflects changes in the following three aspects:

In terms of research scope, it has changed from “macro” to “micro”, that is, from the improvement of general employability at the macro level to the improvement of individual employability at the specific micro level.

In terms of research content, it has changed from “narrow” to “wide”, that is, from research on increasing the knowledge and skills of workers to research on potential factors such as human capital and social capital.

In terms of research depth, it has changed from “simple” to “in-depth”, that is, from the traditional broad analysis of external factors affecting employability to in-depth analysis of internal structure of employability.

2.2 What is Graduate Employability

To answer this question, it is necessary to first understand what employability is. According to the dictionary, it is defined as “the skills and abilities that allow you to be employed” (*Cambridge*

Business English Dictionary, 2011) and “the extent to which somebody has the skills, knowledge, attitude, etc. that make them suitable for paid work” (*Oxford Advanced Learner’s Dictionary*, 2015). Dictionaries have provided clues and ideas for understanding the connotation. It can be perceived that employability is closely related to individual skills or in terms of the characteristics and quality of individuals in the labor market. But in practical terms, the working definition of employability could be much more complicated. As Hillage and Pollard (1998) put it, it is a term used in various contexts with a series of interpretations and may lack clarity and accuracy as an operational concept. Although scholars and organizations have different opinions on employability, certain regularities can still be found. Holmes (2013) has worked towards distinguishing between different conceptualization of graduate employability. He believes that the major perspectives on employability can be roughly divided into three different classes, termed as the “possessive”, “positioning” and “processual” approaches. The first sees employability as skills and attributes, which is more in line with the dictionary definition, taking the dominant discourse. The second, in the light of social positioning theory, underlines the importance of one’s social and academic positions, proving to be more consistent with the employment results. Putting forward the view of process, the third uses the notion of graduate identity and emphasizes the identity as a person worthy of employment.

According to Thijssen et al. (2008), the employability definitions are distinguished into three layers and could be seen as centric circles, from narrower to broader descriptions. The core definition relates to the sufficiency of an individual to perform work, that is, one’s current employability or *employability radius*. On the basis of the core definition, many authors have included some personal competencies, particularly learning skills and career management skills. This perspective widens the employability radius and strengthens the abilities and readiness of employees to take advantage of opportunities beyond their existing employability. The broader and most extensive perspective takes into account of the contextual factors. It includes all the personal and background elements that affect the prospects of the future labor market.

Based on the classification of the above scholars, the definitions of employability are divided and reviewed in the following three categories, that is, core definition, broader definition and all-inclusive definition.

Core definition: individual’s skills at the center of the concept

The conceptualization of employability under this category is centered on skills and abilities. From this perspective, skills are the most important factor in employability, and personal

attitudes, desires, and contextual conditions are not included. Most research institutions and organizations hold this view.

According to the Confederation of British Industry (CBI), employability is the possession of the competencies that an individual needs to meet the changing requirements of the labor market, which helps to realize an individual's potential in work (as cited in McQuaid & Lindsay, 2005).

The UK government also comes up with a definition placing skills at the center of the concept: employability refers to the development of skills and adaptable labor force, encouraging all capable people to develop skills, knowledge, technology and adaptability so that they can enter and continue to be employed throughout their working lives (as cited in McQuaid & Lindsay, 2005).

The International Labor Organization (ILO) defines employability as an individual's ability to obtain and maintain a job, to progress at work, and to respond to changes in work at different times in the life cycle (International Labour Office, 2000).

The British former Department of Education and Employment (DfEE) has arrived at a similar definition, interpreting employability as the ability to gain and secure a job. Furthermore, it points out that employability is the self-confidence in the labor market to realize the potential through sufficient employment opportunities (as cited in Li & Yang, 2010).

The Conference Board of Canada (CBC) explicitly indicates that employability is a set of skills comprising of the basic academic, personal and teamwork skills that employers expect of workers, and hope these skills to be developed through the education system (Conference Board of Canada, 2000).

Broader definition: individual characteristics including personal quality

While the definitions given by the above organizations are considered to be flawed and should be improved. As Knight and Yorke (2002) state, personal qualities are rarely emphasized in the traditional conceptualization of employability, but these qualities could have a great influence on individual's success. Employability is much more complicated than the key skills agenda and should be "a synergic blend of personal qualities, skills of various kinds and disciplinary understanding".

Thereby according to Yorke (2006), employability is a multi-dimensional characteristic of the graduates, taken as a series of achievements, namely skills, understanding and personal attributes, that makes graduates more likely to be employed and succeed in their chosen career, which is good for themselves, the workforce, the community as well as the economy.

Notably, this definition explicitly focuses on employability in higher education with the use of “graduates” in the expression.

Yorke’s definition is highly similar to the connotation given by the Centre for Employability (CfE) at the University of Central Lancashire (UCLan), which also defines employability as having a range of competencies and attributes that enables a person to choose, maintain and be successful in their occupation. In the later revision of CfE definition, a new element “satisfaction” has been added, which incorporates the idea that one may be successful in their work but not needfully satisfied (as cited in Pool & Sewell, 2007).

Taking into consideration the challenges of economic disruption, Oliver has re-worked Yorke’s findings. Employability means that students and graduates are able to discern, acquire, adapt and continuously improve their skills, understanding and personal attributes, making them more likely to find and create meaningful paid and unpaid jobs, which benefits themselves, the labor force, the community and the economy (Oliver, 2015). Oliver’s adaption, on account of the tight job market, has emphasized that the option is not only “find” a job, but also “create” a job.

With the continuous popularization of higher education, looking for a job in the labor market is often not only determined by the ability of graduates. Thus, Harvey defines employability from the employers’ point of view. Employability means the propensity of graduates to show the characteristics that employers expect for their organizations to operate effectively in the future (Harvey, 2001). Additionally, Harvey has proposed that employability includes the ability of lifelong learning, which broadens the connotation and extension of the concept of employability. He believes that employability is not only the ability to get a job, but also a lifelong learning process.

In Schreuder and Coetzee’s formulation, individual’s willingness is considered.

Employability refers to the capability and willingness of a person to become and remain attractive in the labor market, as well as the ability of an individual to achieve success in a wide range of work. It refers to the ability to obtain and create and maintain a fulfilling job with knowledge, understanding, skills, experience and personal qualities to be self-sufficient in the labor market and realize one’s potential through a lifetime of sustainable and substantial employment experience (as cited in Paadi, 2014).

Under this category, though there are differences between articulations proposed by different researchers from different disciplines, there is general consensus that the employability consists of not only skills, knowledge but also personal qualities, therefore should be the possession of a set of competencies and attributes that enable the individual to enter and

retain employment throughout their lives, so to speak, a broader description of employability which includes all the individual characteristics that determine an individual's position in the labor market.

All-inclusive definition: a more holistic view

The broader definition of employability is obviously a characteristic of the individual. It is a one-dimensional, result-based definition that places individual at the center of the concept (McArdle et al., 2007). However, there is a tendency to use an even broader framework that concentrates on multiple aspects of employability. These efforts take a more comprehensive approach, taking into account both individual characteristics and the role of the external; that is, the all-inclusive definition of employability. Scholars holding this view believe that employability is a competency that actively adapts to and meets job requirements. It includes not only knowledge, skills, attitudes and other individual attributes, but also environmental factors, conditions, and the interaction between individuals and the market that promote or hinder the realization of one's employability.

Fugate, Kinicki and Ashforth (2004) put forward that employability is a "psycho-social construct", including career identity, personal adaptability and social and human capital. It is the work-specific active adaptability of individuals to identify and obtain career opportunities within and outside the organization.

Hillage and Pollard (1998) conceptualize employability as the capability to obtain initial employment, maintain employment and gain new employment when required. In brief, employability is actually the ability to get and keep fulfilling job. In their framework, employability involves four main elements, viz. assets, deployment, presentation and circumstances. The former three components operate at the individual level, while the last "circumstances" function as the contextual factor which includes personal circumstances and external factors. As noted by Hillage and Pollard, the personal and external circumstances are crucial for the realization or actualization of individual's employability.

There are also attempts by the governmental organizations to draw a more comprehensive map of employability. The Canadian government's Labour Force Development Board has suggested that employability refers to the relative ability of an individual to achieve meaningful employment in the context of the interaction between the personal environment and the labour market (as cited in McQuaid & Lindsay, 2005).

Similarly, the Northern Ireland Executive, recognizes employability as the ability to enter and move in the labor market and realize one's potential through sustainable and available

employment. For individuals, employability depends on a set of knowledge, skills, attitudes and personal attributes, as well as the environmental, social and economic context in which they seek work (as cited in McQuaid & Lindsay, 2005).

The work of Holmes has also played an important role in highlighting the holistic view of employability, as he emphasizes that employability should be conceptualized as “graduate identity”. In particular, this approach suggests that to get employed, one should not just concentrate on the development of certain skills and attributes, but to develop a way of asserting your identity as a graduate worthy of employment so that you have a good chance to be confirmed by those who make decisions about your job application (Holmes, 2013).

A summary of the research on graduate employability in China

Regarding China’s research on graduate employability, Zheng Xiaoming was the first to clearly put forward the concept of graduate employability. He believes that employability refers to the ability of college graduates to realize their employment ideal, meet social needs and realize their own values through knowledge learning and development of comprehensive qualities (Zheng, 2002). Other representative views are as follows. Wen (2006) points out that employability is a kind of comprehensive ability which is work-related and developed on the basis of learning ability. Guo and Song (2007), Hu et al.(2008) and Zhu (2009) share the view which is basically consistent with CfE and Yorke’s definition, that employability is the collection of knowledge, skills and various personal attributes that allows the graduates to obtain successful employment, maintain employment and regain employment. Li (2012) believes that the graduate employability refers to the accumulation of several elements that college students demonstrate in the process of job hunting to adapt to the working environment and job requirements, including knowledge, skills, personal characteristics, employment outlook, self-concept and employment motivation. The above viewpoints though being slightly different in details, reaching an agreement that employability is the characteristics of an individual.

In a broad sense, Huang (2007) believes that employability is composed of congenital factors and acquired factors including education and social capital. Zhang and Xu (2014), on account of the interaction with the circumstances, defines graduate employability as the ability of a college student to obtain sustainable competitive advantages through the creation, acquisition and integration of their strategic resources based on their knowledge and skills.

From the perspective of psychology, Jia and Xu (2006) define graduate employability as the psychological characteristics of personality that are directly related to the employment of

college students without considering the influence of factors such as knowledge and skills. This view attempts to distinguish between employability and occupational competency. Occupational competency refers to a specific occupational task and is defined as the ability to complete certain professional tasks by transferring and integrating the knowledge, skills and attitudes of individuals. While employability refers to the ability required for employment in different work scenarios, that is, general ability or basic ability, which emphasizes the “common needs of different scenarios”.

Chinese scholars have contributed a lot to the research of graduate employability from different perspectives, but the dominant discourses, *de facto*, basically do not deviate from the theoretical framework in the studies of the West. What’s more, the majority of the researches analyze the concept of employability from the theoretical level. In contrast, empirical study on employability is rare.

Due to the different research categories and perspectives, the definition of employability in academia presents great differences. Generally speaking, the difference in opinions seems to be mainly around whether employability is the individual characteristics and preparation for work, or the identities that affect a person’s entry into work. There are also propositions that have been generally accepted, that is, employability is not just the ability to get a job for the first time. In an era of career uncertainty, finding and obtaining a job does not mean lifelong employment. Individuals must also have the ability to maintain jobs and regain jobs when changes occur within and outside different organizations.

Based on the above literatures, considering the scope and aim of the study as well as the background of China’s higher education, the concept of graduate employability in this paper taking the perspective of individual characteristics, is defined as:

A range of competencies and personal qualities that enables graduates to find and obtain fulfilling employment, maintain employment and regain employment when necessary.

2.3 Components of Graduate Employability

The components of graduate employability directly depend on how graduate employability is defined. Based on different definitions, corresponding different composition of employability is formed. Therefore, the relevant research literatures can be roughly divided into two categories: 1) taking employability as individual characteristics; 2) taking employability as factors affecting the outcome of employment, with external elements included.

Employability as individual characteristics

Although different institutions and scholars have different understanding of the connotation and components of employability, further analysis shows that there is a consensus on several basic elements of employability, that is: (graduate) employability includes basic skills, professional skills and personal qualities. Employability is a mixed structure composed of knowledge, skills and individual psychological characteristics.

Conference Board of Canada (2000) proposed three critical employability skills: 1) fundamental skills, including communicate, manage information, use numbers, think and solve problems; 2) personal management skills, including demonstrate positive attitudes and behaviours, be responsible, be adaptable, learn continuously, work safely; 3) teamwork skills, including work with others, participate in projects and tasks.

The Secretary's Commission on Achieving Necessary Skills (SCANS) examined the demand of the labor market and identified 36 abilities which are required to enter employment. SCANS (United States Department of Labor Secretary's Commission on Achieving Necessary Skills, 1991) report outlined both fundamental skills and workplace competencies, as follows:

A Three-Part Foundation

- Basic skills: read, write, perform arithmetic and mathematical operations, listen and speak
- Thinking skills: think creatively, make decisions, solve problems, visualize, know how to learn, and reasoning
- Personal qualities: display responsibility, self-esteem, sociability, self-management, and integrity and honesty

Five Workplace Competencies

- Resources: identify, organize, plan, and allocate resources
- Interpersonal: work with others
- Information: acquire and use information
- Systems: understand complex inter-relationships
- Technology: work with a variety of technologies

According to Association for Talent Development (ATD), previously known as American Society for Training & Development (ASTD), employability embodies seven skill groups which are foundation, basic competency skills, communication skills, adaptability skills, developmental skills, group effectiveness skills, and influencing skills (O'Neil Jr, 1992). In

the latest version, the competencies are reorganized in three domains: personal capability, professional capability and organizational capability. Personal capability is actually equal to foundational abilities, largely consisting of interpersonal skills or soft skills.

In the Dearing Report, employability is a set of key skills which are communication, numeracy, IT and learning how to learn at a higher level. The report also suggested that the provision of these skills should be a central goal of higher education (as cited in Mason et al., 2009).

In order to further clarify the structure of employability and the dynamic relationship between different elements of employability, compared with research institutions or government departments, some scholars have conducted more systematic research on employability, and put forward models of employability.

The DOTS model raised by Law and Watts in 1977 consists of four areas:

- Decision learning - decision-making skills
- Opportunity awareness - knowing what work opportunities exist and what their requirements are
- Transition learning - including job searching and self-presentation skills
- Self awareness - in terms of interests, abilities, values, etc. (Watts, 2006)

This framework has clearly pointed out competencies that are recognized as necessary employability skills. It could be a good guidance for students in the process of job searching. However, it seems that these listed abilities mainly focus on how to find a job with certain critical issues being left out.

Bennett et al. (1999) put forward a five-factor model including disciplinary content knowledge, disciplinary skills, workplace awareness, workplace experience and generic skills. This model takes into account both subject-specific skills and basic skills, as well as the workplace-relevant consciousness, while the personal qualities are absent.

The model of Cooper and Lybrand seems to be a successful attempt to cover the major aspects of employability, containing four elements:

- Traditional intellectual skills - critical evaluation, logical argument
- Key skills - communication, IT, etc.
- Personal attributes - motivation, self-reliance
- Knowledge of organizations and how they work (as cited in Lees, 2002)

The USEM (Knight & Yorke, 2002) description of employability might be the most famous model in the field. USEM as acronym for understanding, skills, efficacy beliefs and metacognition, is a model centered on self-theories and personal qualities. It outlines

employability from the standpoint of a student and tries to include everything the student does: subject understanding, both discipline-based and generic skills, personal qualities including efficacy beliefs and self-theories, metacognition including reflection. It also lays stress on the interconnection between the four elements, namely relevant variables can support develop each other.

Pool and Sewell (2007) used metaphor of a “key” and presented their model in a more vivid form. The model christened “CareerEDGE - The Key to Employability”, defines employability in terms of two tiers. In the lower tier, there are five key components: degree subject knowledge, understanding and skills; generic skills; emotional intelligence; career development learning; and experiences. By reflecting and evaluating their practice in the lower tier, students will develop self-efficacy, self-confidence and self-esteem in the higher level, which are the key links to employability. The “reflection and evaluation” in the CareerEDGE model is much similar to the “metacognition” factor of USEM, except that the form of the CareerEDGE model sheds light on the logical and dynamic relationships between elements at different levels.

Employability as factors affecting employment outcome

Seen through this lens, employability is thus the result of a wider range of factors. More stakeholders get involved in the dialogue on employability (UNESCO, 2012).

According to Hillage and Pollard (1998), for individuals employability depends on four main elements, that is:

- The employability *assets* including knowledge, skills and attitudes.
- The way they use and *deploy* these assets, for example career management skills, job searching skills and strategic approaches.
- The way they *present* their assets to employers, which focuses on the ability to get a particular job, such as the interview techniques and CV writing.
- The *context*, e.g., personal circumstances and labor market environment.

