

Research on the Pathways for Enhancing College Students' Employability Based on Career Planning Concepts

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Abstract

In recent years, the issue of college students' employability has attracted significant attention. Based on the concept of career planning, this study analyzes college students' employability and pathways for employability enhancement. It elaborates on the four elements constituting employability: job-hunting skills, fundamental abilities, professional competence, and learning capacity. Subsequently, a questionnaire was developed around these four dimensions to investigate the current state of college students' employability. After analyzing the identified problems, the study proposes countermeasures to enhance students' employability within the framework of career planning concepts.

Keywords

Employability; Career Planning; Employability Enhancement

1. Introduction

1.1. Research Background and Significance

With the rapid popularization and expansion of higher education in China, the number of university graduates continues to rise, exacerbating the employment issue faced by college students. According to statistics from the Ministry of Education, the number of university graduates has steadily increased in recent years, reaching 11.79 million in 2024 and projected to reach 12.22 million in 2025. Consequently, the employment competition environment for graduates has become increasingly severe. Meanwhile, as labor market demands become more refined and diversified, employers have progressively raised their expectations regarding graduates' qualities and capabilities. In addition to professional knowledge, employers emphasize comprehensive qualities such as job-hunting skills, communication abilities, and self-management capabilities. Therefore, the employability level of college students directly impacts their employment competitiveness and job quality.

However, current research and policy orientations regarding college students' employment largely focus on improving graduates' employment rates and initial salaries, neglecting the intrinsic mechanisms of enhancing individual employability. Specifically, there is insufficient attention given to personal initiative and development from the perspective of career planning. The university period represents a critical transitional stage where students move from academic settings into society, marking the starting point of their career development; thus, the importance of career planning during this phase is self-evident. Effective career planning helps college students clearly define career goals and professional positioning, significantly facilitating continuous improvement in employability, individual competitiveness, and social adaptability.

Given this context, the present study adopts the perspective of career planning to thoroughly investigate the primary issues concerning the employability of college students. It outlines specific elements comprising employability and employs questionnaires to ascertain the current state of college students' employability. The study further analyzes identified

deficiencies, thereby proposing targeted enhancement pathways and measures. This research aims to supplement and refine the theoretical framework of current employability studies and provide practical policy references for universities and related institutions to enhance college students' employment competitiveness and improve employment guidance services.

1.2. Research Objectives

In recent years, research on college students' employability has increasingly become a prominent topic within human resources studies. However, further exploration is needed regarding the composition and enhancement of college students' employability from the perspective of career planning. This study aims to address the following questions: What employment realities and challenges do college students face? What are the constituent elements of college students' employability from the career planning perspective? And how can college students improve their employability based on career planning concepts?

1.3. Research Methods

1.3.1. Literature Review Method

In this study, extensive literature was reviewed through resources available at the library of Chongqing University of Technology, focusing on concepts of employability, improvement strategies for college students' employability, the essence of employability, relevant models, competencies, and theoretical frameworks related to employability. Furthermore, databases such as Wanfang, CNKI, and VIP Database were utilized to access research conducted by scholars in recent years, integrating and synthesizing existing insights. This comprehensive review provides a solid theoretical foundation, ensuring clarity in understanding concepts, core elements, and relevant theories essential to this research.

1.3.2. Questionnaire Survey Method

This research utilized questionnaire surveys to investigate the current employability status of undergraduate students. The survey was conducted in three main stages. The first stage involved designing the preliminary questionnaire, considering four dimensions of employability: job-seeking skills, foundational skills, professional competencies, and learning abilities. The second stage entailed pilot testing and revising the questionnaire, where a small-scale test involving 20 samples was conducted to refine the questionnaire based on preliminary feedback. Finally, the questionnaire was distributed through the Questionnaire Star platform, with a total of 109 questionnaires disseminated and collected, achieving a 100% response rate. After screening, 12 invalid questionnaires were excluded, resulting in 97 valid questionnaires and an effective response rate of 89%.

1.4. Current Status of Domestic and International Research

1.4.1. Definitions of Employability in Domestic and International Contexts

Employability, derived from the English term "Employability," has been translated by Chinese scholars as employment ability or employability. The concept was first proposed by British economist Beveridge in 1909[1], who categorized employability into employable and unemployable, establishing a binary classification. Over time, employability evolved through stages such as socio-medical employability, labor policy employability, labor market performance employability, and interactive employability[2]. British scholars Harvey, Locke, and Morey, in their report "Employability of College Graduates," defined employability essentially as an individual's capability to obtain, retain, and excel at a job after undergoing a learning process. In brief, employability refers to the capability to secure and sustain employment[3]. In 2005, the American Education and Employment Committee reiterated that employability encompasses not only the narrow sense of finding a job but also includes the abilities to continuously perform well and achieve successful career development[4].

