

## **Research And Practice: The Education Mode Of Stage Career Direction Guidance Electrical Engineering And Automation In Kashi University Is Taken As An Example**

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**Abstract:** The electrical Engineering and Automation major of Kashi University has implemented the education mode of "phased career direction guidance" for four years of undergraduate students. Taking this as an example, this paper introduces the research and practice process of Kashi University's whole-course career planning guidance by applying the talent training mode of "phased career direction guidance" in the process of application-oriented transformation. The experience of constructing "stage career direction guidance" in the process of educating people is summarized in the article, including: teaching team, implementation links, implementation content. Initiatives in the teaching organization process are provided. The method of application-oriented major guiding students' career planning has been put forward.

### **1. Introduction**

Located in southern Xinjiang, Kashi University aims to cultivate technical and applied talents for the construction of southern Xinjiang. It is the first batch of colleges and universities to pilot the transformation of technology application. Students enrolled in electrical engineering and automation programs begin in 2014. At present, each class enrolls 65-100 students, one is ethnic minority, and half is Han. The students are mainly from Xinjiang, and most of them come from rural areas. According to statistics, the career tendency of the sixth term students at the beginning of enrollment is: more than 90% of the students do not understand the electrical industry, do not have a full understanding of the occupation they want to be engaged in. Combined with the training goal of the university of Kashi and electrical professional students the characteristics of less understanding of the industry, in the process of personnel training, we have more than 10 years working experiences in electrical industry for leaders to form a double teachers teaching team, took four years construct "periodic professional direction guidance" mode of education, starting from the first grade in college students' career nurturance education, and obtained the better training effect. Therefore, we have achieved the goal of cultivating talents in the electrical industry for Southern Xinjiang, and also led the students of this major to avoid detours in the process of development and success. Report the following:

### **2. The formation of education mode**

Career planning education in higher education can improve college students' career planning awareness, clarify the internal relationship between personal temperament, interests, abilities, values and career types, grasp the requirements and influences of internal and external environment on individual career development, and enable college students to connect with the society in advance<sup>[1]</sup>. When we conducted the entrance education for 73 students majoring in electrical engineering in 2014, we found that only 5 students had a clear goal of working in the electric power industry, while the other students were not familiar with their major, and 25 students were working

as teachers in primary and secondary schools, which was inconsistent with our goal of cultivating technical application talents for the electric power industry. Therefore, we realize that if we want to develop engineering and technical personnel training and realize the goal of training excellent engineers, we must focus on students' career planning, vocational habits and vocational skill cultivation education. If college students lack of a clear career planning, they cannot be accurate career positioning<sup>[2]</sup>. We must conduct career guidance for students throughout the four years of undergraduate education. We have strengthened the systematic career guidance work for college students to help them make reasonable career planning<sup>[3]</sup>.

The university should pay attention to the education of career planning among the junior college students, so as to effectively stimulate the junior college students' self-growth and self-planning awareness and cultivate their self-development and planning ability<sup>[4]</sup>. Only in the first grade to make students understand their career development goals, students can fully stimulate students' learning initiative and pertinence, so as to purposefully start the process of self-improvement according to the requirements of professional quality, and targeted areas to take the initiative to master the skills and knowledge of the major. From the perspective of educational content, career planning education is mainly composed of the following aspects: confident, knowing the enemy, choice, goal, action, evaluation and adjustment<sup>[1]</sup>. In the United States, a whole-process education model is adopted in the vocational quality cultivation education of college students, and career planning education runs through the whole process from middle school to university. Germany provides comprehensive guidance for vocational skills trainees with diverse contents and methods, and provides pre-employment services for job seekers. In Japan, the career planning of college students firstly determines the personalized career intention of college students, the school carries out auxiliary tests and analysis, and then realizes the career goal through the two-way communication between employers and students.

### **3. Construction of education mode**

By summarizing the characteristics of career guidance for college students at home and abroad and combining with the orientation of talent training in Kashi University, we have formulated a first-year guide to understand the major and industry, forming the enlightenment of career and cultivating professional interest. In the second year, career ideals will be formed and comprehensive self-cognition will be formed, so as to purposefully improve professional quality and establish professional foundation. Third grade to form the employment target, improve the overall quality and ability, The fourth grade prepares students for the employment destination in all aspects.

The construction of this mode is based on the characteristics of the electrical engineering and its automation teaching team in Kashi University. The team leader has a master's degree in engineering. After graduation, he has been engaged in electrical technology and production management in a large state-owned enterprise for a long time. He is qualified as a senior engineer and has practical training in management. He has been engaged in vocational education for many years, during which he has been engaged in vocational education research and teaching management. Therefore, the team has the practical experience and leading ability to guide students to "know friends, know enemies, make choices, goals, actions, evaluate and adjust" in their career development. In the course of career planning education for college students, we should strengthen the professional cognition education for college students and broaden the professional cognition approaches<sup>[5]</sup>. The teaching team of electrical Engineering and automation in Kashi University has ensured the students' in-depth understanding of careers and positions with their practical experience, and can grasp the latest development trends of the major.

