

Research on the Current Situation and Improvement Path of the Industrial Awareness of Applied Talents

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Abstract: The "Guidelines for the Construction of the School of Modern Industry (Trial)" issued by the Ministry of Education and others in 2020 proposes that "Effectively Improve Student Students' Cognitive Awareness and Resolve Complex problems". It is the first time that the Ministry of Education's documents have proposed the concept of "industrial awareness". It shows that the awareness of the industry has a lack of talent training, affecting the growth of talents and industrial development. To this end, this article defines the connotation of the concept of industry cognition, analyzes the role of industrial cognition in talent training and growth. In addition, this article investigates the current situation of industrial cognition and analyses the reasons for the lack of industrial awareness. Finally, this article puts forward countermeasures and suggestions for the problems existing in the current industrial cognitive education from the three aspects of reconstructing the curriculum system, innovating the teaching organisation model, and strengthening industrial practice.

Keywords: Industry awareness; School-enterprise cooperation; Employment; practice

1. Introduction

In order to promote the supply side of talent training and the demand side of the industry, to cultivate high -quality talents that meet the high -quality development of the industry, the "Guidelines for the Construction of the School of Modern Industry (Trial)" issued by the Ministry of Education and others in 2020 clearly proposes "Effectively improve students' cognition of industry cognition of the industry. The degree and ability to solve complex problems^[1], this is the first time the Ministry of Education mentioned the concept of "industrial cognition" in the document. What is industrial awareness? What impact does industrial awareness have on the training and future development of application -oriented talents? What is the evaluation of the quality of college talents in the current enterprise and other employers? How do graduates understand the industry? It is very important for the research and practice of application -oriented talents.

2. The concept of industrial awareness and the impact on the training and development of application -oriented talents

Cognition refers to the "psychological behavior or process of obtaining knowledge and understanding through thought, experience and sensory", which is the dialectical response of the human brain to actual existence, including complex processes such as perception, attention, language, reasoning, decision - making, etc. Carry in mind

Processing design, creating a new dialectical response (new cognition) to guide the implementation of the transformation of the objective world. It can be seen that ① Cognition cannot be separated from the actual situation and develops, which is based on actual processing in the mind; ② The process of cognition is the process of information processing and the process of using new knowledge to discover new knowledge; ③ Cognition is a key link to solve practical problems. Based on cognition, you can design new solutions and guide and transform the world^[2].

The project is inseparable from the reality of the industry during the development process, and engineering activities and industrial activities have an inherent connection. Industrial awareness is the awareness of related engineering technology, professional technical theoretical knowledge, and the operation of related enterprises^[3]. In terms of talent training, industrial awareness can be understood as students' understanding of the industry within the scope of their cognition. Including the degree of grasp of the relevant knowledge you learned, the cognition of the relevant occupations that can be engaged in

the future, the degree of understanding of industrial technical standards and specifications, and the attention of the industry cutting edge.

The growth and development of the corresponding talents of industrial cognition have a profound impact, which is reflected in three aspects. First, industrial cognition is the prerequisite for applied talents to recognize the actual industry of the industry, find self-positioning, and establish development goals. Wang Yuling believes that some students are not looking for work because they are difficult to find, but because of their self-positioning. The asking price is too high. They either want to make a lot of money or want to be an official and seriously separate from reality. The main reason for this problem is that the school education and the industry are actually disconnected. The industrial awareness that students are consistent with the actual situation cannot be developed, which leads to unclear professional perception of students, unknown self-awareness, and unable to establish a clear and accurate career development goal. The clear industrial cognition allows students to understand the prospects, status quo and the specific requirements of talents, so as to help students find their own positioning, make up for the shortcomings, carry forward their advantages, and achieve long-term development.