Domestically, Song Bo and Wang Si described employability as the collection of knowledge, skills, and personal traits students require for successfully obtaining, performing, and transitioning between jobs upon graduation[5]. Liu Kui and Gao Huijun defined college students' employability as an integrated set of beneficial employment-related abilities acquired through professional education and social practice during higher education[6]. Zhao Shufang proposed that employability should encompass professional skills, social integration abilities, career planning capabilities, self-improvement abilities, and generic skills[7].

Despite extensive domestic and international research, there remains no universally accepted definition of employability.

1.4.2. Domestic and International Identification of Employability Components

There are abundant studies both domestically and internationally concerning the components of employability. Wang Li, Feng Xin, and Zhang Haowei categorized employability into three main parts: basic abilities, self-management abilities, and teamwork capabilities[8]. Liu Quanzhen considered college students' employability as comprising professional abilities, personality traits, and job-seeking skills[9]. Liang Bo and Liu Gang classified college students' employability into knowledge structures, ability structures, psychological qualities, professional qualities, and interview abilities[10]. Pallard argued that employability should consist of three components: development abilities, expression and presentation skills, and adaptability[11]. In addition, there are many other definitions and frameworks regarding the constituent elements of employability. However, the author believes that Beveridge's binary classification of employability into employable and unemployable categories offers a more persuasive approach to identifying its constituent elements.

1.4.3. Literature Review on College Students' Employability and Employability Enhancement

After reviewing a substantial body of related literature—including around 50 definitions extracted from journal articles and academic dissertations—it is evident that most definitions of college students' employability originate from the perspective of students themselves in their pursuit of employment. These definitions typically focus on the subjective attributes graduates should possess and analyze the specific competencies required to successfully secure employment. For instance, Knight and Yorke proposed the USEM employability model, in which 'U' represents Understanding, 'S' denotes Skills, 'E' stands for Self-efficacy, and 'M' indicates Metacognition. This model further subdivides these abilities into 35 secondary components, including core skills, process skills, and personal traits.

In the domestic context, some scholars have employed competency models to identify key factors of college students' employability, such as job-seeking abilities, professional skills, communication capabilities, and adaptability, which are then further detailed into secondary indicators.

Regarding the enhancement of college students' employability, many studies consider factors at the national, governmental, societal, and university levels. Since universities are directly associated with student employment outcomes, a significant portion of research into improving college students' employability uses higher education institutions as the primary focus. This connection has also attracted broader participation and interest in addressing employment issues and improving employment guidance within universities.

2. Definition and Theoretical Basis of Employability

2.1. Overview of College Students' Employability from the Perspective of Career Planning

2.1.1. The Connotation of College Students' Employability from the Perspective of Career Planning

The concept of career planning is now widely recognized by the public. Many people mistakenly believe career planning is something necessary only after entering the workforce or starting a job. However, this perception is incorrect. Career planning should begin as early as possible, ideally at the stage of selecting between liberal arts and science in high school. However, as far as the author is aware, many domestic high schools do not currently offer career planning guidance. After entering university, the importance of career planning is gradually acknowledged, with many institutions offering related courses beginning in freshman year, followed by further career counseling sessions. Nevertheless, effective career planning should clearly define one's career objectives as early as possible and outline specific actions to achieve these goals, essentially knowing what one wants and how to pursue it.

With an understanding of career planning established, it becomes easier to define college students' employability from this perspective. In this context, college students' employability refers to the combination of skills and competencies students should possess in order to effectively achieve their targeted career goals during the career planning process.

2.1.2. Identifying the Components of College Students' Employability

Through an extensive review of relevant literature, the author extracted employability-related competencies identified by 50 scholars as essential for college students, including cognitive skills, computer application skills, foreign language skills, communication skills, coordination abilities, adaptability, and stress resilience. After eliminating repetitive competencies and statistically analyzing their frequency of occurrence, 28 secondary competency indicators were derived and categorized into four primary indicators, as shown in Table 1 below:

Table 1 Factors of college students' employability

Primary element	Secondary element	Primary element	Secondary element
Job-Seeking Ability	Foreign language skills	Basic Ability	Reading and writing skills
	Computer application skills		Comprehension ability
	Career planning skills		Communication ability
	Social practice ability		Expression ability
	Reflective and summarizing ability		Time management ability
	Perseverance		Interpersonal skills
	Self-confidence	Professional Ability	Physical and mental health
	Optimism		Professional skills
	Emotional management ability		Professional knowledge
	Coordination ability	Learning Ability	Logical thinking ability
	Decision-making ability		Information collection and processing