Many college students believe that career planning is very important, but some students are unwilling to invest too much time and energy due to the long time cycle of career planning and too flexible expected effects<sup>[6]</sup>. Most contemporary college students attach great importance to self-perception, and each student has different ideas, problems and concerns. It is very necessary to give one-to-one guidance to students in career planning<sup>[7]</sup>. When we construct the education mode of stage career direction guidance, we fully understand and emphatically design the personalized

guidance strategy. When guiding students, we take the goal of cultivating talents in the electrical industry as the main line, fully consider the diversity and variability of career development in life, give full play to the characteristics of wide caliber of electrical major, pay attention to the cultivation of students' comprehensive quality, and pay attention to the inclusiveness of the diversity of students' career goals. In this way, the tendency of exclusiveness and the malpractice of forcibly reversing individual will in career guidance are avoided. This mode not only carries on the guidance cultivation, but also avoids the compulsory indoctrination education, achieves the career education "the whole course" the cultivation goal, satisfies the different grade students of different cognitive level, different knowledge structure to the career education curriculum demand<sup>[8-10]</sup>.

#### **4. Practice of education mode**

Since September 2014, the teaching team of Electrical Engineering and Automation major in Kashi University has implemented the education mode of "periodical career direction guidance". At present, the university has graduated three classes of students. For example, according to the market research, for the class of 2014 and 2015, we seize the opportunity that One Belt And One Road is in great demand for power operation talents in southern Xinjiang, strengthen students' cognition and understanding of power operation and maintenance positions in southern Xinjiang, and guide students to contact with these enterprises and practice on site. For the class of 2016 and class of 2017, combined with the fact that the demand for talents in sticky positions in the store is decreasing and the demand of power generation enterprises is increasing, we guide students to develop towards the operation and maintenance direction of power plants through course construction and adjustment. These three classes of students are among the top three in the school's initial employment rate. Among first-time employment students, the employment rate in Southern Xinjiang has reached more than 85 percent.

Taking students enrolled in 2016 and graduating in 2020 as examples, we have an overview of the specific practice of the education mode of "phased career direction guidance".

There are 76 students in the class of 2016. They are all from Xinjiang, including 33 Han and 43 ethnic minority students, and were divided into two mixed classes. At the beginning of the enrollment, we arranged a professor and a teaching assistant of the team as the head teacher, responsible for daily management and professional tutor work. Both teachers teach both theoretical and practical courses of the major each semester. From September 2016 to May 2020, we conducted eight surveys on these students' career direction and professional quality. The survey methods include questionnaire, individual interview, anonymous interview, teacher evaluation, vocational ability test and vocational orientation test. After each survey, team teachers and team leaders have in-depth conversations with students respectively. There are three types of conversations: group conversation, group conversation and one-on-one conversation.

In the first year, we focus on guiding students to understand the major and industry, forming the enlightenment of career and cultivating the stage of professional interest. In September 2016, through the survey of 76 students' understanding of the electrical industry, especially the position of power operation and maintenance, we found that 8 students fully understood the position, accounting for 10.53%. 52 did not understand, accounting for 68.42%. Among them, 12 are willing to work in the power industry, accounting for 15.79%; 42 people do not know what to do, accounting for 55.26 percent; 22 people, accounting for 28.95 percent, are not willing to work in electric power. We took an overview of the professional courses, professional education and first grade visited distribution and power plants, electric engineer school lectures, opening acquisition cognition practice, training students to participate in innovation projects in the organization, strengthen student's understanding of electrical professional, as well as the understanding of the actual workplace and environment. The tutor and the student have a one-on-one discussion to help the student solve the problem. Some girls did not understand the position of power operation and thought it was a male job. So we took students to power companies and power plants to make them understand the diversity of job demands. During this period, we give full attention to the students who do not understand the major and do not want to work in this major. Before the summer

vacation of 2017, we talked with students one by one and called their guardians to guide them to clear their minds and find out the direction of life planning in September 2017.