In the framework, the skills and attributes are distinguished into different categories in terms of their functionality in the action of employability, namely deployment and presentation. It also underlines the importance of contextual factors, for instance the tight market demand or one’s household responsibility can largely affect the realization of a person’s employability. On the basis of this framework, McQuaid and Lindsay (2005) built an overall model, which contains three interrelated factors affecting the level of employability:

- Individual factors, including attributes, competencies, transferable skills, qualifications and educational attainment.
- Personal circumstances, relating to one's social and household circumstances.
- External factors, covering labour demand conditions and enabling support factors such as accessibility of public services and job-matching technologies.

By dividing personal circumstances and external factors into two categories, this model further stresses the importance of contextual factors to employability.

From a psycho-social perspective, Fugate et al. (2004) developed a psycho-social construct of employability. This three-dimensional aggregation consists of career identity, personal adaptability, and social and human capital. This structure includes both cognitive, dispositional and market-interactive variables and emphasizes that employability should be reviewed in work settings. It also underpins the importance of individual characteristics in job adaptation, and that social and human capital are important external resources and currency in employment.

A summary of related research in China

In the research on components of graduate employability, the perspective taking employability as individual characteristics takes dominance in China. Scholars have proposed theoretical frameworks with different dimensions and contents based on their own understanding. Zheng (2002) believes that in terms of the constructive elements of employability, it should be divided into intellectual factors and non-intellectual factors, namely intelligence quotient (IQ) and emotional quotient (EQ), or intellectual capital and ability capital. Giving a metaphorical description, intellectual factors are the "hardware" which forms the basis of an individual, while non-intellectual factors are the "software". The two complement each other and are indispensable.

Peng (2014) defined employability as the capability of gaining and maintaining employment. Based on this definition, he developed a binary model of employability which contains abilities to obtain employment, including knowledge, self-marketing skills, planning, organizational capability and communication skills; and abilities to maintain employment, including responsibility, self-management skills, thinking skills, acquisition and utilization of information and self-confidence.

Ren (2005), Xie (2005), Zhang and Xu (2014) all proposed three-dimensional model of employability. In Ren's model, employability consists of three factors, that is, basic skills,

professional skills and job-hunting skills. In Xie's model, the first two factors are consistent with Ren's while the third is replaced by differentiation capability which relates to individuality, innovation and entrepreneurship. As Xie states, differentiation capability reflects one's differentiation advantage and is the core competitiveness in the employment. In Zhang and Xu's model, in addition to professional skills and job-hunting skills, personal qualities have been included.

There is also four-dimensional framework. According to Chen (2012), graduate employability is a synergistic combination of 1) professional skills, including discipline-specific skills and knowledge; 2) generic skills, which consists of communication skills, teamwork skills, innovation and entrepreneurship, learning how to learn, and ability to develop innovative solutions; 3) career management skills, containing the presentation of employability assets and career development knowledge; 4) and personal qualities, such as responsibility, spirit of enterprising, stress management.

Zhang and Liu (2005) believe that employability includes five factors: thinking skills, social adaptability, autonomy, social practice, and job-hunting skills. Wang (2009) believes that graduate employability is composed of moral strength, job-hunting skills, analytical skills, working ability and competency, and presents in a circle structure. Moral strength, which locates in the first circle, including moral qualities, integrity, loyalty, responsibility etc., is the core and foundation of employability. Job-hunting and analytical skills in the second circle are embodied as the core competitiveness of college students. Working ability and competency in the third circle, which include subject-specific skills, learning ability, career identity, motivation, etc., are closely related to occupations and students' career planning. Similarly, Li (2012) also included moral strength and analytical skills in his five-dimensional framework of employability. The other three elements are professional skills, interpersonal skills and career identity.

Scholars who perceive employability in a broader sense take into account external factors in their framework. Tan (2010) believes that under China's social environment and undergraduate employment system, employability should at least include the following contents: human capital, social capital, lifelong learning and dynamic characteristics. Human capital refers to the knowledge and skills. Social capital, namely external factors, refers to the social network. Using one's own social capital to obtain jobs is also a manifestation of employability.

According to Zhu (2009), employability is formed of internal employability and external employability. Internal employability consists of professional identity, professional knowledge and skills, social

capital and personal adaptability. External employability is the socio- economic factors, family factors and school factors, etc. that affect the individual's employment in the labor market. It is the external condition that affects the realization of the individual's internal employability.

There are also a few scholars who have put forward their views on the composition of the graduate employability of regional public HEIs. For instance, Xi and He (2014) consider that students from regional public universities should develop professional skills that meet local needs, career planning skills that are in line with local features, communication skills that fits local culture, and adaptability to local environment. Y. Han et al. (2015) investigated and analyzed the graduate employability of regional public universities, and divided the employability into three categories, that is, basic skills, professional skills and job hunting skills. Zhang (2014) believes that graduates from regional public universities should be equipped with generic skills, professional skills as well as certain development abilities such as learning ability. Zhang and Xu (2014) raised a model consisting of professional skills, job-hunting skills and personal qualities.

On the whole, research on components of graduate employability is at bottom the analysis of the factors affecting the employment results of graduates. According to whether it is related to individual characteristics, it can be divided into internal factors which consist of knowledge, skills, personal qualities; and external factors which regard labor market conditions, circumstances, social capital and so on. This paper focuses on the development of individual employability, and therefore believes that employability should be a collection of knowledge, skills, attitudes and other factors that one possesses, excluding environmental factors and contextual conditions. These factors will indeed affect the employment results, but they will not be included in the scope of this study.

2.4 Factors Affecting Graduate Employability, from the Perspective of HEIs

Employability, as a learning outcome, could be said that it is developed through the cumulative learning of a series of curriculum modules, as well as a series of formative experiences and broader background learning, such as work experience and extracurricular activities; it is a product of the entire university experience together with interactions with the broader context (Rae, 2007). Certainly, HEIs play a vital role in the development of graduate employability. How they manage and organize the curriculum, what employability programmes they offer, how they mentor and give careers advice...all these factors will have an effect upon graduate employability. There are many papers in regard of factors affecting

graduate employability from the perspective of HEIs, and most of them are qualitative researches. The main viewpoints put forward are how colleges and universities can cultivate the employability of students through curriculum design, practical education and skill training.

Relevant researches in the context of UK has brought some typical ideas which are worth learning from. According to Yorke (2001), higher education curriculum can change the beliefs of individuals. Through learning and various experiences, students may have access to a wider range of people and attitudes than ever before. This can help them form their own beliefs and become more confident in their abilities. Additionally, Yorke emphasizes that teachers in higher education should recognize the importance of self-theories to students' learning. This has implicitly pointed out the crucial role of teachers, which is also in line with the view of Dunne et al. (2000) that curriculum reform is possible only when teachers' attitudes, behaviors and beliefs change. In this case improving the performance of university staff and the overall standards of faculty members are of great importance to graduate employability. With the development of teaching faculty, their understandings will be translated and embedded into curriculum and finally have an impact on students.

Dearing Report (1997) has strongly proposed that work experience – e.g., internships, work shadowing, short term project or part-time job - should be accessible to more students. This corresponds with the recommendation of Department for Education and Skills (DfES) that students of all ages can learn from their own work experience to develop their key abilities and skills and improve their employability (Department for Education and Skills, 2002).

Besides work experiences, increasing importance is also given to extra-curricular activities. Many graduates take part in volunteer work and international travel to enhance their employability and potentially turn them into a labor market advantage. For example, students who volunteer in the community have a chance to promote their leadership, teamwork skills and other value-added abilities (Tomlinson, 2012).

Stimulating university's interaction with the enterprise is another essential aspect that could have a positive influence on graduate employability (Rae, 2007). Partnerships between higher education institutions and employers are of great value in developing work-related learning, professional practice and improving their work experiences both quantitatively and qualitatively. Universities would like to build close relationships with business (CIHE, 2008) while employers also appreciate students who have a better understanding of the business world (Lees, 2002). The cooperation between companies and HEIs takes place in various

forms, for instance employer-linked joint projects, placement opportunities, work-shadowing, study visits, etc.

In most cases, higher education careers services play an important role in building partnerships with the employers, but they also have other greater roles on campus, that is, offering careers advice and guidance to students. Careers advice is very important to help students find suitable jobs after graduation (Knight & Yorke, 2003). Careers advisory service in universities can assist students in setting their employment objectives, providing information on jobs and offering employment training as well as assessment and evaluation. As the employability of graduates has become a public concern and an important issue, many universities have formulated employability strategy and related regulations at the macro level. There is no doubt that some university strategies and regulations are examples of good practice, yet there are also some deep-seated factors hindering the effectiveness of university initiatives (Rae, 2007). But in any case, the importance of university strategy in fostering employability cannot be ignored.

Chinese scholars, similarly, have mainly conducted qualitative researches and proposed that colleges and universities should enhance graduate employability by strengthening careers guidance, curriculum system, practical education, partnership with enterprises, etc.

Based on the review of existing research, Chen (2013) believes that from the perspective of HEIs, careers guidance is an important factor that affects the employment of college students. In the process of job hunting, the employment information and employment skills training provided by university has a significant positive effect on graduates' job hunting. Xi & He (2014), Y. Han et al. (2015), and Zhu (2009) also pointed out the importance of careers services in their research, and further emphasized that colleges and universities should offer career planning courses which help students to formulate their own career planning and develop career management skills.

In addition to careers guidance and services, the curriculum system, practical education and student learning-oriented links with employers also need to be taken seriously (Deng & Wu, 2013; F. Han et al., 2015). Colleges and universities should be market-oriented, and reform the curriculum system and content according to the needs of social development. In particular, it is necessary to strengthen the cultivation of students' practical ability and improve practical teaching and training. This is consistent with Peng's view, that is, social practice and work experiences during college have a significant positive impact on the employability of college students (Peng, 2014). The partnership between universities and

enterprises also has a positive effect on graduate employability. Y. Han et al. (2015) proposed that industry-university cooperative education should be extensively carried out to provide students with more opportunities to participate in social practice and job practice.

Zhu (2009) states that the cultivation of graduate employability should be included in the training objectives of HEIs, and the employability of students should be taken as an important indicator to evaluate the quality of education, and all staff should be involved.

Most of the above-mentioned scholars' views are scattered and unsystematic. They are mainly just giving general advice on the basis of personal perception, experience and context. It is worth mentioning that, Chen (2012) has summarized the factors which influence graduate employability in his study and proposed a systematic theoretical framework based on empirical research. In his framework, from the perspective of HEIs, there are in total eight factors that affect the employability of graduates:

- Employability strategy, including university's employability training goals and strategy
- Specialty setup, consisting of the setup of dual degree, academic minor, and training mechanism
- Curriculum system, which involves subject-based courses, multi-disciplinary courses, entrepreneurship and innovation curriculum
- Extra-curricular activities, such as social practice, internship, entrepreneurship and practical training, etc.
- Teaching faculty, which contains teachers' teaching and research ability, and understanding of employability
- Partnerships between HEIs and employers
- Careers services
- Evaluation and feedback, which regards employers and alumni's feedback, and the establishment of students' employability development files

Based on this framework, Chen further developed detailed indicators under each domain, and formed a structured questionnaire. Additionally, an empirical survey was conducted which verified the validity of the framework and questionnaire. Chen's work has provided a practical tool for other scholars to carry out further research.

2.5 Chapter Summary

This chapter reviews the research on employability, and particularly graduate employability. Scholars from different perspectives have conducted well-informed discussions about the concept of graduate employability, and most of them have converged to define it as the ability of graduates to obtain and maintain a job. The components and framework of graduate employability have also been intensively discussed. Related research generally holds two views, namely, taking employability as individual characteristics or as factors affecting employment outcome. The latter is wider in range and includes the content of the former. In terms of the dimensions of employability framework, while different researchers have different interpretations and notions of employability skills, there are always common elements, viz. basic/generic/fundamental/key/core/transferable skills, discipline-based/subject specific/ professional/traditional intellectual skills, personal management skills/personal qualities, career management/job application/job hunting/job searching skills, etc. Employability is inseparable from the job market, employment policies and various external factors, and also closely related to individual skills and attributes. From the perspective of HEIs, this paper takes the employability of graduates as individual characteristics and will have a further exploration of graduate employability in the Chinese context. Based on the literature review, this research can make further efforts in the following aspects:

First, graduate employability of regional public HEIs (primarily teaching-oriented). Domestic related research concerning this subject is insufficient. Under the background of the diversification and hierarchical structure of China's higher education system, it is actually biased to discuss the employability of college students in general terms. Only by studying the employability of regional public university graduates and understanding their core competitiveness, can HEIs cultivate and enhance students' employability more reasonably and effectively, and help students achieve successful and satiable employment.

Second, empirical research. Most of the existing studies are qualitative and theoretical, while the number of quantitative and empirical studies is obviously much smaller. Many scholars' views remain at the theoretical level, lacking empirical support and verification; and the articles are shelved after publication and lack practical value. Through empirical research, we can have a more objective understanding and offer further support for HEI in the cultivation of graduate employability.

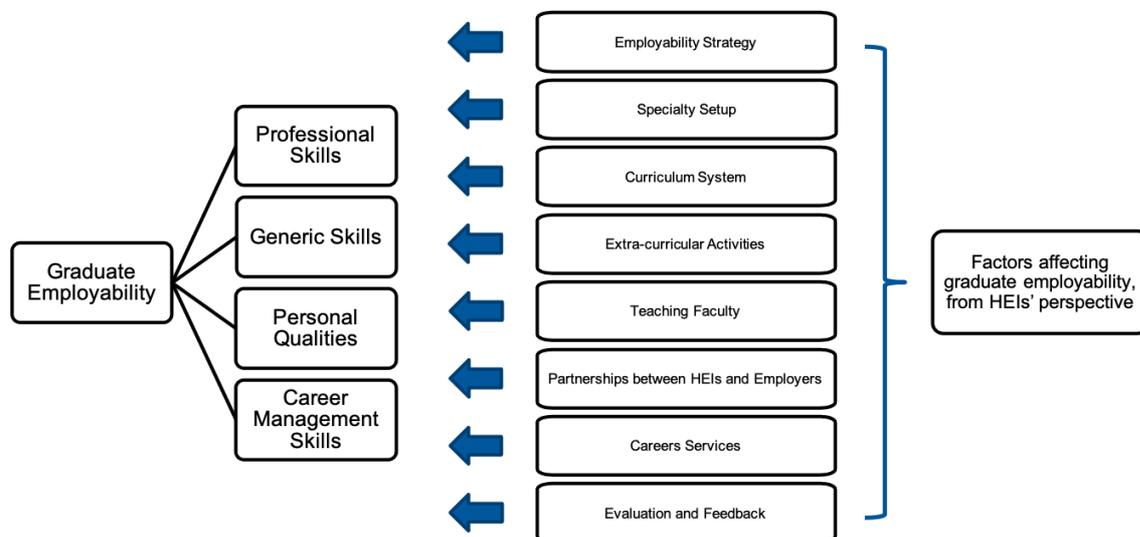
3 Research Methods

3.1 Research Strategy

The overall objective of this paper is to explore the graduate employability of Chinese regional public HEIs (primarily teaching-oriented). An empirical study was adopted, as this allowed researchers to reach the essential attributes of the entity being observed through a large number of investigations, experiences and observations. This research utilizes the theoretical approach of Chen (2012) as shown in Figure 3, considering that the framework and research tools designed by Chen have been empirically verified in his paper, which ensures the validity and reliability. This research intends to examine the components of graduate employability and the factors affecting graduate employability in Chinese regional public HEIs (primarily teaching-oriented) based on Chen's framework, and finally come to the construction of a model of graduate employability of Chinese regional public HEIs (primarily teaching-oriented).

Figure 3

Graduate Employability Framework of Chen (2012)



Note. This figure illustrates the graduate employability framework of Chen (2012).

The study was organized in two stages, using quantitative and qualitative methods. In the first stage, a questionnaire survey to explore students' perceptions of factors that affect employability and components of graduate employability amongst a sample of graduates from a Chinese regional public university was conducted. In the second stage, in order to

have a more comprehensive understanding and to further verify the empirical evidence, interviews with staff from four Chinese regional public HEIs were carried out.

3.2 Methods of Data Processing

First stage

Instrument. In this quantitative research design the data were gathered via questionnaire adopted from Chen (2012). The questionnaire is divided into three sections: general information, questions about components of graduate employability, questions about factors affecting graduate employability. Section 2, “Employability Components Scale”, consists of 4 dimensions and 12 indicators. Section 3, “Employability Influencing Factors Scale”, includes 8 dimensions and 28 indicators. Details are presented in the following Table 1 and Table 2. All the questions under section 2 and section 3 are 5-point Likert Scale questions.