Adaptability	Transfer ability
Competitiveness	
Stress resilience	Lifelong learning
Innovation ability	

2.2. Theoretical Explanations Related to Employability

2.2.1. Marx's Theory of Comprehensive Human Development

Marx critically revised the thoughts of his predecessors through dialectical materialism[12] and argued that human development is consistent with social production development. Marx's theory of comprehensive human development is mainly reflected in three aspects: firstly, humans possess diverse abilities and a comprehensive understanding of the productive labor system. Secondly, individuals experience comprehensive development, encompassing moral, intellectual, physical, aesthetic, and labor dimensions. Thirdly, humans develop independently; development exists objectively and is not subject to external interference or control. Marx's theory helps identify key characteristics of human development, thus providing valuable insights for research focused on enhancing individual competencies and improving college students' employability.

2.2.2. Career Anchor Theory

Career Anchor Theory, also known as Career Orientation Theory, was proposed by Edgar H. Schein and his specialized research team, based on a longitudinal study of the career trajectories of 44 MBA graduates from the Sloan School of Management over a period of twelve years. The theory emerged initially in preliminary form through inductive reasoning and was later refined and summarized through comprehensive analysis.

Table 2 Career anchor type table

Career Anchor Type	Description
Technical/Functional	Aspires to specialize in technology; excels at utilizing technical skills; focuses on continuously improving technical expertise.
Managerial	Pursues power and authority; enjoys management roles; skilled at resource integration.
Autonomy/Independence	Prefers freedom in work and personal life; eager to realize personal ambitions.
Security/Stability	Seeks job security and stability; concerned about financial well-being.
Entrepreneurial Creativity	Desires to create their own business or products.
Service/Dedication to a Cause	Devoted to core values they deeply identify with and willing to work hard for these values.
Pure Challenge	Driven by challenging the impossible; undeterred by difficulties; dislikes simplicity.
Lifestyle	Aims to balance work, family, and personal needs effectively.

An anchor is used by ships to secure their positions when docking. Similarly, a career anchor refers to the central aspect that people consistently consider when making career choices and

career development plans. Regardless of the occupation one chooses or how one's career develops, this central anchor remains unchanged. In daily life, this anchor often manifests as one's principles and deeply-held values. Career anchors are crucial factors that must be taken into account when choosing a career or making career development plans. The factors influencing these career anchors include:

Table 3 Influencing factors of career anchors	
Primary factor	Secondary factor
Personal Level	Talents, skills, abilities, strengths, weaknesses
Life Level	Motivations, needs, drivers, goals, desires
Spiritual Level	Values, behavioral principles

From the perspective of career planning, identifying one's career anchor type and subsequently cultivating corresponding abilities is also crucial for enhancing college students' employability.

2.2.3. The Entropy Increase Principle

The entropy increase principle was originally a significant concept applied within the field of thermodynamics. Entropy, simply put, is a physical quantity describing the degree of disorder in a natural system—the greater the disorder, the higher the entropy, and vice versa. According to this principle, the disorder of a system invariably progresses from orderliness to disorder, and this process is irreversible. Renowned management expert Peter Drucker once said: "Management has only one task—to counteract entropy. During this process, an organization's vitality increases rather than silently moving towards its demise."

In essence, life itself represents a continuous process of resisting entropy increase. If we consider ourselves as the center of a personal system, this system tends to move towards disorder. For example, after a certain period, we must groom ourselves, clean our rooms, and organize our desks. Within the perspective of career planning, properly applying the entropy increase principle can significantly enhance our employability. Counteracting entropy is essentially an anti-entropy process. Since entropy increase is irreversible, we must build and continuously maintain ourselves as an open system to effectively resist entropy. For instance, we need to consistently learn new knowledge and maintain a sense of vigilance in comfortable circumstances to break equilibrium at maximum entropy. Regarding physical fitness, regular and continuous exercise is necessary to maintain good health. Likewise, in interpersonal relationships, we must invest time or resources to foster closer bonds.

3. Current Status and Analysis of College Students' Employability and Its Enhancement from the Perspective of Career Planning

3.1. Current Status of College Students' Employability and Employability Enhancement from the Perspective of Career Planning

In this research, the author previously identified the constituent elements of college students' employability from the career planning perspective. These comprise 4 primary indicators: professional ability, personal subjective ability, basic ability, and learning ability, along with 28 secondary indicators such as foreign language skills, innovation capacity, professional skills, and so forth.

