

Research on Ideological Education and Employment Attitude of Students in Engineering Programs Transferring from Junior College to Bachelor's Degree: Current Situation, Challenges and Optimization Paths

Qian Wang, Qiuhua Wang, Hongying Cai, Tenglong Long

College of Civil Engineering, Southwest Forestry University, Kunming Yunnan 650224, China

Abstract: With the vigorous development of higher vocational education in China and the deepening of the concept of continuous learning, the education of upgrading from junior college to undergraduate has become an important channel for cultivating high-level technical and skilled talents. As a special student group, engineering students upgrading from junior college to undergraduate not only have practical experience accumulated during their junior college stage but also have a strong expectation to enhance their theoretical level and professional competitiveness through undergraduate studies. However, this group faces unique challenges in terms of ideological cognition, academic adaptation, and career planning. This paper aims to take three consecutive cohorts of engineering students upgrading from junior college to undergraduate at Southwest Forestry University as the research sample, deeply analyze the group characteristics of these students, dissect the prominent problems existing in their ideological education and employment attitudes, and systematically propose effective paths to optimize ideological education and employment guidance from the dimensions of educational subjects, educational content, and educational models, with the expectation of promoting the comprehensive, healthy, and high-quality growth and development of this group.

Keywords: Engineering Undergraduate Admission for Transfer from Vocational School, Ideological education, Employment attitude, Career plan, Talent cultivation.

1. Introduction

Currently, China is in a crucial period of transitioning from a "manufacturing giant" to a "manufacturing powerhouse", and there is an urgent demand for high-quality engineering and technical talents who possess both solid theoretical knowledge and proficient practical skills. The undergraduate bridging program, as a "bridge" connecting the junior college and undergraduate levels, plays an irreplaceable role in improving the talent structure and meeting the needs of various sectors of society [1-3]. Compared with ordinary undergraduate students, those who enter the undergraduate program from junior college have some distinct characteristics. They are usually older, have certain social internships or direct experience in enterprises, have a stronger learning purpose, and have a more realistic understanding of the job market. However, they also face multiple challenges such as heavy academic pressure, ambiguous identity, and anxiety about future development [4-8]. The traditional ideological education and employment guidance models targeting students who start from high school often fail to fully meet their actual needs. Therefore, how to carry out precise and efficient ideological education and employment guidance based on the characteristics of this group, and help them successfully complete the transition from academic studies to career leaps, has become an urgent research topic in the student work of universities [9].

2. Analysis of the Group Characteristics of Students Enrolled in Engineering Undergraduate Programs from Southwest Forestry University

To carry out effective ideological education and employment guidance, it is first necessary to have a deep understanding of the characteristics of this group. We conducted a questionnaire survey among 246 students who were upgrading from junior college to undergraduate studies. The questionnaire was designed with five main modules and 75 multiple-choice questions. At the same time, we randomly selected 36 students for in-depth interviews.

The results show that:

They have strong hands-on and operational learning abilities, but their theoretical foundation is relatively weak. This is likely related to the focus on skills training in junior college education, which also makes engineering students who upgrade from junior college to undergraduate studies have strong practical skills and a direct understanding of the production line. However, their theoretical knowledge system is often not systematic or in-depth, which leads to difficulties and a sense of being unable to keep up when they enter the undergraduate stage to study advanced theoretical courses.

They have clear learning motivations, but there is also a strong utilitarian tendency. The survey shows that less than 15% of the students watch current affairs news every day, less than 12% have read more than three history books, less than 17% spend more than 30 minutes on political theory studies every day, and less than 9% can skillfully play more than one

musical instrument. From this, it can be analyzed that the direct purpose of most junior college-to-undergraduate students to pursue further education is to enhance their academic qualifications and improve their employment competitiveness. This goal-driven mindset makes them highly motivated to learn skills and more focused on professional knowledge, but they lack enthusiasm for ideological and political theory courses, humanities, and other courses, and do not pay enough attention to improving their comprehensive qualities.

Their psychological state is complex, and their sense of identity needs to be strengthened. The survey shows that 68% of the students come from economically underdeveloped rural areas, are slightly introverted, not good at talking, have an older age of entry, and have a heavy psychological burden, worrying or even feeling desperate about their studies during the undergraduate period. 52% of them show a sense of inferiority due to their junior college background, and they do not have a sense of belonging when integrating into the undergraduate school environment. However, compared to ordinary undergraduate students, they have earlier contact with the employment situation and workplace rules and have a more pragmatic view. Therefore, in job hunting, they are more likely to persist in positions with harsh conditions and high work intensity. However, this cognition is mostly at the experiential level and lacks a systematic career planning.