Table 1

Employability Components Scale

Dimensions	Indicators
Professional Skills	Discipline-specific knowledge
	Discipline-specific skills
Generic Skills	Communication skills
	Teamwork skills
	Entrepreneurship and innovation
	Learning ability
Personal Qualities	Ability to develop innovative solutions
	Stress management
	Spirit of enterprising
Career Management Skills	Responsibility
	Career development knowledge
	Job hunting skills, e.g., CV writing, access to employment information

Table 2*Employability Influencing Factors Scale*

Dimensions	Indicators
Employability Strategy	University has clear employability training goals University has clear employability training strategy
Specialty Setup	Professional training mechanism Set up a dual degree Set up academic minor
Curriculum System	Deepening of professional courses Set up entrepreneurship and innovation curriculum modules Set up multi-disciplinary elective course module
Extra-curricular Activities	Strengthen vocational qualification training Incorporate entrepreneurship education into the training plan Practical education Guidance for internship Participation in social practice Exchanges with universities at home and abroad Extra-curricular activities on campus
Teaching Faculty	Teaching and research ability of teachers Teaching based on developing the employability of students Teachers have relevant work experience in the industry
Partnerships between HEIs and Employers	Employers take part in the design of training program Employers take part in the design of curriculum system Interactive relationships between university and industry Lectures by professionals from industry
Careers Services	Careers guidance and services Career choice and planning education Providing employment information and suggestions
Evaluation and Feedback	Record and application of employers' feedback on graduates Feedback from alumni on university's training plan Establishment of students' employability development files

Sampling. The object of the research is the undergraduate graduates of regional public HEIs (primarily teaching-oriented). All these graduates constitute the target population of this questionnaire survey. A random sampling method was adopted. The 2015 and 2016 graduates of Xi'an University were selected as the research samples. A survey link was sent to the participants via WeChat and QQ with the help of the enrollment and employment department and coordinators of the participating university. A total of 729 valid questionnaires were collected.

Data analysis. The data analysis software SPSS25 and SPSSAU were used. The reliability and validity of the questionnaire were checked firstly. Then the components of graduate employability and the influencing factors of graduate employability were analyzed respectively. Descriptive statistical analysis was used in ranking the importance of the

components of graduate employability. Multiple linear regression was applied in analyzing the relationship between the components of graduate employability and the influencing factors. With 8 influencing factors as independent variables and 4 components of graduate employability as dependent variables, four regression equations were established respectively.

Hypotheses. The theoretical hypotheses of multiple linear regression are as follows.

- The university's employability strategy has a significant and positive impact on graduate employability.
- The specialty setup has a significant and positive impact on graduate employability.
- The curriculum system has a significant and positive impact on graduate employability.
- The extra-curricular activities have a significant and positive impact on graduate employability.
- The teaching faculty has a significant and positive impact on graduate employability.
- The partnerships between HEIs and employers have a significant and positive impact on graduate employability.
- The careers services have a significant and positive impact on graduate employability.
- The evaluation and feedback have a significant and positive impact on graduate employability.

Second stage

Instrument. In view of the COVID-19 pandemic, vis-à-vis interview and written interview were both adopted at this stage. The interview questionnaire was generated base on the framework of Chen (2012). The questionnaire includes objective questions like rating and ranking questions, and subjective questions, such as open-ended questions.

Participants. Four regional public HEIs (primarily teaching-oriented), including Xi'an University, Baoji University of Arts and Sciences, Yulin University and Ankang University, which are located in different regions of Shaanxi Province, were selected for the investigation. A total of 12 participants took part in the interview. Xi'an University and Baoji University of Arts and Sciences, the teaching and academic affairs department, the quality evaluation center, the enrollment and employment department and the development planning department of the two universities received face-to-face interviews and written interviews respectively; Yulin University and Ankang University, the teaching and academic affairs

department and the enrollment and employment department of the two universities received interviews in written forms. To clarify the organizational structure of the four HEIs, the teaching and academic affairs department is generally responsible for student training; the quality evaluation center is responsible for the internal evaluation of university quality; the enrollment and employment department is responsible for student recruitment and employment; and the development planning department is responsible for university' medium and long-term planning.

Data analysis. Descriptive statistical analysis was used in ranking the importance of the components of graduate employability and factors affecting graduate employability.

4 Data

4.1 Instrument Reliability

Reliability refers to the consistency, stability and reliability of test instrument, which is usually expressed by internal consistency. The higher the reliability coefficient is, the more consistent, stable and reliable the test results are. To determine the reliability of the questionnaire, Cronbach's alpha test, which is known as the most widely accepted objective measure of reliability was conducted in this paper.

Computing Cronbach's alpha using SPSS25, the alpha coefficient for the Employability Components Scale was 0.960; and the alpha coefficient for the Employability Influencing Factors Scale was 0.982. It should be noted that in most social science studies, a reliability coefficient of 0.70 or higher is considered "acceptable". Therefore, the Cronbach's alpha coefficients are both higher than 0.9, suggesting that the questionnaire has relatively high internal consistency and is reliable.

4.2 Factor Analysis

Validity refers to the degree to which a measurement tool can accurately measure what needs to be measured. As the questionnaire used in this study is adopted from Chen (2012), which is based on in-depth theoretical research and has been verified by experts and empirically. Hence, it is believed that the questionnaire has considerable content validity. An exploratory factor analysis was conducted to further examine the construct validity of each dimension of the Employability Components Scale and the Employability Influencing Factors Scale. A Kaiser-Meyer-Olkin (KMO) test was used to check whether it is suitable to reduce the selected few variables/indicators into one factor/dimension. As a rule of thumb, KMO returns values between 0 and 1; KMO values between 0.8 and 1 indicate that the sampling is adequate for factor analysis; KMO values less than 0.5 indicate that the sampling is not adequate; when there are two variables input in the test, KMO value is always equal to 0.5.

Professional skills. Exploratory factor analysis was conducted on the two variables under the dimension of professional skills. The results of KMO test and total variance explained are presented in Table 3 and Table 4. The Total Variance Explained table shows that there is only one component with initial eigenvalue more than 1.0, which explains 88.983% of the total variance. Since it accounts for more than 50% of the variability in the original variables, it is reasonable to say that using one factor is suitable and sufficient to explain the dimension of professional skills.

Table 3*Professional Skills: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
	Approx. Chi-Square	680.103
Bartlett's Test of Sphericity	df	1
	Sig.	.000

Table 4*Professional Skills: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.780	88.983	88.983	1.780	88.983	88.983
2	.220	11.017	100.000			

Generic skills. Exploratory factor analysis was conducted on the five variables under the dimension of generic skills. Table 5 displays that the KMO statistic equals 0.881. As the value is above 0.8, the sample as a whole is adequate for factor analysis. As shown in Table 6, only one component has the initial eigenvalue greater than 1.0, and this component accounts for 78.557% of the total variance, which verifies the rationality of condensing the five variables into one factor of general skills.

Table 5*Generic Skills: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.881
	Approx. Chi-Square	3083.929
Bartlett's Test of Sphericity	df	10
	Sig.	.000

Table 6*Generic Skills: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.928	78.557	78.557	3.928	78.557	78.557
2	.481	9.611	88.167			
3	.220	4.401	92.568			
4	.200	4.000	96.568			
5	.172	3.432	100.000			

Personal qualities. Exploratory factor analysis was conducted on the three variables under the dimension of personal qualities. In Table 7, the KMO value is 0.768, suggesting the adequacy of factor analysis. The leftmost section of Table 8 shows the variance explained by the initial solution. One factor in the initial solution has eigenvalue greater than 1.0, explaining 88.660% variance out of the total. This justifies that the dimension of personal qualities has a good level of construct validity.

Table 7*Personal Qualities: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.768
	Approx. Chi-Square	1867.947
Bartlett's Test of Sphericity	df	3
	Sig.	.000

Table 8*Personal Qualities: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.660	88.660	88.660	2.660	88.660	88.660
2	.185	6.169	94.829			
3	.155	5.171	100.000			

Career management skills. Exploratory factor analysis was conducted on the two variables under the dimension of career management skills. The results of KMO test and total variance explained are presented in Table 9 and Table 10. It indicates that there is only one component with initial eigenvalue more than 1.0, which explains 86.281% of the total variance. This has demonstrated good construct validity.

Table 9

Career Management Skills: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
	Approx. Chi-Square	543.165
Bartlett's Test of Sphericity	df	1
	Sig.	.000

Table 10

Career Management Skills: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.726	86.281	86.281	1.726	86.281	86.281
2	.274	13.719	100.000			

Employability strategy. Exploratory factor analysis was conducted on the two variables under the dimension of employability strategy. According to the following Table 11 and Table 12, one component with initial eigenvalue more than 1.0, has explained over 80% of the total variance. Therefore, the construct validity of this dimension is high.

Table 11

Employability Strategy: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
	Approx. Chi-Square	654.149
Bartlett's Test of Sphericity	df	1
	Sig.	.000

Table 12*Employability Strategy: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.770	88.523	88.523	1.770	88.523	88.523
2	.230	11.477	100.000			

Specialty setup. Exploratory factor analysis was conducted on the three variables under the dimension of specialty setup. The results of KMO test and total variance explained are presented in Table 13 and Table 14. The KMO statistic equals 0.732. Thus, the sample as a whole is adequate for factor analysis. The component with initial eigenvalue of 2.346 explains 78.195% of the total variance. Therefore, it is suitable to reduce three variables to one single factor.

Table 13*Specialty Setup: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.732
	Approx. Chi-Square	1013.568
Bartlett's Test of Sphericity	df	3
	Sig.	.000

Table 14*Specialty Setup: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.346	78.195	78.195	2.346	78.195	78.195
2	.365	12.154	90.349			
3	.290	9.651	100.000			

Curriculum system. Exploratory factor analysis was conducted on the three variables under the dimension of curriculum system. The results of KMO test and total variance explained are presented in Table 15 and Table 16. The KMO value is 0.747, suggesting the adequacy

of factor analysis. One factor in the initial solution has eigenvalue greater than 1.0, explaining 81.922% variance out of the total. This justifies that the dimension of personal qualities has a good level of construct validity.

Table 15

Curriculum System: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.747
	Approx. Chi-Square	1248.158
Bartlett's Test of Sphericity	df	3
	Sig.	.000

Table 16

Curriculum System: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.458	81.922	81.922	2.458	81.922	81.922
2	.295	9.845	91.768			
3	.247	8.232	100.000			

Extra-curricular activities. Exploratory factor analysis was conducted on the seven variables under the dimension of extra-curricular activities. In Table 17, the KMO value is above 0.9, indicating that the sampling is adequate. In Table 18, the eigenvalue of the first component is above 1.0 while the variability explained by the first component is 72.246%, justifying that the dimension of extra-curricular activities has a good level of construct validity.

Table 17

Extra-curricular Activities: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.927
	Approx. Chi-Square	3957.460
Bartlett's Test of Sphericity	df	21
	Sig.	.000

Table 18*Extra-curricular Activities: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.057	72.246	72.246	5.057	72.246	72.246
2	.484	6.921	79.167			
3	.388	5.537	84.704			
4	.372	5.315	90.019			
5	.273	3.906	93.925			
6	.247	3.526	97.451			
7	.178	2.549	100.000			

Teaching faculty. Exploratory factor analysis was conducted on the three variables under the dimension of teaching faculty. Table 19 displays that the KMO statistic equals 0.747, manifesting the adequacy for factor analysis. In Table 20 there is one component with initial eigenvalue over 1.0, explaining 81.592% of the total variance, suggesting that the three variables can be reduced to one factor in the data analysis.

Table 19*Teaching Faculty: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.747
Approx. Chi-Square		1221.226
Bartlett's Test of Sphericity	df	3
	Sig.	.000

Table 20*Teaching Faculty: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.448	81.592	81.592	2.448	81.592	81.592
2	.291	9.716	91.308			
3	.261	8.692	100.000			

Partnerships between HEIs and employers. Exploratory factor analysis was conducted on the four variables under the dimension of partnerships between HEIs and employers. The results of KMO test and total variance explained are presented in Table 21 and Table 22. The KMO value equals 0.850, which is above 0.8. The sampling adequacy is proved. There is one component with initial eigenvalue of 3.207, explaining 80.164% of the total variance. Hence the construct of this dimension is rational and valid.

Table 21

Partnerships between HEIs and Employers: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.850
	Approx. Chi-Square	2077.199
Bartlett's Test of Sphericity	df	6
	Sig.	.000

Table 22

Partnerships between HEIs and Employers: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.207	80.164	80.164	3.207	80.164	80.164
2	.313	7.816	87.980			
3	.268	6.705	94.685			
4	.213	5.315	100.000			

Careers services. Exploratory factor analysis was conducted on the three variables under the dimension of careers services. The results of KMO test and total variance explained are presented in Table 23 and Table 24. The KMO value is 0.760, ensuring the adequacy of factor analysis. The sole component with initial eigenvalue above 1.0 has disclosed 86.219% of the total variance. Accordingly, it is reasonable to use the factor careers services to represent the three observed indicators listed in the questionnaire.

Table 23*Careers Services: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.760
	Approx. Chi-Square	1607.318
Bartlett's Test of Sphericity	df	3
	Sig.	.000

Table 24*Careers Services: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.587	86.219	86.219	2.587	86.219	86.219
2	.228	7.610	93.829			
3	.185	6.171	100.000			

Evaluation and feedback. Exploratory factor analysis was conducted on the three variables under the dimension of evaluation and feedback. In Table 25, The KMO statistic is equal to 0.745, assuring the sampling adequacy. There is one component in Table 26 with initial eigenvalue above 1.0 which explicates 83.025% of the total variance. The dimension of evaluation and feedback has good construct validity.

Table 25*Evaluation and Feedback: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.745
	Approx. Chi-Square	1343.705
Bartlett's Test of Sphericity	df	3
	Sig.	.000

Table 26*Evaluation and Feedback: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.491	83.025	83.025	2.491	83.025	83.025
2	.296	9.873	92.899			
3	.213	7.101	100.000			

4.3 Multiple Linear Regression

Multiple linear regression, also known as multiple regression, is a statistical technique to explain the relationship between one dependent variable and multiple explanatory variables. In this research, the four components of graduate employability are taken as the dependent variables; the eight influencing factors of graduate employability are the independent variables, namely explanatory variables. Based on the data collected in the first stage of the graduate questionnaire survey, four multiple regression models were established to respectively estimate the relevance between professional skills, generic skills, personal qualities, career management skills and the eight factors that affect graduate employability. Regression analysis was carried out with a robust standard error method to correct heteroscedasticity and at the same time make the significance of the regression coefficients more robust and less biased.

Professional skills as dependent variable. The results of regression analysis are shown in Table 27. The p-values of evaluation and feedback, careers services, partnerships between HEIs and employers, teaching faculty, and extra-curricular activities are all greater than the usual significance level of 0.05, which indicates no statistical significance. The regression coefficient of curriculum system is 0.191, $p=0.030<0.05$, which means that curriculum system has a significant positive impact on professional skills. The regression coefficient of specialty setup is 0.209, $p=0.012<0.05$, suggesting that specialty setup has a significant positive influence on professional skills. The regression coefficient of employability strategy is 0.337, $p=0.000<0.01$, showing a significance level of 0.01, which implies a significant positive impact.

Table 27*Professional Skills: Results of OLS Regression Analysis*

	Coefficient	Std.Err	t	p	R ²	Adjusted R ²	F
Constant	0	0.028	0	1			
Evaluation & Feedback	-0.022	0.091	-0.244	0.808			
Careers Services	0.034	0.087	0.388	0.698			
Partnerships between HEIs & Employers	-0.125	0.094	-1.331	0.183			
Teaching Faculty	0.145	0.096	1.505	0.132	0.432	0.425	F (8,720)=61.105, p=0.000
Extra-curricular Activities	-0.068	0.119	-0.571	0.568			
Curriculum System	0.191	0.088	2.167	0.030*			
Specialty Setup	0.209	0.083	2.52	0.012*			
Employability Strategy	0.337	0.076	4.44	0.000**			

Note. Dependent variable: Professional skills; N=729; Durbin-Watson=1.415.

* p<0.05. ** p<0.01.

Generic skills as dependent variable. The results of regression analysis are given in Table 28. The evaluation and feedback, careers services, teaching faculty, and curriculum system are not statistically significant at the 0.05 level since their p-values are bigger than 0.05. The regression coefficient of partnerships between HEIs and employers is 0.206, $p=0.032<0.05$, which means that partnerships between HEIs and employers have a significant positive impact on generic skills. The regression coefficient of extra-curricular activities is 0.253, $p=0.010<0.01$, which suggests that extra-curricular activities have a significant positive impact on generic skills. The regression coefficient of employability strategy is 0.335, $p=0.000<0.01$, which indicates that employment strategy has a significant positive impact on generic skills. The regression coefficient of specialty setup is -0.168, $p=0.014<0.05$, showing a significant negative influence.