The data for this study were mainly collected through a questionnaire survey utilizing a five-point Likert scale. To ensure the effectiveness of the survey, the author designed questionnaire items based on the four primary dimensions and corresponding secondary indicators. Following the preliminary design, the questionnaire underwent refinement, removing inappropriate items and conducting a pilot test by distributing it to 20 respondents. The

collected pilot data were analyzed, leading to further structural optimization of the questionnaire.

The finalized questionnaire was distributed via the Questionnaire Star platform, with 109 questionnaires sent out and 109 returned, achieving a 100% response rate. After careful screening, 12 invalid questionnaires (completed in under one minute) were removed, leaving a total of 97 valid questionnaires and resulting in an effective response rate of 89%.

3.1.1. Demographic Variables Frequency Analysis

According to the following analytical results, the numerical characteristics of demographic variables reflect the distribution of survey participants. The mean represents the central tendency, while the standard deviation indicates variability. The distribution of each variable essentially meets the sampling requirements. Regarding gender distribution, males account for 24.7%, while females represent 75.3%, suggesting the survey results lean more towards the opinions of female respondents. Concerning grade distribution, freshmen accounted for 2.1%, sophomores 13.4%, juniors 80.4%, and seniors 4.1%, indicating that the primary respondents were third-year students. Regarding academic major types, engineering accounted for 14.4%, science for 22.7%, humanities and social sciences for 40.2%, and other disciplines for 22.7%, illustrating a higher proportion of participants from humanities and social sciences. In terms of political affiliation, Communist Youth League members accounted for 78.4%, representing the largest group and indicating that most respondents were League members.

Table 4 Statistics of demographic variables					
Variable	Category	Frequency	Percentage	Mean	SD
Gender	Male	24	24.70%	1.75	0.43
	Female	73	75.30%		
Grade	Freshman	2	2.10%	2.87	0.49
	Sophomore	13	13.40%		
	Junior	78	80.40%		
	Senior	4	4.10%		
	Engineering	14	14.40%		
Major	Science	22	22.70%	2.71	0.98
	Humanities & Social Sciences	39	40.20%		
	Others	22	22.70%		
	CCP Member	2	2.10%		
Political Status	Probationary CCP Member	16	16.50%	2.82	0.5
	Communist Youth League Member	76	78.40%		
	Masses	3	3.10%		

3.1.2. Reliability and Validity Tests

(1) Overall Reliability Analysis

The analysis was performed using SPSS 25 software. The results are presented in Table 5:

Table 5 Overall reliability analysis		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
0.963	0.964	41

According to the overall reliability coefficient, the standardized Cronbach's Alpha is 0.964, indicating excellent reliability of the questionnaire as a whole. Cronbach's Alpha coefficients

range from 0 to 1, with values closer to 1 indicating higher reliability. The result of this analysis (0.964) demonstrates very high reliability.

(2) Validity Analysis

The validity analysis of this questionnaire was conducted using exploratory factor analysis via SPSS 25. The results of the KMO and Bartlett's Test are shown in Table 6:

Table 6 KMO and bartlett's test

Measure	Value
KMO Measure of Sampling Adequacy	0.856
Bartlett's Test of Sphericity Approx. Chi-Square	3437.169
Degrees of Freedom	820
Significance	0

According to the results from the exploratory factor analysis, the KMO value is 0.856. The KMO statistic ranges between 0 and 1, with values closer to 1 indicating better validity. Additionally, Bartlett's test of sphericity shows significance infinitely close to 0, thereby rejecting the null hypothesis. Therefore, the questionnaire demonstrates good validity.

3.2. Problems in Enhancing College Students' Employability from the Perspective of Career Planning

The analysis of employability status in this study was structured around four dimensions: job-seeking ability, basic ability, professional ability, and learning ability. The questionnaire consisted of 28 questions, each scored on a 5-point scale, totaling a maximum of 140 points. The ideal proportions for each dimension were set at 53.57%, 25%, 7.14%, and 14.29%, respectively. However, the statistical analysis revealed actual average scores as follows: 33.67%, 17.28%, 4.34%, and 9.50%, respectively. Although the respondents were undergraduate students from Chongqing University of Technology, the findings are generally representative. Compared to ideal expectations, the students' employability clearly requires improvement, particularly in job-seeking ability.