In the second year, we focus on the formation of career ideals, the formation of a comprehensive self-cognition, so as to purposefully improve professional quality and establish professional foundation. In the first year, 4 students were transferred out of this major. In September 2017, of the 72 students, 71 fully understood the electrical industry, especially the position of power operation and maintenance, accounting for 98.61%. 1 student who did not quite understand (this student preferred to be a veterinarian, but could not reach a consensus with his parents), accounting for 1.38%. Among them, 58 people are willing to work in the power industry, accounting for 80.56%; 10 people do not know what to do, accounting for 13.89 percent; 4 students who are not willing to work in electricity (one student wants to open a pet shop, one student wants to work as a translator and two students want to work in telecommunications) account for 5.56%. The methods we adopt include internship in substation and power plant, lectures by electrical operation engineers, professional quality assessment for students; production practice in exhibition industry, and training for innovative projects. We organized students to participate in teachers' scientific research projects, carried out publicity activities for the popularization of electricity safety in poor rural areas in Southern Xinjiang, and organized students to compile bilingual science books on electric power safety technology and send them to the countryside. Among them, the teacher and the students one on one discussion, guides the student to understand engineering translation, telecommunications, railway, bank, oil, corporations, etc for electrical jobs also have a demand, please related engineering and technical personnel and human resources division online communication and communication with students, broaden students' career planning horizons, to reduce the confusion and the resulting pressure of employment. For love veterinary students would like to open a pet shop, we strengthened the communication with parents, tell students if they learn electrical professional can also provide technical support for their open a shop, if they are not ready to drop out of school to choose medical professional, also can have done in skill training, on the basis of complete their studies, develop their hobbies expertise. We have reached a consensus with this student, who also attaches great importance to the study of his major and has gradually developed an interest in electrical knowledge in the subsequent learning process. According to the job requirements, we have set up all the practical training from engineering task investigation to engineering acceptance, and adopted the modern mentoring system teaching mode to carry out all-round basic quality training for students. The training makes students fully understand the requirements of job skills, and in practice, students feel that they can meet the requirements of career, and enhance their confidence in employment.

In the third year, we focus on the formation of employment goals, to improve the overall quality and ability. In this stage, we adopt the way of production practice, so that students have a full understanding of the enterprise, and then determine a clear employment goal. Through the training of practical positions, students have a full understanding of their own shortcomings, and make full use of their strengths and avoid their weaknesses in the process of choosing positions. In this stage, one-to-one counseling focuses on the discussion of the position, looking for the current position's requirements on personal quality, and doing a good job in improving personal ability, such as English level, writing level, etc. In the fourth year, we focus on making all-round preparation and promotion for the employment destination. We focused on quality training, such as the interview of various enterprises. In this stage, the focus of one-to-one counseling lies in the adjustment of career goals, eliminating the tension before employment, and doing a good job in comprehensive design and practical guidance.

In June 2020, 72 students graduated successfully with a one-time employment rate of 69.4%. Among the students, the employment rate of this major is 100%, 100% in Xinjiang, and 90% in Southern Xinjiang. This has realized the goal of Kashi University to cultivate application-oriented talents for Southern Xinjiang, and achieved the life goal of students after four years of planning, and achieved the win-win situation of the university, society and students.

## Conclusions

In the process of implementation, the education mode guided by stage career direction needs the support of double-qualified teaching team, the support of extensive enterprise talent demand survey, and the guarantee of the teacher-type teaching mode. The education mode guided by stage career direction is a dynamic talent training process, and the training scheme for each class of students needs to be constantly improved and updated. With the support of Kashi University, we have carried out the research on the training mode of applied talents by taking the electrical engineering and automation major as an example. With the support of Xinjiang Uygur Autonomous Region, the research and practice of application-oriented personnel training mode have been carried out. In the next step, we will continue to conduct in-depth research and make efforts for the research of application-oriented talents training.

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## References

- [1] Yuehui ZHENG: Research on College Students' Career Planning Education [D]. Inner Mongolia University, 2019.
- [2] Lin Li: Realistic Path of Cultivating College students' Vocational Core Competence [J]. People's Tribune, 2019(24):188-189.
- [3] Yanhua HU, Ying JING, Xuemei CAO: Relationship between self-efficacy in career decision-making and employability of college students: intermediary role of career planning [J]. Educational theory and practice, 2019, 39(12):38-40.
- [4] Guodong NIE, Donghai LI, Yuan LIANG: Research on Career Planning of Junior College Students in the Context of General Enrollment [J]. School Party Building and Ideological Education, 2018 (24):76-78.
- [5] Xiangmin MENG: Research on influencing factors of college students' career planning -- based on the survey data of 9 universities in the Yangtze river delta [J]. Chinese youth social sciences, 2020, 39(04):94-102.
- [6] Keke ZHANG: Research on Group Work Involvement in College Students' Career Planning [D]. Xinjiang University, 2019.
- [7] Lihong LIU: Strengthening Career Planning guidance for College Students to achieve accurate Employment [J]. China Higher Education, 2018(06):44-45.
- [8] Danhe ZHANG, Xiaodong QIN: Study on "Chain-type" Training Mode of Tourism Talents' Career Planning in Applied Undergraduate Colleges The Case of Tourism School of Changchun University [J]. Vocational and Technical Education, 2019, 40(35):26-29.
- [9] Qiqi WANG: Research on College Students' Employability Improvement based on career Planning concept [D]. Wuhan University of Technology, 2019.
- [10] Xiaohui SUN: Research on the Way of Integrating production and education to Cultivate applied talents in local Engineering Colleges [D]. Harbin University of Science and Technology. 2017.