Table 28*Generic Skills: Results of OLS Regression Analysis*

	Coefficien t	Std.Err	t	p	R ²	Adjusted R ²	F
Constant	0	0.027	0	1			
Evaluation & Feedback	-0.032	0.087	-0.364	0.716			
Careers Services	-0.058	0.099	-0.593	0.553			
Partnerships between HEIs & Employers	0.206	0.096	2.149	0.032*			
Teaching Faculty	0.091	0.089	1.019	0.308	0.485	0.479	F (8,720)=51.157, p=0.000
Extra-curricular Activities	0.253	0.098	2.59	0.010**			
Curriculum System	0.111	0.073	1.517	0.129			
Specialty Setup	-0.168	0.068	-2.462	0.014*			
Employability Strategy	0.335	0.059	5.699	0.000**			

Note. Dependent variable: Generic skills; N=729; Durbin-Watson=1.388.

* $p < 0.05$. ** $p < 0.01$.

Personal qualities as dependent variable. The results of regression analysis are presented in Table 29. As the p-values of evaluation and feedback, careers services, partnerships between HEIs and employers, and curriculum system are greater than 0.05, these four items are not statistically significant. The regression coefficient of teaching faculty is 0.256, $p = 0.003 < 0.01$, which suggests that this variable is significant and has a positive impact on personal qualities. The regression coefficient value of extra-curricular activities is 0.370, $p = 0.000 < 0.01$, which explains that extra-curricular activities have a significant positive influence on personal qualities. The regression coefficient of employability strategy equals 0.290, $p = 0.000 < 0.01$, suggesting the significance of employability strategy and positive impact on personal qualities. The regression coefficient of specialty setup is equal to -0.228, $p = 0.001 < 0.01$, which means that this factor is significant and may negatively affect personal qualities.

Table 29*Personal Qualities: Results of OLS Regression Analysis*

	Coefficien t	Std.Err	t	p	R ²	Adjusted R ²	F
Constant	0	0.027	0	1			
Evaluation & Feedback	-0.049	0.088	-0.56	0.576			
Careers Services	-0.079	0.095	-0.831	0.406			
Partnerships between HEIs & Employers	0.085	0.094	0.907	0.364			
Teaching Faculty	0.256	0.087	2.931	0.003**	0.491	0.485	F (8,720)=50.474, p=0.000
Extra-curricular Activities	0.37	0.103	3.587	0.000**			
Curriculum System	0.076	0.081	0.937	0.349			
Specialty Setup	-0.228	0.067	-3.412	0.001**			
Employability Strategy	0.29	0.059	4.939	0.000**			

Note. Dependent variable: Personal qualities; N=729; Durbin-Watson=1.333.

* p<0.05. ** p<0.01.

Career management skills as dependent variable. The results of regression analysis are illustrated in Table 30. The evaluation and feedback, careers services, partnerships between HEIs and employers, teaching faculty, extra-curricular activities and specialty setup are showing no significance because their p-values are definitely larger than 0.05. The regression coefficient of curriculum system is 0.181, $p=0.019<0.05$, indicating its significance and positive influence on career management skills. The regression coefficient of employability strategy equals 0.342, $p=0.000<0.01$, suggesting its significant positive impact on career management skills.

Table 30*Career Management Skills: Results of OLS Regression Analysis*

	Coefficien t	Std.Err	t	p	R ²	Adjusted R ²	F
Constant	0	0.026	0	1			
Evaluation & Feedback	0.013	0.092	0.137	0.891			
Careers Services	-0.116	0.09	-1.278	0.201			
Partnerships between HEIs & Employers	0.122	0.093	1.303	0.192			
Teaching Faculty	0.146	0.102	1.429	0.153	0.509	0.504	F (8,720)=86.309, p=0.000
Extra-curricular Activities	0.08	0.108	0.737	0.461			
Curriculum System	0.181	0.077	2.353	0.019*			
Specialty Setup	0.007	0.072	0.098	0.922			
Employability Strategy	0.342	0.068	5.039	0.000**			

Note. Dependent variable: Career management skills; N=729; Durbin-Watson=1.726.

* $p < 0.05$. ** $p < 0.01$.

4.4 Descriptive Statistics

Based on the data obtained from the graduate questionnaire survey, the average scores of four graduate employability components have been calculated respectively, as follows:

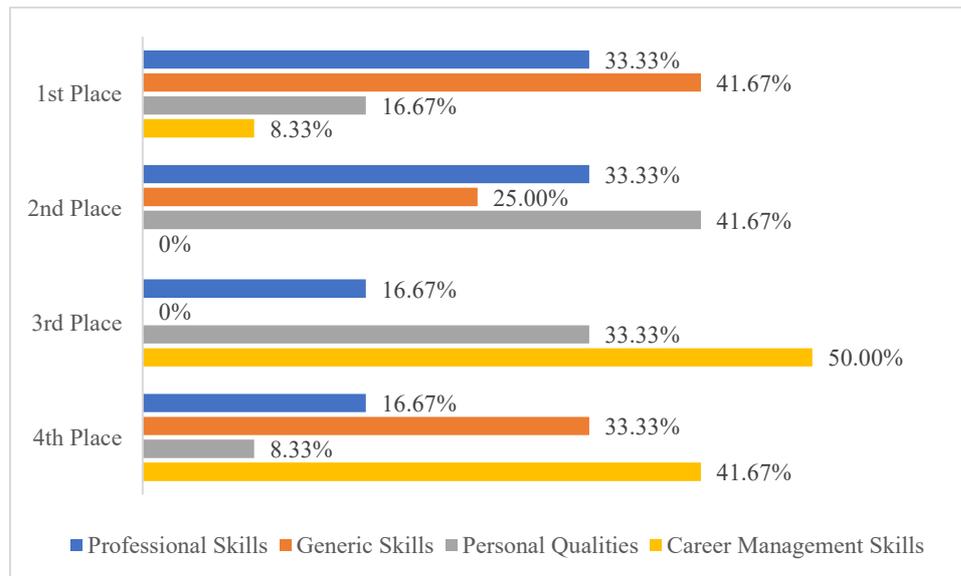
- Professional skills: 3.84
- Generic skills: 3.93
- Personal quality 4.01
- Career management skills: 3.80

According to the statistical results, the ranking of the average scores from high to low is personal qualities, followed by general skills, followed by professional skills, and finally career management ability.

Based on the data collected in the interviews, the ranking results of the importance of graduate employability components provided by the twelve interviewed departments of the four universities are visualized in the following Figure 4.

Figure 4

Ranking the Importance of the Graduate Employability Components



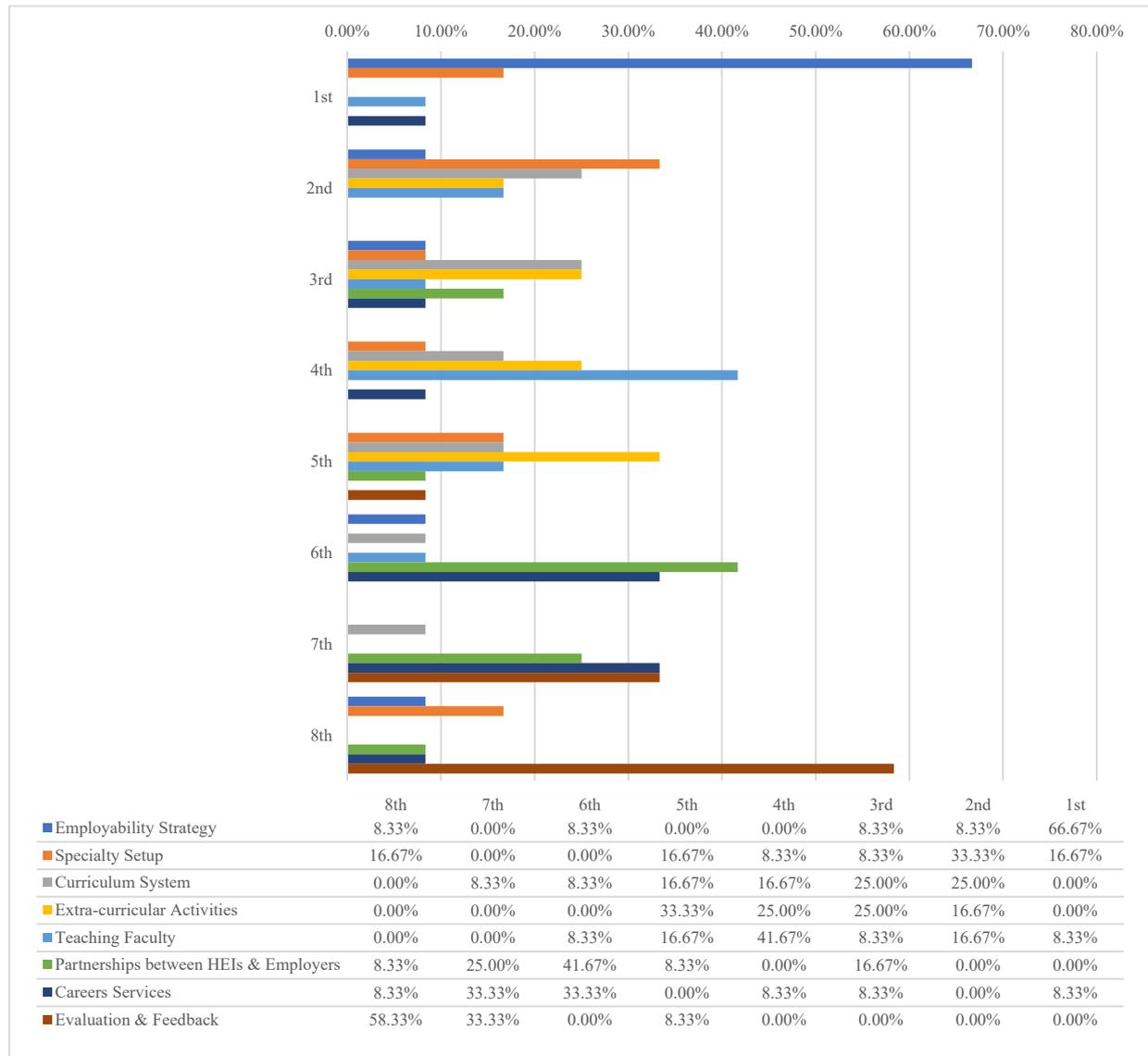
Note. The 4 components were ranked on a scale of 1 to 4, from the most important to the least important. Percentage refers to the percentage of respondents who ranked the component in the corresponding place.

According to the statistical results, when ranking the importance of the four employability components, the majority put generic skills in the first place, and more than two-thirds of the interviewees agreed that the importance of generic skills should be ranked in the top two. Most of the respondents believed career management skills is of least importance among all four components and over 90% of them ranked career management skills in the last two places. Greater number of participants have placed personal qualities and professional skills in the second or third.

Based on the data collected in the interviews, the ranking results of the importance of graduate employability influencing factors are shown in the following Figure 5.

Figure 5

Ranking the Importance of the Graduate Employability Influencing Factors



Note. The 8 factors were ranked on a scale of 1 to 8, from the most important to the least important. Percentage refers to the percentage of respondents who ranked the factor in the corresponding place.

According to the statistical results, when ranking the importance of the eight influencing factors, the factor employability strategy was in an absolutely leading position. Over two-

thirds have put it in the first place. Around 50% of the respondents ranked specialty setup as the first or second important factor. Half of the interviewees believed that the importance of curriculum system should be ranked in the second or third place. The majority placed teaching faculty and extra-curricular activities at the fourth or fifth, and put partnerships between HEIs and employers, careers services in the sixth or seventh. In terms of evaluation and feedback, the vast majority regarded it as the least important factor to graduate employability.

In addition to simply ranking the importance of graduate employability influencing factors, the interviewees were asked to respectively rank these factors, from most crucial to least crucial, based on their impact on professional skills, generic skills, personal qualities and career management skills. Results are presented in the following Table 31, Table 32, Table 33, and Table 34.

Table 31

Ranking the Influencing Factors Based on their Impact on Professional Skills

	Employability Strategy	Specialty Setup	Curriculum System	Extra-curricular Activities	Teaching Faculty	Partnerships between HEIs & Employers	Careers Services	Evaluation & Feedback
1	25.00%	25.00%	16.67%	8.33%	16.67%	0.00%	8.33%	0.00%
2	0.00%	33.33%	33.33%	8.33%	25.00%	0.00%	0.00%	0.00%
3	16.67%	0.00%	33.33%	33.33%	16.67%	0.00%	0.00%	0.00%
4	8.33%	16.67%	16.67%	16.67%	25.00%	8.33%	8.33%	0.00%
5	33.33%	0.00%	0.00%	33.33%	16.67%	16.67%	0.00%	0.00%
6	0.00%	8.33%	0.00%	0.00%	0.00%	50.00%	25.00%	16.67%
7	16.67%	0.00%	0.00%	0.00%	0.00%	8.33%	50.00%	25.00%
8	0.00%	16.67%	0.00%	0.00%	0.00%	16.67%	8.33%	58.33%

Note. The 8 factors were ranked on a scale of 1 to 8, from the most important to the least important. Percentage refers to the percentage of respondents who ranked the factor in the corresponding place.

According to the statistical results in Table 31, when ranking the influencing factors base on their impact on professional skills, 100% put curriculum system in the top four. Teaching faculty, specialty setup, and extra-curricular activities were mainly ranked in the middle and

upper reaches. Most of the respondents have ranked employability strategy, partnerships between HEIs and employers, careers services, evaluation and feedback in the fifth, sixth, seventh and eighth place separately.

Table 32

Ranking the Influencing Factors Based on their Impact on Generic Skills

	Employability Strategy	Specialty Setup	Curriculum System	Extra-curricular Activities	Teaching Faculty	Partnerships between HEIs & Employers	Careers Services	Evaluation & Feedback
1	41.67%	8.33%	16.67%	16.67%	8.33%	0.00%	8.33%	0.00%
2	8.33%	25.00%	8.33%	33.33%	16.67%	0.00%	0.00%	8.33%
3	0.00%	25.00%	16.67%	25.00%	8.33%	16.67%	8.33%	0.00%
4	0.00%	0.00%	25.00%	8.33%	25.00%	8.33%	25.00%	8.33%
5	8.33%	8.33%	0.00%	8.33%	33.33%	25.00%	8.33%	8.33%
6	0.00%	0.00%	25.00%	0.00%	8.33%	16.67%	25.00%	25.00%
7	16.67%	25.00%	0.00%	0.00%	0.00%	25.00%	16.67%	16.67%
8	25.00%	8.33%	8.33%	8.33%	0.00%	8.33%	8.33%	33.33%

Note. The 8 factors were ranked on a scale of 1 to 8, from the most important to the least important. Percentage refers to the percentage of respondents who ranked the factor in the corresponding place.

According to the statistical results in Table 32, when ranking the influencing factors base on their impact on generic skills, employability strategy has achieved a dominant position, followed by extra-curricular activities. Specialty setup and curriculum system were ranked in relatively lower positions and followed by teaching faculty. Careers services, partnerships between HEIs and employers, evaluation and feedback were at the bottom of the ranking.

Table 33*Ranking the Influencing Factors Based on their Impact on Personal Qualities*

	Employability Strategy	Specialty Setup	Curriculum System	Extra-curricular Activities	Teaching Faculty	Partnerships between HEIs & Employers	Careers Services	Evaluation & Feedback
1	41.67%	0.00%	0.00%	8.33%	33.33%	0.00%	16.67%	0.00%
2	0.00%	41.67%	8.33%	25.00%	16.67%	0.00%	8.33%	0.00%
3	25.00%	0.00%	33.33%	25.00%	0.00%	8.33%	0.00%	8.33%
4	8.33%	8.33%	8.33%	16.67%	33.33%	0.00%	16.67%	8.33%
5	0.00%	8.33%	33.33%	0.00%	16.67%	25.00%	16.67%	0.00%
6	0.00%	16.67%	16.67%	8.33%	0.00%	25.00%	25.00%	8.33%
7	8.33%	16.67%	0.00%	8.33%	0.00%	41.67%	8.33%	16.67%
8	16.67%	8.33%	0.00%	8.33%	0.00%	0.00%	8.33%	58.33%

Note. The 8 factors were ranked on a scale of 1 to 8, from the most important to the least important. Percentage refers to the percentage of respondents who ranked the factor in the corresponding place.

According to the statistical results in Table 33, when ranking the influencing factors base on their impact on personal qualities, employability strategy has again taken the dominant position, followed by teaching faculty. Extra-curricular activities, specialty setup and curriculum system were ranked in the middle reaches. Careers services, partnerships between HEIs and employers, evaluation and feedback seemed to be the least important.