3. Challenges and Countermeasures of Ideological Education for Students in Engineering Programs Pursuing a Bachelor's Degree through Upgrading from Junior College

Based on the above investigation, ideological education for students who have been promoted from junior college to undergraduate in engineering disciplines has brought new challenges to the traditional model, mainly manifested in the following aspects:

3.1. Disconnection Between Educational Content and Actual Needs

The ideological and political education content offered by schools often focuses on theoretical learning and indoctrination for 80% of the class hours, making it difficult to combine with the specific practical problems that these students care about, such as academic pressure, employment prospects, and survival anxiety. This leads to superficial educational effects. In fact, the educational methods are monotonous and lack specificity. School ideological and political teaching still mainly adopts large-class lectures and theoretical indoctrination, failing to fully leverage the rich practical experience and more mature thinking of these students to conduct interactive, discussion-based, and case-study teaching, and provide value guidance. How to guide students to combine their personal development's utilitarian needs with the lofty value pursuit of national needs and social contributions, and avoid falling into pure ideological preaching, is also a difficulty in ideological education work.

3.2. Exploration of the Path to Optimize Ideological Education

Strengthen the education of "craftsman spirit" and professional ideals. The ideological education of engineering

students should be closely combined with their professional characteristics. We should vigorously promote the "craftsman spirit" of "striving for excellence, being meticulous and focused, and innovating and contributing", and take it as an important carrier of ideological and political education. By inviting national-level craftsmen and outstanding alumni to campus to share their stories of growing from front-line technicians to industry leaders, we can inspire students' professional pride and sense of mission, and guide them to establish the professional ideal of "loving and excelling in one's chosen field".

Deepen the construction of "curriculum-based ideological and political education" to achieve collaborative education. Encourage professional teachers to incorporate ideological and political education elements such as scientific spirit, engineering ethics, and patriotism into their teaching while imparting knowledge. For example, when teaching a certain technology, introduce the stories of several generations of scientists and engineers who overcame difficulties, to inspire students' patriotic enthusiasm and innovative drive, and achieve the organic unity of knowledge transmission and value guidance.

Pay attention to mental health and build a solid ideological foundation. Establish a mental health early warning and assistance mechanism for students who have been promoted from junior college to undergraduate. Make full use of the teaching staff, including teachers, counselors, and class advisors, to help students relieve academic pressure, eliminate identity anxiety, and enhance confidence through heart-to-heart talks and group counseling. A positive and healthy mindset is the prerequisite for accepting correct ideological guidance.

Innovate educational forms, enhance interactivity and experience, reduce one-way indoctrination, and increase practical experience. Organize students to visit advanced manufacturing enterprises and national key projects for on-site learning, allowing them to personally experience the achievements of national industrial development and deepen their understanding of national conditions and social conditions. Utilize new media platforms to conduct micro-party classes and theme discussions, making ideological education more down-to-earth and dynamic.

4. Strategies for Guiding Students Enrolling in Engineering Undergraduate Programs

4.1. Main Characteristics and Issues of Employment Attitudes

High employment expectations coexist with lack of confidence: After upgrading to a bachelor's degree, students generally have higher psychological expectations regarding salary and corporate platforms. However, in the face of fierce market competition, especially when competing with undergraduates from prestigious universities, they tend to develop a sense of lack of confidence, resulting in a situation where they "fail to achieve success but also cannot find a job".

Unclear career positioning and the phenomenon of blind conformity: Many students have unclear understanding of their own advantages (strong practical ability) and weaknesses (insufficient theoretical depth). Their career planning is not clear, and they blindly pursue popular industries (such as the Internet and finance), failing to make

rational choices based on their own characteristics.

Emphasis on short-term salary and neglect of long-term development: When choosing a career, they often prioritize short-term factors such as starting salary and work location, while giving insufficient consideration to elements that are crucial for long-term development, such as corporate culture, training systems, and career promotion channels.

Weak entrepreneurial and innovation awareness: Influenced by traditional employment concepts, most students still consider entering large state-owned enterprises or well-known private enterprises as their first choice. They lack the willingness and courage to use professional skills for independent entrepreneurship or joining start-ups.

4.2. Building a Precise Employment Guidance Service System

Carry out career planning education throughout the entire process: Start career education from the beginning of enrollment to help students conduct scientific self-assessment and career analysis. Through career assessment and career counseling, guide them to recognize the "comprehensive advantage of 'diploma + bachelor's degree'", and establish diversified development paths such as "technology + management" or "deep technical expertise". For example: During the first week of the freshmen's orientation for the undergraduate promotion program at the school, a student forum with the theme of "Career Navigation" was specially organized. The human resources staff from the school's partner enterprises were invited to give lectures on various industry development trends and talent demands, and the students were also organized to visit the local demonstration sites of intelligent manufacturing, enabling them to have an intuitive understanding of the future career environment from the very beginning of their enrollment and stimulating their learning motivation.

Implement precise guidance based on "layered and categorized" principles: Avoid "one-size-fits-all" employment guidance. For students who are determined to engage in in-depth technical research, encourage them to pursue further studies through postgraduate education; for those who hope to find employment quickly, focus on strengthening their interview skills and resume-making skills; for students with family businesses or entrepreneurial ideas, provide support in terms of entrepreneurship policies, market analysis, etc. Example: The school actively mobilized and organized current graduate students to serve as tutors, providing professional course tutoring and information sharing for students who are determined to pursue postgraduate studies. Three tutoring groups were established, with 11 current graduate students participating. For students who prefer to enter the workforce after graduation, the school's employment guidance center connected with "internship assistant" positions, allowing students to enter society during their spare time and continuously enhance their comprehensive abilities. For students with entrepreneurial ideas, outstanding alumni and relevant government departments were invited to share entrepreneurial experiences and explain related policies.