3.2.1. Low Job-seeking Ability

Job-seeking ability refers to individuals' capacity to address and solve various problems encountered in the job search process, including foreign language proficiency, decision-making capability, and self-confidence. The level of job-seeking ability largely determines an individual's likelihood of securing employment. According to this survey, the ideal proportionate score for job-seeking ability should have been 53.57%, but the actual average was only 33.67%, indicating a significant gap. Several reasons contribute to this gap; the primary cause seems to be the lack of suitable platforms for students to practice and enhance these skills. Additionally, many students have not consciously prioritized improving such competencies as oral English or relevant computer software application skills tied to their major. Furthermore, hidden qualities like self-confidence, optimism, reflective thinking, and adaptability require active engagement in diverse activities and social practice to develop effectively.

3.2.2. Basic, Professional, and Learning Abilities Need Improvement

Basic abilities include reading and writing skills, comprehension, and communication abilities; professional abilities involve specialized knowledge and professional skills; learning abilities encompass information gathering and lifelong learning habits. Based on the questionnaire results, college students clearly exhibit room for improvement across these three areas.

3.2.3. Universities Lack Adequate Supporting Measures to Enhance Employability

Universities play a significant role in enhancing college students' employability, as they directly influence students' behaviors and choices. However, despite recognizing the importance of

enhancing employability, some universities fail to implement adequate supporting measures. In this survey, regarding the statement "the university prioritizes professional education over comprehensive quality education," 43.3% of respondents rated the situation as "average," indicating the university should place more emphasis on holistic education. Concerning the alignment of professional courses with labor market demands, 48.45% of respondents rated it as merely "average," suggesting universities need to better align their curricula with employers' needs. Regarding the availability of internships or practical experiences during academic terms, only 41.24% of students expressed agreement, while 38.14% responded neutrally, implying room for improvement in this area as well. Currently, theoretical knowledge predominates at many universities, with practical training receiving insufficient attention, limiting opportunities for students to enhance their employability effectively.

4. Pathways for Enhancing College Students' Employability Based on Career Planning Concepts

4.1. Optimizing Talent Cultivation Models and Implementing Integration of Industry-University-Research

At present, many universities still emphasize theoretical knowledge while neglecting practical application. Students' assessments primarily rely on examinations. Although some institutions include social practice sessions, these are often merely formalities and inadequately implemented. Furthermore, many universities continue to utilize a single, rigid model of talent cultivation, offering limited opportunities for practical experience. Universities should actively collaborate with enterprises to establish industry-university-research bases, enabling students to apply theoretical knowledge to real-world situations, thereby effectively assessing their mastery of professional knowledge and skills.

4.2. Actively Promoting Career Planning and Employment Guidance

Universities should guide students early in developing a strong sense of career planning, encouraging them to set clear directions and objectives for their future. Although such plans may evolve over time, having initial plans is crucial, as it provides students with specific goals, reducing confusion and better preparing them for future career development. In terms of employment guidance, universities should provide students with relevant and practical advice to facilitate their transition into the workforce.

4.3. Optimizing Curriculum Design and Improving Teaching Methods

With the continuous development of society, knowledge rapidly updates, and professional structures constantly evolve. Universities should keep pace with the times by regularly updating and optimizing curriculum designs to align with students' learning needs and better fulfill employers' expectations. Additionally, traditional teaching models and mindsets must evolve to accommodate students' individual differences and varying levels of understanding, thus facilitating personalized and effective learning experiences.

4.4. Encouraging Students' Subjective Initiative

When enhancing college students' employability, the critical factor lies in improving individual subjective initiative, regardless of actions taken by universities, society, or governments. The enhancement of subjective initiative significantly influences students' overall employability. Regarding major selection, most universities allow students only a single opportunity to change their majors if they meet certain conditions. The author suggests that universities could relax this restriction, permitting students to transfer majors more freely, provided they pass relevant assessments. Additionally, universities could establish incentive systems, such as offering

comprehensive assessment points as rewards to encourage active student participation in campus activities.

5. Conclusions and Prospects

Based on an understanding of employability theories, this study analyzed ways to enhance college students' employability from the perspective of career planning. Through a comprehensive literature review, employability was categorized into four key dimensions: job-seeking ability, basic ability, professional ability, and learning ability. A questionnaire survey was subsequently administered to evaluate the current employability status of college students, concluding that improvements should primarily focus on job-seeking abilities. Moreover, under the perspective of career planning, enhancing individual subjective initiative and proactive university guidance were identified as crucial.

Nevertheless, the current research has certain limitations, including a relatively small sample size and potential subjectivity in the analysis and recommendations, possibly resulting in some logical imperfections. It is hoped that future studies will explore this topic more comprehensively and deeply.

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