Table 34

Ranking the Influencing Factors Based on their Impact on Career Management Skills

	Employability Strategy	Specialty Setup	Curriculum System	Extra-curricular Activities	Teaching Faculty	Partnerships between HEIs & Employers	Careers Services	Evaluation & Feedback
1	41.67%	0.00%	0.00%	16.67%	8.33%	8.33%	25.00%	0.00%
2	0.00%	25.00%	8.33%	8.33%	16.67%	8.33%	16.67%	16.67%
3	0.00%	0.00%	25.00%	8.33%	0.00%	33.33%	16.67%	16.67%
4	0.00%	8.33%	8.33%	33.33%	33.33%	0.00%	8.33%	8.33%
5	8.33%	0.00%	8.33%	25.00%	25.00%	16.67%	0.00%	16.67%
6	16.67%	0.00%	25.00%	0.00%	16.67%	8.33%	16.67%	16.67%
7	16.67%	41.67%	8.33%	8.33%	0.00%	16.67%	0.00%	8.33%
8	16.67%	25.00%	16.67%	0.00%	0.00%	8.33%	16.67%	16.67%

Note. The 8 factors were ranked on a scale of 1 to 8, from the most important to the least important. Percentage refers to the percentage of respondents who ranked the factor in the corresponding place.

According to the statistical results in Table 34, when ranking the influencing factors base on their impact on career management skills, the majority regarded employability strategy as the most important factor among the eight. 41.67% considered careers services as the top two important factors. Larger part placed extra-curricular activities, teaching faculty, partnerships between HEIs and employers in the middle of the ranking. Curriculum system, evaluation and feedback, and specialty setup were chiefly ranked last.

5 Results

In the previous chapter, based on the data collected in the graduate questionnaire survey, factor analysis was applied to reduce the 12 indicators of employability components and 28 indicators of employability influencing factors into 4 and 8 principal component factors respectively. On this basis, the 4 factors representing the employability components were taken as dependent variables, and the 8 factors representing the influencing factors were used as independent variables for regression analysis. The theoretical hypotheses of multiple linear regression proposed in Chapter 3 has been verified, and the specific data analysis results are as follows.

- The university's employability strategy, the specialty setup, the curriculum system, the extra-curricular activities, the teaching faculty, the partnerships between HEIs and employers are statistically significant to the employability of Chinese regional public university graduates; while the careers services, the evaluation and feedback have demonstrated no statistical significance to graduate employability.
- The university's employability strategy is the most important influencing factor, which has a significant positive impact on graduate employability.
- The specialty setup has a significant positive impact on the professional skills of graduates. However, it may have a certain degree of negative influence on generic skills and personal qualities.
- The curriculum system has a significant positive effect on professional skills and career management skills.
- The extra-curricular activities have a significant positive impact on students' generic skills and personal qualities.
- The teaching faculty has a significant positive influence on the personal qualities of students.
- The partnerships between HEIs and employers have a significant positive impact on generic skills.

The analysis of the importance of the four graduate employability components based on the data collected in the graduate questionnaire survey has led to the following results.

- Personal qualities are the most important attributes of graduate employability, followed by generic skills, professional skills, and finally career management skills.

In Chapter 4, based on the data obtained from the interviews with 12 departments of four regional public universities and colleges (primarily teaching-oriented), using descriptive statistics, the importance of 4 employability components have been analyzed, as follows.

- Generic skills are the most important component, followed by personal qualities and professional skills. The career management skills are considered the least important.

It is learned through interviews that among the four components of graduate employability, the main reasons for ranking the importance of generic skills in the first place are:

- First, generic skills are important abilities that the employers value. Generally speaking, employers have higher requirements and expectations for students' generic skills. Students with higher level of generic skills are more likely to succeed in the job application.
- Second, generic skills are applicable to all stages of employment and career development, especially after leaving university and officially joining the workforce. Generic skills are the basis for students to swiftly adapt to the working environment and to have sustainable development.

The reasons for ranking personal qualities in the second place are:

- First, work attitude is often a prerequisite for other capabilities, which cannot be ignored for graduate employability, and is largely dependent on personal qualities.
- Second, personal qualities such as self-management, sociability, the ability to cope with pressure, allow students to take initiatives in the job hunting. It is also an important factor for career development after employment.
- Third, personal qualities are the internal basis for self-efficacy, self-confidence and self-esteem in employability.

The reasons for ranking professional skills in the third place are:

- First, professional skills are the major criteria that employers evaluate students in recruitment.
- Second, to be qualified and competent for a job requires solid foundation of professional skills and knowledge. Professional skills are the crucial element for graduates' competitiveness in employment.
- Third, however, the impact of discipline-based knowledge and abilities on graduates' employment only highlights its importance in the job positions which are closely related to their majors at university. In fact, most of regional public university

graduates have applied jobs that do not match their majors, especially for students from schools of economics and management, literature, history, language, etc.

The reasons for ranking career management skills as the least important component are:

- First, career management skills enable students to make accurate judgments and plans for their employment. It helps students to understand the needs and the current situation of the employment market, so that they can quickly find their own positioning and successfully apply for a job.
- Second, career planning is actually the overall design of students' present and future development, which may be dynamically adjusted and changed over time. Improving the ability of career management is conducive to the career choice and future development of college students.
- Third, career management skills can play a certain role in job hunting but are not the most important. Fundamental skills and comprehensive abilities usually take the dominance, while career management skills have limited effect on employment.

The analysis results of the importance of 8 influencing factors are presented below.

- University's employability strategy is the most important factor that affects graduate employability, followed by specialty setup, curriculum system, then teaching faculty and extra-curricular activities, partnerships between HEIs and employers as well as careers services, and in the end evaluation and feedback.

It is learned through interviews that among the eight factors which affect graduate employability, the main reasons for ranking the importance of university's employability strategy in the first place are:

- The university's employment goal and employment strategies have a decisive impact on other factors and have the greatest influence on graduate employability. The positioning of graduate employability development is particularly critical, which determines the routes of employability training.

The reasons for ranking specialty setup in the second place are:

- As the top-level design of HEI, the specialty setup determines the total demand for talents, which in turn determines the difficulty of employment. Whether the training mechanism is sound or not affects the cultivation of graduate employability and the improvement of employment competitiveness.

The reasons for ranking curriculum system in the third place are:

- The curriculum system directly determines the employability training of students, which is the most explicit index that affects the employability. The achievement of employability training goals and strategies requires the support of the curriculum system. Well-developed curriculum system helps cultivate students' employability and is beneficial to high-quality employment and employment rate.

The reasons for ranking extra-curricular activities in the fourth place are:

- In addition to classroom teaching, internships, social practice, innovation and entrepreneurship education and other extra-curricular activities are all essential parts in the training system. For instance, qualification certificate can be a stepping stone to a good job. However, although extra-curricular activities play a sound role, there are many factors that restrict its effect on employability.

The reasons for ranking teaching faculty in the fifth place are:

- As teachers are directly in contact with students, teaching faculty plays a decisive role in the cultivation of graduate employability. The curriculum system is implemented by teachers, and the level of teachers' performance affects the development of students' employability. Teachers also have great influence on students' career planning. Good teachers can help students obtain high-quality employment.

The reasons for ranking careers services in the sixth place are:

- Career choice is the first step in employment, which affects students' career planning. Although careers guidance is not the core element of university's talent cultivation, it helps students' transit from campus to enterprise. Careers services as supplementary to discipline-specific teaching, enable students to link what they have learned to the labor market and position themselves in the market. Nevertheless, in most cases the function of careers services can only be discussed from the macro level, as in practice it is difficult to provide tailor-made guidance for students.

The reasons for ranking partnerships between HEIs and employers in the seventh place are:

- Interaction with employers can bring students closer to the reality of the industry, improve students' employability, and understand the needs of employers. The participation of employers in the training process can build the connection between university's supply and industry's demand in a more effective way, which is helpful for the improvement of graduate employability. The integration of employers can better address the focus of employability training.

The reasons for ranking evaluation and feedback as the last are:

- The evaluation and feedback mechanism can better improve the talent training system. It can provide reference for student employment, and help modify HEI's overall employability training plan, as well as optimize the training process. But it has limited effect in practice.

The influencing factors were also ranked respectively based on their impact on professional skills, generic skills, personal qualities and career management skills. The results are summarized in the following Table 35.

Table 35

Rankings of the Influencing Factors Based on their Impact on Each Employability

Component

	Professional Skills	Generic Skills	Personal Qualities	Career Management Skills
Employability Strategy	5	1	1	1
Specialty Setup	3	3	4	8
Curriculum System	1	4	5	6
Extra-curricular Activities	4	2	3	3
Teaching Faculty	2	5	2	4
Partnerships between HEIs and Employers	7	7	8	5
Careers Services	6	6	6	2
Evaluation and Feedback	8	8	7	7

Note. The scale from 1 to 8 refers to from the most important to the least important.

6 Discussion

6.1 Comparison of Analysis Results

For the components of employability, comparing the results of graduate questionnaire survey and interviews with departments of four participating universities, both graduates and universities ranked the importance of generic skills and personal qualities in the first two places, while professional skills and career management skills were ranked third and fourth respectively.

According to the survey, graduates considered personal qualities as the most important element. The reason may be that after working for a period of time, graduates have improved their general abilities through training, environmental impact, and enhanced self-awareness, and they are basically qualified for the job requirements. Personal qualities, as internalized mental qualities, which cannot be developed simply and quickly through training, which require a relatively long process of improvement. Therefore, personal qualities are particularly important for college graduates who are already employed. Universities put generic skills in the first place, which is related to the educational function university undertakes. This ability can be cultivated and trained through classroom teaching, projects, social practice, activities, etc., and can be changed in a relatively short period of time, with strong operability. While the formation of personal qualities is gradual and imperceptible and requires self-awareness. Thus, the universities have ranked generic skills as the most crucial component.

Even though there are slight differences when ranking the top two elements of employability between graduates and universities, the opinions of the two sides are not contradictory, it is only because they stand in different positions. The common view is that personal qualities and generic skills are the most important components of employability. This is also in line with the views of Wang (2009), Li et al. (2010), Zhang and Xu (2014). In Wang's framework, moral strength, in other words, personal qualities, is the core and very basis of graduate employability and is also the characteristics that employers value the most. Li et al. believed that the interpersonal communication skills and mentality of college students have the most significant impact on their employment competitiveness. They also stated that although professional skills have a positive impact on employability, the effect is not significant. According to Zhang and Xu, personal qualities as well as communication and coordination skills are the basic elements of employability.

Regarding the factors which affect employability, the analysis results based on interviews with HEIs showed that employability strategy ranked first in terms of impact on generic skills, personal qualities and career management skills, and also had a significant impact on professional skills. This is basically consistent with the conclusion of the questionnaire survey on graduates, that is, university employability strategy is the most important influencing factor for employability.

The influence of extra-curricular activities on generic skills and personal qualities ranks the second and third, which is basically in accordance with the conclusion of the questionnaire survey, that is, extra-curricular activities have a significant positive impact on the graduates' generic skills and personal qualities.

The influence of teaching faculty on personal qualities ranks the second, which is essentially in line with the results of the survey for graduates, that is, the teaching faculty of colleges and universities have a significant positive impact on students' personal qualities.

The impact of specialty setup on professional skills ranks the third and has a great impact. This conclusion is broadly consistent with the conclusion of the survey for graduates.

Nevertheless, specialty setup has a certain impact on generic skills and personal qualities, which is different from the survey results. The reason may be related to the fact that HEIs take the setting of specialties as the carrier to provide services for the society and meet the employer's employment needs. However, though a university may have well-established specialty setup and training mechanism, they are likely to be irrelevant in the students' experience and mind. In addition, the graduates who took part in this survey have already completed their studies at university and entered into their jobs, so from their point of view, it might be difficult to link specialty setup to their generic skills and personal qualities.

Therefore, it is understandable that graduates may perceive a certain degree of negative impact.

According to the universities interviewed, the curriculum system's impact on professional skills ranks first and has a certain impact on career management skills, while the impact on the cultivation of generic skills and personal qualities is moderate, which is generally consistent with the conclusions of the survey.

According to the questionnaire survey, graduates believe that partnerships between HEIs and employers have a positive and significant impact on generic skills, while the universities think it is relatively unimportant. After working for a period of time, college graduates have realized that there is a certain gap between the education, practical activities they have on campus and the requirements of the employers. In this case, they believe that partnerships

between HEIs and employers can benefit the development of generic skills. HEIs' major focus is to fulfill the educational tasks according to curriculum system, thus the interactions with employers become inevitably inadequate. In addition, with the deviation in understanding, it is bound to think that partnerships between HEIs and employers have little impact on the cultivation of generic skills.

According to the interviews, career services, evaluation and feedback rank lower in terms of their influence on professional skills, generic skills and personal qualities. This conclusion is basically in line with the findings of the survey. But with regard to the impact of careers services on career management skills, university graduates and universities hold the opposite view. From graduates' perspective, the careers guidance of HEIs usually aim at common needs and problems, and usually fails to meet the needs of offering customized service. This is proved in the studies of Wang (2008) and Li and Yang (2010). Careers guidance provided by colleges and universities are not recognized by students. According to the survey on employment intention of graduates in Beijing, 68.4% of them did not know much about the careers services of the university. Another survey showed that college students' satisfaction with employment guidance provided by colleges and universities was very low (Wang, 2008). Most universities' careers services mainly focus on the propaganda of employment policy, guidance of employment skills and transmission of employment information. The majority of colleges and universities lack guidance and training on students' career planning and management. In many HEIs, the services are limited to employment guidance right before graduation (Wang 2008; Li and Yang, 2010). Therefore, it is reasonable that graduates consider careers services as something useless. However, for colleges and universities, they mainly take careers services as a way to promote student employment and increase the employment rate. Careers guidance is an important work for HEIs. Therefore, universities considered that career guidance is of great importance to the cultivation of career management skills.

Generally speaking, although the viewpoints of universities and graduates differ, the main results of the interviews with universities are roughly consistent with the conclusion of the questionnaire survey for graduates.

Compared with the analysis results of Chen (2012), there are certain differences. According to Chen, instead of employability strategy, extra-curricular activities are the most important factor which have significant positive impact on graduate employability. Partnerships between HEIs and employers show great influence on all four components of graduate

employability. Careers services play important role in the development of generic skills, personal qualities and career management skills. The possible reasons for the differences are as follows:

First, Chen's survey samples are graduates of Zhejiang University, Zhejiang University of technology and Zhejiang University City College. The sample HEIs include "Project 985" university, first-tier (*yiben*) university and independent college. In this paper, the sample universities, Xi'an University, Baoji University of Arts and Sciences, Yulin University and Ankang University, all belong to regional public universities (primarily teaching-oriented). Second, Chen's sample universities are located in the eastern part of China, where the economy is highly prosperous, and vast majority of students come from this region. The sample universities in this study are located in different regions of Shaanxi Province, in the western part of China, where the economy is in the middle reaches, and most of the students come from this region. Due to the unbalanced economic development of the two regions, the industrial structure and demand for talents are obviously different, which will have a great impact on the employability of students.

Third, the survey samples of Chen and this study are located in the south and north of China. Differences in society, culture and livings will have an impact on individual's employability, career choices, etc.

6.2 Graduate Employability Model

To summarize the findings of questionnaire survey and interviews, it is believed that personal qualities and generic skills are more important for the graduate employability of regional public HEIs (primarily teaching-oriented), followed by professional skills and career management skills. Among the four employability elements, professional skills and career management skills belong to the category of intelligence quotient (IQ), while personal qualities and generic skills belong to the category of emotional intelligence (EI) in psychology. In Goleman's (1996) description of emotional intelligence, it includes a series of personality traits which are beyond the scope of intelligence, such as self-control, enthusiasm, persistence, and self-motivation, covering five aspects, namely understanding one's emotions, managing emotions, motivating oneself, identifying others' emotions, and dealing with interpersonal relationships. According to Bar-on (1997), EI is a set of non-cognitive abilities and skills that affect one's capability to successfully cope with environmental requirements and pressures, is composed of intrapersonal skills, interpersonal skills, adaptability, stress management and general mood. In another interpretation, EI consists of

skills such as adaptability, emotion expression and management, relationship skills, self-esteem, self-motivation, social competence, stress management, etc. (Petrides & Furnham, 2003). Personal qualities and generic skills both involve the perception of emotions and are included in the above conceptualization of emotional intelligence. Therefore, graduate employability components are clustered into two higher classifications, viz. emotional intelligence and intelligence quotient. Intelligence quotient is an indispensable capability for college students to get a job, while emotional intelligence is the key element for graduates to achieve high-quality employment, personal development and career success. Emotional intelligence has greater importance, as suggested by Goleman, EI can be as powerful as IQ, and sometimes even more powerful.