Build high-quality school-enterprise cooperation practice platforms: Actively establish deep partnerships with industry leaders and specialized innovative enterprises, jointly build internship and training bases. Implement "order-based" training, modern apprenticeship systems, etc., so that students can clearly define their career directions in practice, and at the

same time create conditions for enterprises to select outstanding talents in advance, achieving a win-win situation for schools and enterprises. For example: Sign school-enterprise cooperation agreements with leading enterprises in the industry or local pillar enterprises. The surveying and mapping engineering major collaborates deeply with Southern Surveying Software Company in software development, professional education, human-computer interaction, and virtual simulation. They experimentally implement the enterprise mentor system, where they participate in some course teaching, graduation design guidance, etc. When students enter the enterprises for internship and practice in their senior year, they are managed and guided by enterprise mentors throughout the process.

During this period, corresponding mid-term and practical internship evaluations are conducted. 80% of the students who do internships in enterprises eventually sign contracts with the companies and achieve "employment upon graduation". Strengthen the guidance of employment values and encourage diverse career choices: Guide students to establish a correct "success concept" and "employment concept". Through publicity of advanced figures who have made outstanding contributions in grassroots positions or in difficult industries, encourage students to go to places where the country needs the most and to establish themselves in medium-sized and small enterprises with development potential. At the same time, vigorously promote entrepreneurship policies, create an atmosphere that is willing to take risks and tolerant of failure, and stimulate students' entrepreneurial potential. For example: Organize a series of interviews called "Amazing Engineers", inviting outstanding alumni who work in small and medium-sized technology enterprises or have risen from the ranks of front-line technicians to return to the school to share their experiences. Let them tell how they gained professional satisfaction and substantial rewards by solving specific technical problems and promoting process innovation, and break students' blind pursuit of state-owned enterprises and well-known manufacturers. Ma Rui, a graduate who worked in a small factory producing parts for new energy vehicles, after three years of continuous research and efforts, eventually became a key technical staff member of the company. Through extensive publicity, he detailed how this student utilized practical advantages to stand out in the project and provided other students with a feasible growth path to follow.

5. Conclusion

Engineering undergraduate students who pursue higher education are a dynamic and promising force within the country's high-quality engineering talent pool. Effectively conducting ideological education and career guidance for these students is not only crucial for each individual's future but also directly related to the overall progress of national industrial upgrading and modernization. Given the uniqueness of this group, universities must change their mindset, take the initiative, and break free from the constraints of traditional educational models.

In the future, efforts should be focused on establishing a comprehensive and integrated "ideological guidance - academic support - career counseling - psychological assistance" collaborative education system. Ideological education should permeate every teaching aspect and be deeply integrated with professional education and career aspirations; career guidance should be individualized and

targeted, running through the entire process of student cultivation and achieving personalized development. Only in this way can we effectively stimulate the internal motivation of engineering undergraduate students, help them make up for their weaknesses, develop their strengths, and ultimately grow into politically steadfast, highly skilled, courageous in taking responsibility, and willing to contribute new era outstanding engineers, contributing wisdom and strength to the comprehensive construction of a socialist modernized country.

Acknowledgements

This work was financially supported by Southwest Forestry University Education Fund (YB202238).

References

- [1] Li Ming, Wang Hua. Research on the Characteristics of Students Enrolled in Bachelor's Programs and Educational Management Countermeasures [J]. Education Exploration, 2022(5): 80-84.
- [2] Zhang Hong. Research on the Ideological and Political Education Path for Engineering Students in Universities Based on the Spirit of Craftsmanship [J]. School Party Building and Ideological Education, 2021(12): 55-57.
- [3] Chen Jianguo, Liu Wei. Research on Guiding the Employment View of College Students in the New Era [J]. China Higher Education, 2020(18): 45-47.
- [4] Zhao Lin. Research on Academic Adaptation and Mental Health Education of Students Enrolled in Bachelor's Programs [J]. Higher Education Journal, 2023(7): 189-192.
- [5] Ministry of Education. Statistical Bulletin on National Education Development in 2021 [R]. Beijing: Ministry of Education, 2022.
- [6] Wang Xiaolu, Li Heping. Research on the Psychological Characteristics of Students Enrolled in Bachelor's Programs and Educational Management Countermeasures [J]. Education Exploration, 2020(5): 85-88.
- [7] Zhang Wei, Chen Xiaohu. Research on the Cultivation Path of the Spirit of Craftsmanship for Engineering Students in the New Era [J]. Research on Higher Engineering Education, 2021(3): 112-117.
- [8] Liu Hui. Influencing Factors and Guidance Strategies of Graduates' Employment Attitudes [J]. China College Students Employment, 2019(18): 46-50.
- [9] Huang Zhaoxin, et al. Teaching Reform and Practical Exploration of "Course-based Thought Politics" in Applied Universities [J]. China Higher Education Research, 2020(7): 99-103.