Based on the analysis of the questionnaires and interviews, we believed that all the eight influencing factors have a certain degree of impact on employability, but their effects are different. Employability strategies, belonging to the top-level planning of university, play a guiding role. Thus, it is the most important influencing factor, which has a significant impact on all four elements of employability. Teaching faculty and extra-curricular activities can exert an important influence on EI, namely generic skills and personal qualities, and also have a certain influence on professional skills and career management skills. Specialty setup and curriculum system have an important impact on the cultivation of professional skills. The curriculum system also has a certain impact on career management skills. The partnerships between HEIs and employers and careers services have a certain impact on the cultivation of generic skills and career management skills respectively, but the influence on other elements is very limited. Evaluation and feedback are often neglected because they are usually indirect and compensatory afterwards. However, they are the key links to ensure the employability training of college students and the promotion of employment. They are of great value in terms of providing suggestions and guidance for university' employability training plan and play a comprehensive, positive, and long-term role in all aspects of employability training.

Based on the above conclusions and views, this paper proposed a graduate employability model of Chinese regional public HEIs (primarily teaching-oriented) – “3+1 Cube”. The main points are as follows:

First, the graduate employability is composed of emotional intelligence and intellectual quotient. The importance of emotional intelligence, namely generic skills and personal

qualities is higher than that of intellectual quotient, viz. professional skills and career management skills.

Second, the core factors that affect personal qualities are employability strategy, extra-curricular activities, and teaching faculty; the core factors that affect generic skills are employability strategy, extra-curricular activities, and partnerships between HEIs and employers; the core factors that affect professional skills are employability strategy, curriculum system and specialty setup; the core factors that affect career management skills are employability strategy, curriculum system and careers services. In addition, the significance of evaluation and feedback on employability training cannot be ignored.

Third, these factors have different degrees of influence on employability, and interact with employability in different ways. However, the influencing factors are not isolated, but cooperate with each other synergistically to play a role in the development of employability.

Fourth, for each employability component, there are **three** core influencing factors, the impact of other influencing factors is relatively moderate. The influence of evaluation and feedback should not be overlooked, it is also **one** important factor in the model. Here, three core factors and one “evaluation and feedback” factor are referred to as “3 + 1”.

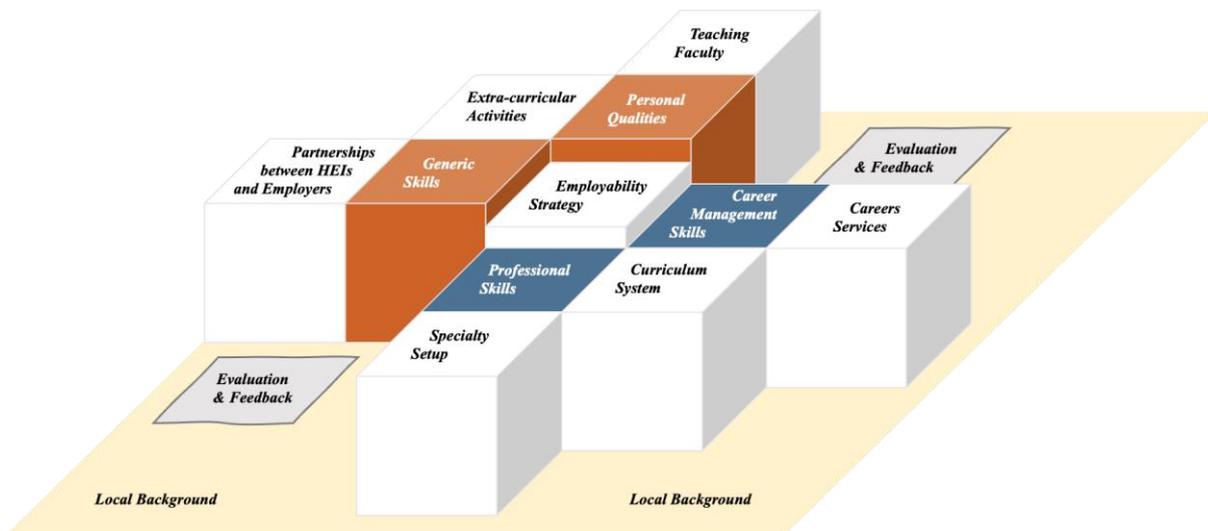
Fifth, regional public HEIs (primarily teaching-oriented) mainly serve the local economy.

Therefore, in the training of employability, it is necessary to consider the adaptability to local development.

The model is depicted in the following Figure 6.

Figure 6

Employability Model of Regional Public University Graduates - “3+1 Cube”



Note. The red cubes represent the emotional intelligence among employability components. The blue cubes represent the intelligence quotient among employability components. The white cubes represent the factors that affect the employability. Each red or blue cube has three adjacent white cubes, which are the core factors affecting this employability element. Each red or blue cube also has several non-adjacent white cubes, indicating that these influencing factors do not significantly affect this employability component. The gray squares represent evaluation and feedback, which play a complementary role in cultivating employability. The yellow canvas represents the local background, given that the graduate employability of regional public universities (primarily teaching-oriented) needs to serve local development.

6.3 Suggestions

Based on the questionnaire survey and interviews, the following suggestions are put forward on the cultivation of employability of Chinese regional public university students.

First, clarify the positioning of university in the higher education system and the targeted labor market and formulate reasonable goals and strategies for student employability training. Regional public university (primarily teaching-oriented) should have a thorough

understanding of its own characteristics, strengths and weaknesses, be oriented towards local market demand, serve the regional economy and local reality, cultivate students meeting the requirements of local enterprises, adapt to social needs, and actively contribute to local economic and social development.

Second, optimize student training system, and formulate student training plan in line with the market demands. Employability skills development should be completely integrated into curriculum system. Classroom teaching together with practical education, entrepreneurship and innovation modules, employment guidance courses are incorporated in the training program. Regional public universities should attach importance to the cultivation of application-oriented talents, formulate relevant standards, and arrange the courses in accordance with the requirements of enterprises. Build up relationships with local industries, involve enterprises in the training program, and actively organize students to participate in internships, social practice, and other work-related activities.

Third, improve the careers guidance and services, and provide full employment services starting from the first year of university. Universities should attach great importance to employment guidance, the training of employment service personnel, actively carry out employability training courses, provide customized guidance and career planning for students, invite industry experts and alumni to share employment experiences, and ultimately improve the level of careers services.

Fourth, attach importance to education quality evaluation and feedback. Through the evaluation and feedback mechanism, universities can fix the problems that arise in the process of employability training, so as to better meet the development needs of students and better achieve training objectives. HEIs should also strengthen the analysis of students' employment and employability, and keep abreast of market changes and demands, and the deficiencies of current employability training programs, so as to improve the effectiveness of employability training.

7 Conclusion

7.1 Conclusion

The main purpose of this research was to investigate the graduate employability of Chinese regional public HEIs (primarily teaching-oriented). Starting with desk research, this paper established its theoretical basis and research instrument on the grounds of the existing literature. Through a two-stage mixed-methods study, which included questionnaire survey data from 729 graduates of a regional public university (primarily teaching-oriented), and interview data from 12 departments of four regional public HEIs (primarily teaching-oriented) located in Shaanxi Province, the relative importance of employability components as well as the relative importance of factors affecting employability were explored. It was found that personal qualities and generic skills are the most important components of graduate employability, followed by professional skills and career management skills; and university's strategies have the greatest impact on graduate employability, followed by specialty setup, curriculum system, extra-curricular activities, and teaching faculty, the impact of partnerships between HEIs and employers, and careers services are limited to a certain extent, the influence of evaluation and feedback is often ignored. In addition, based on the above findings, a model was established which clustered the four employability components into two higher-order composite categories, namely emotional intelligence and intelligence quotient. It clarified the relationship between the components of employability and the influencing factors of employability and, emphasized the importance of regional background for the cultivation of the employability of regional public university graduates.

7.2 Implication

There are certain implications can be drawn from this study, one of which is to improve employability of regional public university graduates by embedding the facets of personal qualities and generic skills in student training and teaching. Regional public HEIs (primarily teaching-oriented) are different from the first-tier universities and national key universities. The academic performance and professional skills of regional public university graduates cannot make them easily gain credence of the employers. Therefore, in view of practical considerations, regional public HEIs (primarily teaching-oriented) should attach more importance to the cultivation of students' emotional intelligence. Students should be given more opportunities in and out of classrooms to develop their generic skills and personal qualities. They should be encouraged to train specific abilities when giving a class presentation, working on an academic group project or participating in extra-curricular

activities, etc. It is also necessary for teachers and staff of university careers services to enhance their own competency, so as to help students develop their generic skills and personal qualities.

In addition to incorporating personal qualities and generic skills in student training, regional public HEIs (primarily teaching-oriented) should have set up overall employability objectives and strategies. The division of labor in modern society is highly developed. In such a society, employment is to find a suitable position for oneself and to achieve a balance between one's own strengths and needs and social demands. One of the significant features of the division of labor is the difference in work, which requires workers to have knowledge and skills different from others, that is, the core competitiveness. Regional public HEIs (primarily teaching-oriented) need to be clear about their positioning and core competitiveness in the employment market, as well as the expectations of the employers and industries particularly in the regional market. Only on the basis of fully understanding the employment market and its core competitiveness, can colleges and universities put forward a reasonable employability strategy to successfully respond to market demands and the student needs.

In terms of the practical applications, the universities participating in the research (especially Xi'an University) are primarily recommended to make use of the results of this paper. Since this study has empirically reflected both the views of graduates and HEI administrators on employability, universities can continue to conduct further research based on these data. This paper can also be regarded as the feedback and evaluation of graduate employability, which can be referred by these universities.

7.3 Limitation

Several limitations of current research must be acknowledged.

First, since graduate employability is a dynamic issue, the views of HEIs, students, society, and employers on employability are constantly changing. However, there is a certain time interval between the two stages of data collection in this study, which may cause information deviation.

Second, due to the outbreak of coronavirus epidemic, most interviews were conducted in written form instead of face-to-face. So, it was difficult to get a deeper and comprehensive understanding of the interviewees' views on the issue.

Third, the data collection only covered the supply side of employability, namely graduates and HEIs. The opinions of enterprises were not collected in this research.

Fourth, China has a vast territory, different regions have different economies and lifestyles, and may have different views on employability. Thus, generalizability is limited as the samples of this study are all regional public universities (primarily teaching-oriented) from Shaanxi Province.

7.4 Future study

This study focused on the graduate employability of regional public universities (primarily teaching-oriented). Therefore, research on the employability of different types of college graduates could be carried out. Similarly, it would be interesting to explore whether there are differences in the employability of graduates from different majors, different regions. From the perspective of the demand side that is the employers, to study the employability of graduates, understand the needs of enterprises for employability, and what is the core competitiveness in the eyes of enterprises, which is of great significance to improve the employability model.

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Appendix 1: Tables

Table 1

Employability Components Scale

Dimensions	Indicators
Professional Skills	Discipline-specific knowledge
	Discipline-specific skills
Generic Skills	Communication skills
	Teamwork skills
	Entrepreneurship and innovation
	Learning ability
Personal Qualities	Ability to develop innovative solutions
	Stress management
	Spirit of enterprising
Career Management Skills	Responsibility
	Career development knowledge
	Job hunting skills, e.g., CV writing, access to employment information

Table 2*Employability Influencing Factors Scale*

Dimensions	Indicators
Employability Strategy	University has clear employability training goals University has clear employability training strategy
Specialty Setup	Professional training mechanism Set up a dual degree Set up academic minor
Curriculum System	Deepening of professional courses Set up entrepreneurship and innovation curriculum modules Set up multi-disciplinary elective course module
Extra-curricular Activities	Strengthen vocational qualification training Incorporate entrepreneurship education into the training plan Practical education Guidance for internship Participation in social practice Exchanges with universities at home and abroad Extra-curricular activities on campus
Teaching Faculty	Teaching and research ability of teachers Teaching based on developing the employability of students Teachers have relevant work experience in the industry
Partnerships between HEIs and Employers	Employers take part in the design of training program Employers take part in the design of curriculum system Interactive relationships between university and industry Lectures by professionals from industry
Careers Services	Careers guidance and services Career choice and planning education Providing employment information and suggestions
Evaluation and Feedback	Record and application of employers' feedback on graduates Feedback from alumni on university's training plan Establishment of students' employability development files

Table 3*Professional Skills: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
	Approx. Chi-Square	680.103
Bartlett's Test of Sphericity	df	1
	Sig.	.000

Table 4*Professional Skills: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.780	88.983	88.983	1.780	88.983	88.983
2	.220	11.017	100.000			

Table 5*Generic Skills: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.881
	Approx. Chi-Square	3083.929
Bartlett's Test of Sphericity	df	10
	Sig.	.000

Table 6*Generic Skills: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.928	78.557	78.557	3.928	78.557	78.557
2	.481	9.611	88.167			
3	.220	4.401	92.568			
4	.200	4.000	96.568			
5	.172	3.432	100.000			

Table 7*Personal Qualities: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.768
	Approx. Chi-Square	1867.947
Bartlett's Test of Sphericity	df	3
	Sig.	.000

Table 8*Personal Qualities: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.660	88.660	88.660	2.660	88.660	88.660
2	.185	6.169	94.829			
3	.155	5.171	100.000			

Table 9*Career Management Skills: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
	Approx. Chi-Square	543.165
Bartlett's Test of Sphericity	df	1
	Sig.	.000

Table 10*Career Management Skills: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.726	86.281	86.281	1.726	86.281	86.281
2	.274	13.719	100.000			

Table 11*Employability Strategy: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
	Approx. Chi-Square	654.149
Bartlett's Test of Sphericity	df	1
	Sig.	.000

Table 12*Employability Strategy: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.770	88.523	88.523	1.770	88.523	88.523
2	.230	11.477	100.000			

Table 13*Specialty Setup: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.732
	Approx. Chi-Square	1013.568
Bartlett's Test of Sphericity	df	3
	Sig.	.000

Table 14*Specialty Setup: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.346	78.195	78.195	2.346	78.195	78.195
2	.365	12.154	90.349			
3	.290	9.651	100.000			

Table 15*Curriculum System: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.747
	Approx. Chi-Square	1248.158
Bartlett's Test of Sphericity	df	3
	Sig.	.000

Table 16*Curriculum System: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.458	81.922	81.922	2.458	81.922	81.922
2	.295	9.845	91.768			
3	.247	8.232	100.000			

Table 17*Extra-curricular Activities: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.927
	Approx. Chi-Square	3957.460
Bartlett's Test of Sphericity	df	21
	Sig.	.000

Table 18*Extra-curricular Activities: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.057	72.246	72.246	5.057	72.246	72.246
2	.484	6.921	79.167			
3	.388	5.537	84.704			
4	.372	5.315	90.019			
5	.273	3.906	93.925			
6	.247	3.526	97.451			
7	.178	2.549	100.000			

Table 19*Teaching Faculty: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.747
Bartlett's Test of Sphericity	Approx. Chi-Square	1221.226
	df	3
	Sig.	.000

Table 20*Teaching Faculty: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.448	81.592	81.592	2.448	81.592	81.592
2	.291	9.716	91.308			
3	.261	8.692	100.000			

Table 21*Partnerships between HEIs and Employers: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.850
	Approx. Chi-Square	2077.199
Bartlett's Test of Sphericity	df	6
	Sig.	.000

Table 22*Partnerships between HEIs and Employers: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.207	80.164	80.164	3.207	80.164	80.164
2	.313	7.816	87.980			
3	.268	6.705	94.685			
4	.213	5.315	100.000			

Table 23*Careers Services: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.760
	Approx. Chi-Square	1607.318
Bartlett's Test of Sphericity	df	3
	Sig.	.000

Table 24*Careers Services: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.587	86.219	86.219	2.587	86.219	86.219
2	.228	7.610	93.829			
3	.185	6.171	100.000			

Table 25*Evaluation and Feedback: KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.745
	Approx. Chi-Square	1343.705
Bartlett's Test of Sphericity	df	3
	Sig.	.000

Table 26*Evaluation and Feedback: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.491	83.025	83.025	2.491	83.025	83.025
2	.296	9.873	92.899			
3	.213	7.101	100.000			

Table 27*Professional Skills: Results of OLS Regression Analysis*

	Coefficient	Std.Err	t	p	R ²	Adjusted R ²	F
Constant	0	0.028	0	1			
Evaluation & Feedback	-0.022	0.091	-0.244	0.808			
Careers Services	0.034	0.087	0.388	0.698			
Partnerships between HEIs & Employers	-0.125	0.094	-1.331	0.183			
Teaching Faculty	0.145	0.096	1.505	0.132	0.432	0.425	F (8,720)=61.105, p=0.000
Extra-curricular Activities	-0.068	0.119	-0.571	0.568			
Curriculum System	0.191	0.088	2.167	0.030*			
Specialty Setup	0.209	0.083	2.52	0.012*			
Employability Strategy	0.337	0.076	4.44	0.000**			

Note. Dependent variable: Professional skills; N=729; Durbin-Watson=1.415.

* p<0.05. ** p<0.01.

Table 28*Generic Skills: Results of OLS Regression Analysis*

	Coefficien t	Std.Err	t	p	R ²	Adjusted R ²	F
Constant	0	0.027	0	1			
Evaluation & Feedback	-0.032	0.087	-0.364	0.716			
Careers Services	-0.058	0.099	-0.593	0.553			
Partnerships between HEIs & Employers	0.206	0.096	2.149	0.032*			
Teaching Faculty	0.091	0.089	1.019	0.308	0.485	0.479	F (8,720)=51.157, p=0.000
Extra-curricular Activities	0.253	0.098	2.59	0.010**			
Curriculum System	0.111	0.073	1.517	0.129			
Specialty Setup	-0.168	0.068	-2.462	0.014*			
Employability Strategy	0.335	0.059	5.699	0.000**			

Note. Dependent variable: Generic skills; N=729; Durbin-Watson=1.388.

* p<0.05. ** p<0.01.

Table 29*Personal Qualities: Results of OLS Regression Analysis*

	Coefficien t	Std.Err	t	p	R ²	Adjusted R ²	F
Constant	0	0.027	0	1			
Evaluation & Feedback	-0.049	0.088	-0.56	0.576			
Careers Services	-0.079	0.095	-0.831	0.406			
Partnerships between HEIs & Employers	0.085	0.094	0.907	0.364			
Teaching Faculty	0.256	0.087	2.931	0.003**	0.491	0.485	F (8,720)=50.474, p=0.000
Extra-curricular Activities	0.37	0.103	3.587	0.000**			
Curriculum System	0.076	0.081	0.937	0.349			
Specialty Setup	-0.228	0.067	-3.412	0.001**			
Employability Strategy	0.29	0.059	4.939	0.000**			

Note. Dependent variable: Personal qualities; N=729; Durbin-Watson=1.333.

* p<0.05. ** p<0.01.

Table 30*Career Management Skills: Results of OLS Regression Analysis*

	Coefficien t	Std.Err	t	p	R ²	Adjusted R ²	F
Constant	0	0.026	0	1			
Evaluation & Feedback	0.013	0.092	0.137	0.891			
Careers Services	-0.116	0.09	-1.278	0.201			
Partnerships between HEIs & Employers	0.122	0.093	1.303	0.192			
Teaching Faculty	0.146	0.102	1.429	0.153	0.509	0.504	F (8,720)=86.309, p=0.000
Extra-curricular Activities	0.08	0.108	0.737	0.461			
Curriculum System	0.181	0.077	2.353	0.019*			
Specialty Setup	0.007	0.072	0.098	0.922			
Employability Strategy	0.342	0.068	5.039	0.000**			

Note. Dependent variable: Career management skills; N=729; Durbin-Watson=1.726.

* p<0.05. ** p<0.01.

Table 31

Ranking the Influencing Factors Based on their Impact on Professional Skills

	Employability Strategy	Specialty Setup	Curriculum System	Extra-curricular Activities	Teaching Faculty	Partnerships between HEIs & Employers	Careers Services	Evaluation & Feedback
1	25.00%	25.00%	16.67%	8.33%	16.67%	0.00%	8.33%	0.00%
2	0.00%	33.33%	33.33%	8.33%	25.00%	0.00%	0.00%	0.00%
3	16.67%	0.00%	33.33%	33.33%	16.67%	0.00%	0.00%	0.00%
4	8.33%	16.67%	16.67%	16.67%	25.00%	8.33%	8.33%	0.00%
5	33.33%	0.00%	0.00%	33.33%	16.67%	16.67%	0.00%	0.00%
6	0.00%	8.33%	0.00%	0.00%	0.00%	50.00%	25.00%	16.67%
7	16.67%	0.00%	0.00%	0.00%	0.00%	8.33%	50.00%	25.00%
8	0.00%	16.67%	0.00%	0.00%	0.00%	16.67%	8.33%	58.33%

Note. The 8 factors were ranked on a scale of 1 to 8, from the most important to the least important. Percentage refers to the percentage of respondents who ranked the factor in the corresponding place.

Table 32*Ranking the Influencing Factors Based on their Impact on Generic Skills*

	Employability Strategy	Specialty Setup	Curriculum System	Extra-curricular Activities	Teaching Faculty	Partnerships between HEIs & Employers	Careers Services	Evaluation & Feedback
1	41.67%	8.33%	16.67%	16.67%	8.33%	0.00%	8.33%	0.00%
2	8.33%	25.00%	8.33%	33.33%	16.67%	0.00%	0.00%	8.33%
3	0.00%	25.00%	16.67%	25.00%	8.33%	16.67%	8.33%	0.00%
4	0.00%	0.00%	25.00%	8.33%	25.00%	8.33%	25.00%	8.33%
5	8.33%	8.33%	0.00%	8.33%	33.33%	25.00%	8.33%	8.33%
6	0.00%	0.00%	25.00%	0.00%	8.33%	16.67%	25.00%	25.00%
7	16.67%	25.00%	0.00%	0.00%	0.00%	25.00%	16.67%	16.67%
8	25.00%	8.33%	8.33%	8.33%	0.00%	8.33%	8.33%	33.33%

Note. The 8 factors were ranked on a scale of 1 to 8, from the most important to the least important. Percentage refers to the percentage of respondents who ranked the factor in the corresponding place.

Table 33*Ranking the Influencing Factors Based on their Impact on Personal Qualities*

	Employability Strategy	Specialty Setup	Curriculum System	Extra-curricular Activities	Teaching Faculty	Partnerships between HEIs & Employers	Careers Services	Evaluation & Feedback
1	41.67%	0.00%	0.00%	8.33%	33.33%	0.00%	16.67%	0.00%
2	0.00%	41.67%	8.33%	25.00%	16.67%	0.00%	8.33%	0.00%
3	25.00%	0.00%	33.33%	25.00%	0.00%	8.33%	0.00%	8.33%
4	8.33%	8.33%	8.33%	16.67%	33.33%	0.00%	16.67%	8.33%
5	0.00%	8.33%	33.33%	0.00%	16.67%	25.00%	16.67%	0.00%
6	0.00%	16.67%	16.67%	8.33%	0.00%	25.00%	25.00%	8.33%
7	8.33%	16.67%	0.00%	8.33%	0.00%	41.67%	8.33%	16.67%
8	16.67%	8.33%	0.00%	8.33%	0.00%	0.00%	8.33%	58.33%

Note. The 8 factors were ranked on a scale of 1 to 8, from the most important to the least important. Percentage refers to the percentage of respondents who ranked the factor in the corresponding place.

Table 34

Ranking the Influencing Factors Based on their Impact on Career Management Skills

	Employability Strategy	Specialty Setup	Curriculum System	Extra-curricular Activities	Teaching Faculty	Partnerships between HEIs & Employers	Careers Services	Evaluation & Feedback
1	41.67%	0.00%	0.00%	16.67%	8.33%	8.33%	25.00%	0.00%
2	0.00%	25.00%	8.33%	8.33%	16.67%	8.33%	16.67%	16.67%
3	0.00%	0.00%	25.00%	8.33%	0.00%	33.33%	16.67%	16.67%
4	0.00%	8.33%	8.33%	33.33%	33.33%	0.00%	8.33%	8.33%
5	8.33%	0.00%	8.33%	25.00%	25.00%	16.67%	0.00%	16.67%
6	16.67%	0.00%	25.00%	0.00%	16.67%	8.33%	16.67%	16.67%
7	16.67%	41.67%	8.33%	8.33%	0.00%	16.67%	0.00%	8.33%
8	16.67%	25.00%	16.67%	0.00%	0.00%	8.33%	16.67%	16.67%

Note. The 8 factors were ranked on a scale of 1 to 8, from the most important to the least important. Percentage refers to the percentage of respondents who ranked the factor in the corresponding place.

Table 35

Rankings of the Influencing Factors Based on their Impact on Each Employability

Component

	Professional Skills	Generic Skills	Personal Qualities	Career Management Skills
Employability Strategy	5	1	1	1
Specialty Setup	3	3	4	8
Curriculum System	1	4	5	6
Extra-curricular Activities	4	2	3	3
Teaching Faculty	2	5	2	4
Partnerships between HEIs and Employers	7	7	8	5
Careers Services	6	6	6	2
Evaluation and Feedback	8	8	7	7

Note. The scale from 1 to 8 refers to from the most important to the least important.

Appendix 2: Figures

Figure 1

Structure of Thesis

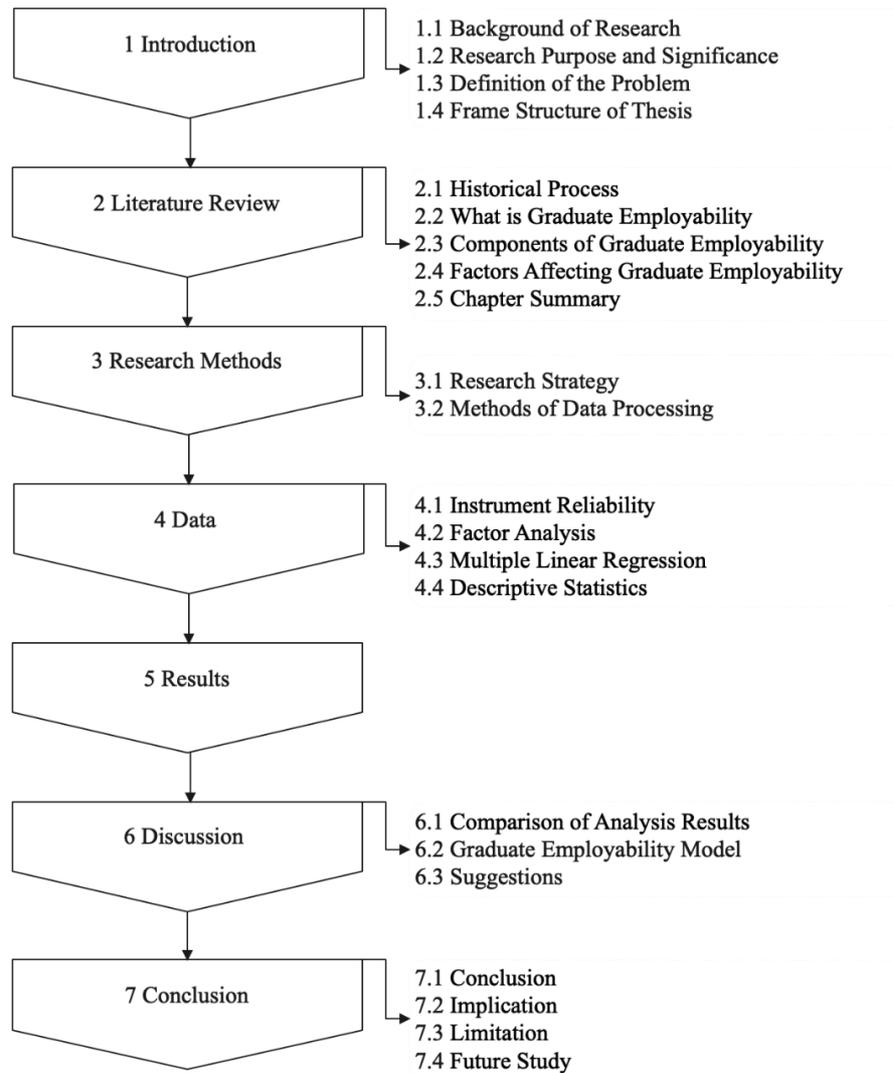


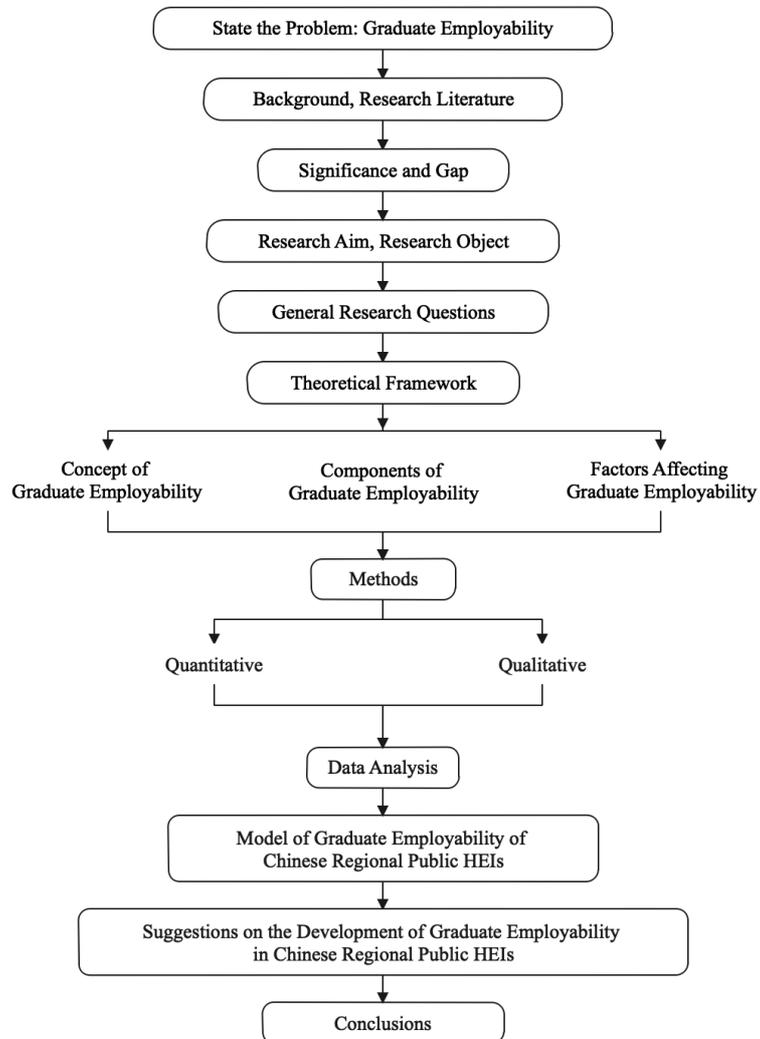
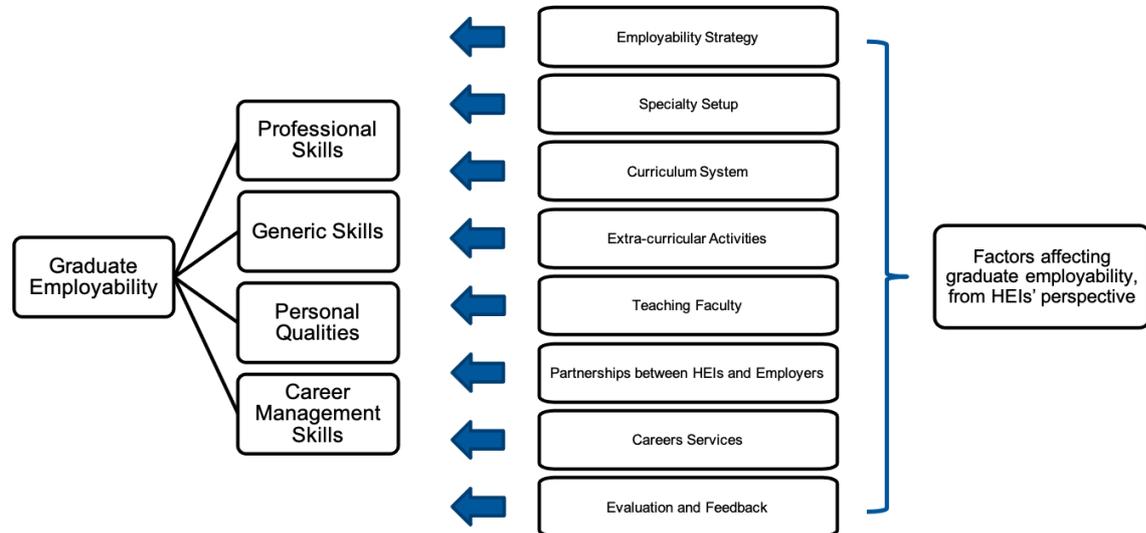
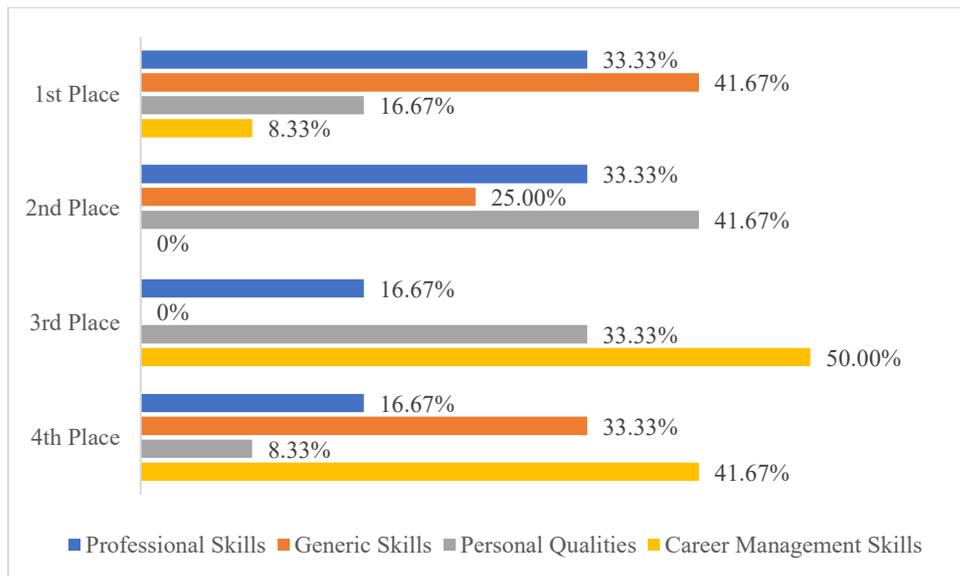
Figure 2*Roadmap of Research*

Figure 3*Graduate Employability Framework of Chen (2012)*

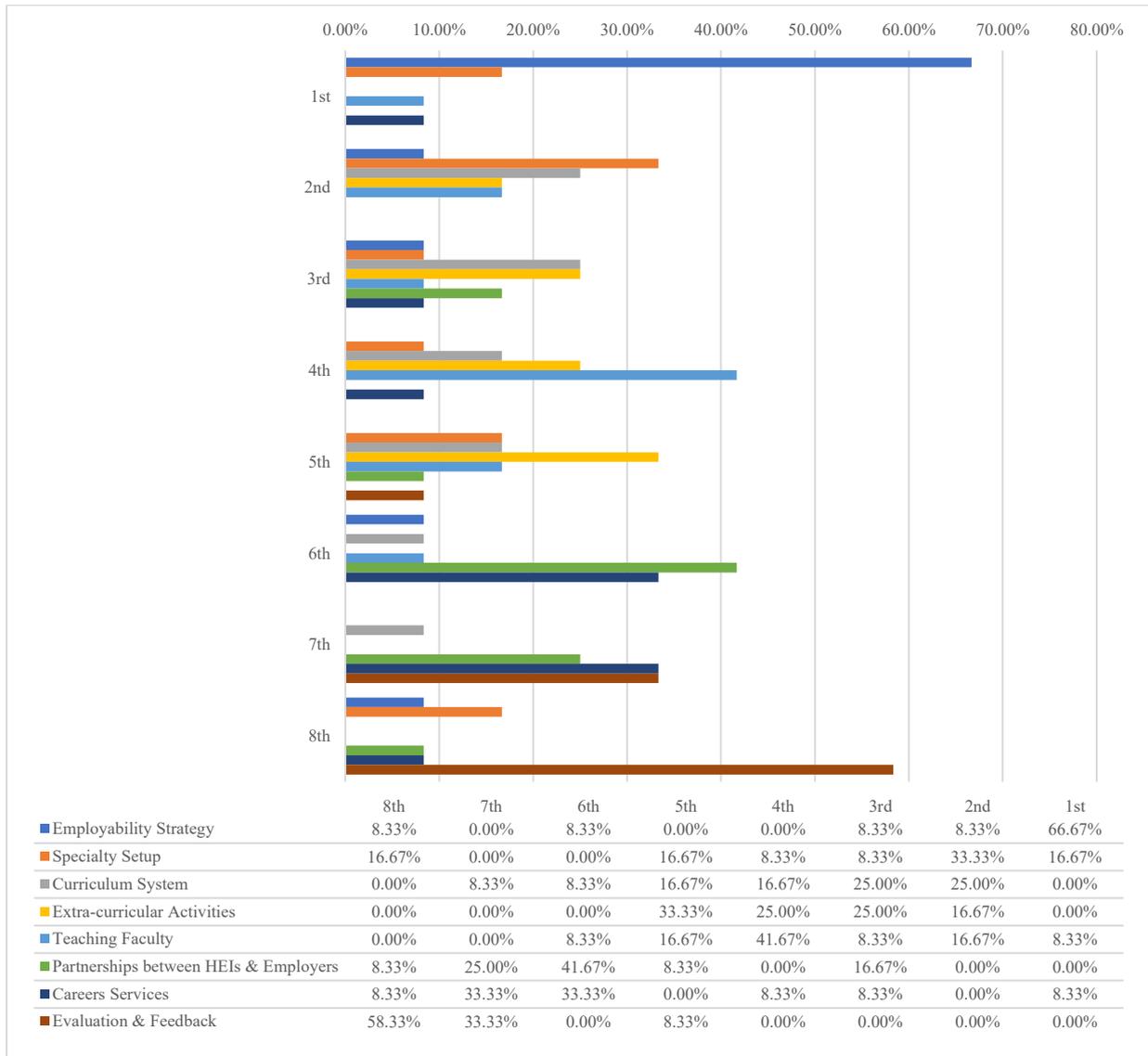
Note. This figure illustrates the graduate employability framework of Chen (2012).

Figure 4*Ranking the Importance of the Graduate Employability Components*

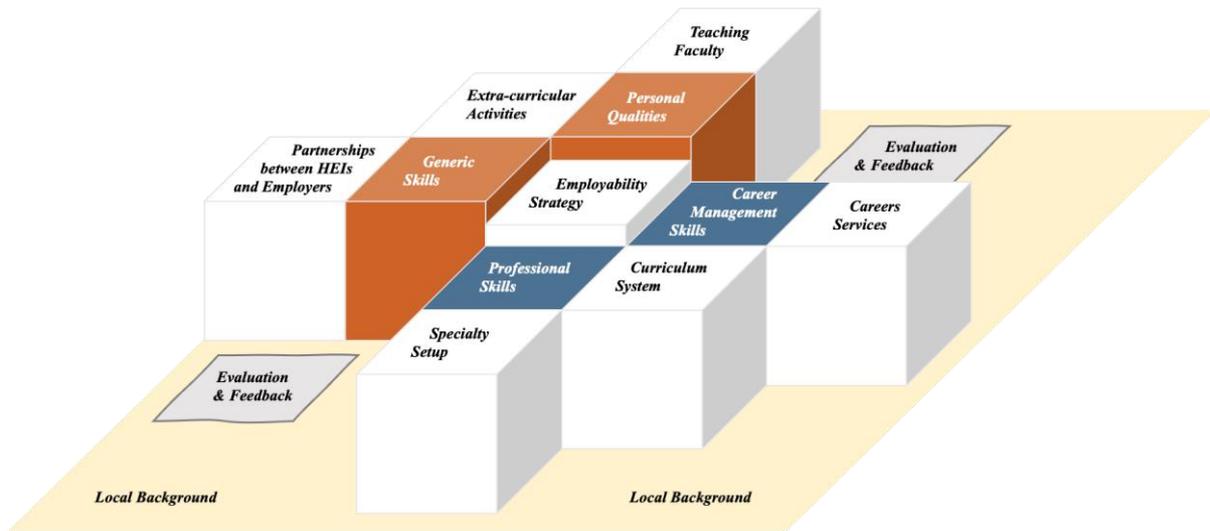
Note. The 4 components were ranked on a scale of 1 to 4, from the most important to the least important. Percentage refers to the percentage of respondents who ranked the component in the corresponding place.

Figure 5

Ranking the Importance of the Graduate Employability Influencing Factors



Note. The 8 factors were ranked on a scale of 1 to 8, from the most important to the least important. Percentage refers to the percentage of respondents who ranked the factor in the corresponding place.

Figure 6*Employability Model of Regional Public University Graduates - “3+1 Cube”*

Note. The red cubes represent the emotional intelligence among employability components. The blue cubes represent the intelligence quotient among employability components. The white cubes represent the factors that affect the employability. Each red or blue cube has three adjacent white cubes, which are the core factors affecting this employability element. Each red or blue cube also has several non-adjacent white cubes, indicating that these influencing factors do not significantly affect this employability component. The gray squares represent evaluation and feedback, which play a complementary role in cultivating employability. The yellow canvas represents the local background, given that the graduate employability of regional public universities needs to serve local development.

Appendix 3: Questionnaires

Graduate Employability Questionnaire (for Graduates)

Dear Sir or Madam,

Thank you for taking the time to participate in this survey. This survey is about the employability of college graduates. The purpose is to further improve graduate employability. This questionnaire is hereby used to obtain your valuable opinions. It is also an academic research. This questionnaire is filled out anonymously. Thank you for your participation and support!

Instructions: The questionnaire is divided into three parts. The first part is your basic information; the second part is the components of the employability of graduates; the third part is the measures taken by universities to improve the employability of graduates.

I Basic Information (tick \surd in the box)

1. Gender: Male Female
2. Your identity: 2015 graduate 2016 graduate
3. Your major: _____
4. The size of your organization:
 - 50~100 people 100~200 people 200~500 people Over 500 people
5. The nature of your organization:
 - State-owned enterprise Foreign enterprise Private enterprise
 - Sino-foreign joint venture Research and design unit
 - Elementary and secondary education units Medical and health units
 - Other institutions State agency Urban community Other

II The following items are descriptions of graduate employability. Please tick \surd on the corresponding numbers according to the importance of each item for graduates' successful employment and competency. (The scale from 1 to 5 refers to from the least important to the most important: 1 represents extremely unimportant, 2 represents less important, 3 represents uncertain, 4 represents more important, and 5 represents extremely important.)

Employability Items		1 to 5, from the least important to the most important				
1	Discipline-specific knowledge	1	2	3	4	5
2	Discipline-specific skills	1	2	3	4	5
3	Communication skills	1	2	3	4	5
4	Teamwork skills	1	2	3	4	5
5	Entrepreneurship and innovation	1	2	3	4	5
6	Learning ability	1	2	3	4	5
7	Ability to develop innovative solutions	1	2	3	4	5
8	Stress management	1	2	3	4	5
9	Spirit of enterprising	1	2	3	4	5
10	Responsibility	1	2	3	4	5
11	Career development knowledge	1	2	3	4	5
12	Job hunting skills, e.g., CV writing, access to employment information	1	2	3	4	5

III The following items are descriptions of items affecting employability. Please tick \surd on the corresponding numbers according to the importance of each item for cultivating and enhancing the employability of graduates. (The scale from 1 to 5 refers to from the least important to the most important: 1 represents extremely unimportant, 2 represents less important, 3 represents uncertain, 4 represents more important, and 5 represents extremely important.)

Items Affecting Employability		1 to 5, from the least important to the most important				
1	University has clear employability training goals	1	2	3	4	5
2	University has clear employability training strategy	1	2	3	4	5
3	Professional training mechanism	1	2	3	4	5
4	Set up a dual degree	1	2	3	4	5
5	Set up academic minor	1	2	3	4	5
6	Deepening of professional courses	1	2	3	4	5
7	Set up entrepreneurship and innovation curriculum modules	1	2	3	4	5
8	Set up multi-disciplinary elective course module	1	2	3	4	5
9	Strengthen vocational qualification training	1	2	3	4	5
10	Incorporate entrepreneurship education into the training plan	1	2	3	4	5
11	Practical education	1	2	3	4	5
12	Guidance for internship	1	2	3	4	5
13	Participation in social practice	1	2	3	4	5
14	Exchanges with universities at home and abroad	1	2	3	4	5
15	Extra-curricular activities on campus	1	2	3	4	5
16	Teaching and research ability of teachers	1	2	3	4	5
17	Teaching based on developing the employability of students	1	2	3	4	5
18	Teachers have relevant work experience in the industry	1	2	3	4	5
19	Employers take part in the design of training program	1	2	3	4	5
20	Employers take part in the design of curriculum system	1	2	3	4	5
21	Interactive relationships between university and industry	1	2	3	4	5
22	Lectures by professionals from industry	1	2	3	4	5
23	Careers guidance and services	1	2	3	4	5
24	Career choice and planning education	1	2	3	4	5
25	Providing employment information and suggestions	1	2	3	4	5
26	Record and application of employers' feedback on graduates	1	2	3	4	5
27	Feedback from alumni on university's training plan	1	2	3	4	5
28	Establishment of students' employability development files	1	2	3	4	5

This is the end of the questionnaire!

Graduate Employability Interview (for University Staff)

Dear Sir or Madam,

Thank you for taking the time to participate in this survey. This survey is about the employability of college graduates. The purpose is to further improve graduate employability. This questionnaire is hereby used to obtain your valuable opinions. It is also an academic research. This questionnaire is filled out anonymously. Thank you for your participation and support!

1. According to your knowledge of the four graduate employability components: professional skills, generic skills, personal qualities and career management skills, combined with the actual situation of your university, please rank these four dimensions according to their importance, and explain the reasons for ranking. (The scale from 1 to 4 refers to from the most important to the least important.)

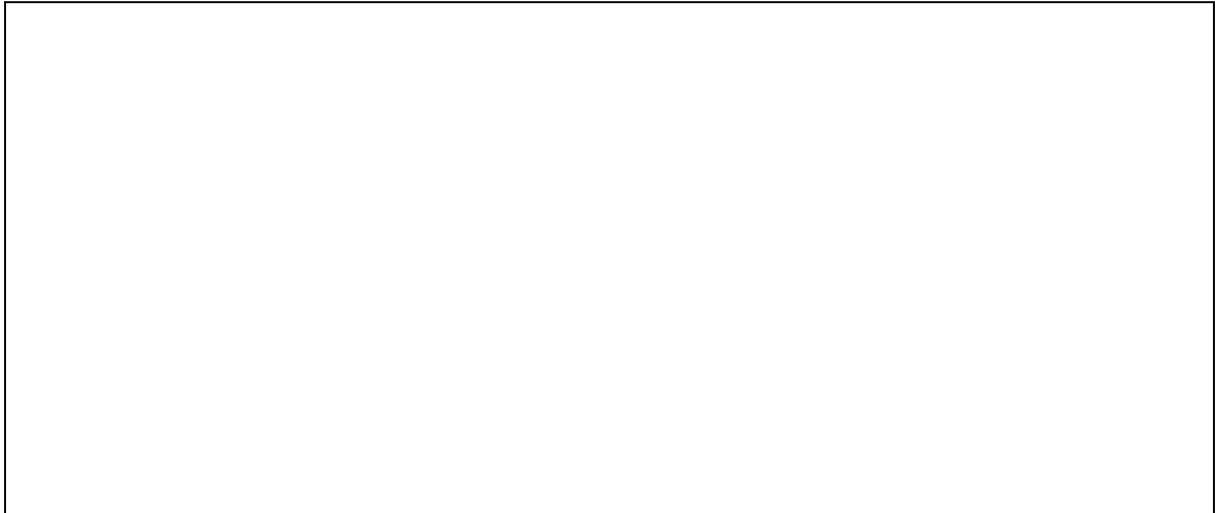
Components	Professional Skills	Generic Skills	Personal Qualities	Career Management Skills
Descriptions	<u>Descriptions of employability components are listed in the table at the end of the questionnaire.</u>			
Rankings				
Reasons				

2. According to your knowledge of the eight factors that affect graduate employability: employability strategy, specialty setup, curriculum system, extra-curricular activities, teaching faculty, partnerships between HEIs and employers, careers services, evaluation and feedback, combined with the actual situation of your university, please rank these eight factors according to their importance, and explain the reasons for ranking. (The scale from 1 to 8 refers to from the most important to the least important.)

4. As a regional public university, employability must be linked with local development. What is your university's practice of cultivating graduate employability in light of local development demands?



5. Practice of your university in improving the employability of college students.



Descriptions of employability components and influencing factors are listed in the next page.

Employability Components Scale	
Dimensions	Indicators
Professional Skills	Discipline-specific knowledge
	Discipline-specific skills
Generic Skills	Communication skills
	Teamwork skills
	Entrepreneurship and innovation
	Learning ability
	Ability to develop innovative solutions
Personal Qualities	Stress management
	Spirit of enterprising
	Responsibility
Career Management Skills	Career development knowledge
	Job hunting skills, e.g., CV writing, access to employment information

Factors that Affect Employability of Graduates	
Dimensions	Indicators
Employability Strategy	University has clear employability training goals
	University has clear employability training strategy
Specialty Setup	Professional training mechanism
	Set up a dual degree
	Set up academic minor
Curriculum System	Deepening of professional courses
	Set up entrepreneurship and innovation curriculum modules
	Set up multi-disciplinary elective course module
Extra-curricular Activities	Strengthen vocational qualification training
	Incorporate entrepreneurship education into the training plan
	Practical education
	Guidance for internship
	Participation in social practice
Teaching Faculty	Exchanges with universities at home and abroad
	Extra-curricular activities on campus
	Teaching and research ability of teachers
Partnerships between HEIs and Employers	Teaching based on developing the employability of students
	Teachers have relevant work experience in the industry
	Employers take part in the design of training program
	Employers take part in the design of curriculum system
Careers Services	Interactive relationships between university and industry
	Lectures by professionals from industry
	Careers guidance and services
Evaluation and Feedback	Career choice and planning education
	Providing employment information and suggestions
	Record and application of employers' feedback on graduates
Evaluation and Feedback	Feedback from alumni on university's training plan
	Establishment of students' employability development files