Second, industrial cognition is the basis of learning new knowledge of application-oriented talents, excavating and broadening the depth and breadth of cognition. Today's industrial transformation and upgrading has made rapid progress, and many new processes, new methods, and new concepts have emerged. This requires the depth and breadth of applied talents to dig knowledge, and put forward higher requirements for their learning ability and knowledge iterative ability. Academician Li Peigan believes that today's engineering talents need to have a large-scale engineering concept, which requires engineering talents to understand and understand the multi-disciplinary and even industry, including humanities and social sciences^[4]. Test of application-oriented talent learning ability. As mentioned earlier, the cognitive process is the process of using existing knowledge to discover new knowledge. Therefore, sufficient industrial cognition is that applied talents are applied to iterative scientific theory and professional knowledge through knowledge updates, to obtain new industrial knowledge, expand industrial cognition Foundation.

Third, industrial cognition is the key to the cultivation of applications and ability to solve complex problems and innovation capabilities. Cognition is the key process to solve practical problems. Only the correct cognition can design new solutions and guide and transform the objective world. This is also the practice of Marxism. Industrial cognition is the key to solving actual industrial problems in the process of application of application-oriented talents. It is also the magic weapon for cultivating systemic thinking, comprehensive quality and innovation ability, designing new processes, new processes, and new methods to promote industrial transformation and upgrading. In the complex environmental background of the new development stage, industry needs to solve complex engineering problems and have innovative talents. It is also the core competitive advantage of college talent training and student development.

3. Students' investigation and analysis of the current status of industry awareness

Industrial cognition of the training of talents and the long-term development of students have a profound impact. In order to understand the status quo of graduates' awareness of the industry, the author uses a questionnaire survey and interview to investigate enterprises and graduates.

3.1. Research data analysis

This questionnaire issued 85 copies to the human resources department of the enterprise, of which 79 were effective questionnaires, with an effective rate of 92.9%, and issued 106 copies for graduates, including 100 valid questionnaires, with an effective rate of 94%.

3.1.1. The situation of industry awareness

Statistics in accordance with the two types of corporate human resources departments and graduates. The investigation of the human resources department of the enterprise is mainly aimed at their evaluation of the awareness of the new graduation industry. As shown in Figure 1.

As can be seen from the figure 1, in view of the industrial awareness of the new graduates, the human resources department and graduates of the enterprise exist in significant differences. Graduates believe that the industrial awareness of the year is about 32% of the "understanding" and above. The human resources department is about 22% (understand), and the difference is 10 percentage points. Based on

the authority of the enterprise, it shows that there is a lack of graduates on the industry's cognition. From the perspective of the graduate's own perspective, after two years of work, it is believed that the awareness of their own industries accounts for about 55% of the above and above. Compared with the year of graduation, it has a significant improvement, indicating that the practice of industrial work can effectively improve their industrial recognition. It is known that indirectly reflects the lack of industrial practice during the school.

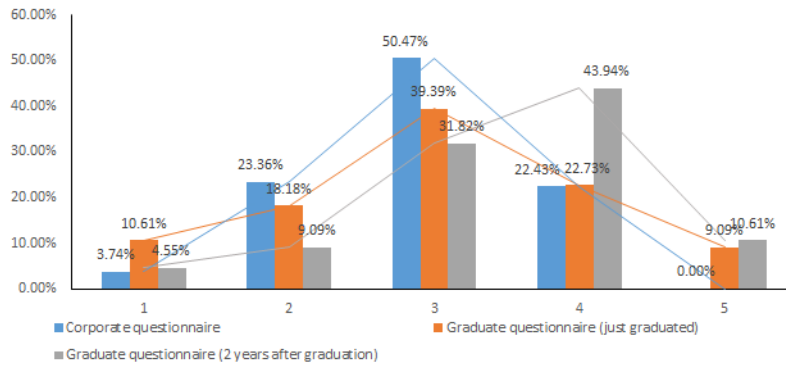


Figure 1: The situation of the graduates under the perspective of an enterprise and graduate perspective (1-5 Cognition gradually increases)

3.1.2. Enterprise evaluation of new graduates

First, it is difficult for new graduates to adapt quickly. As shown in Figure 2, from the perspective of "how long the new graduate can adapt to the job work", more than 2/3 of the new graduates take more than 3 months to adapt to the post. Many entrepreneurs expressed their hope that they can recruit recruitment. Obviously, the current employment situation cannot meet the needs of the enterprise when you just joined the job.

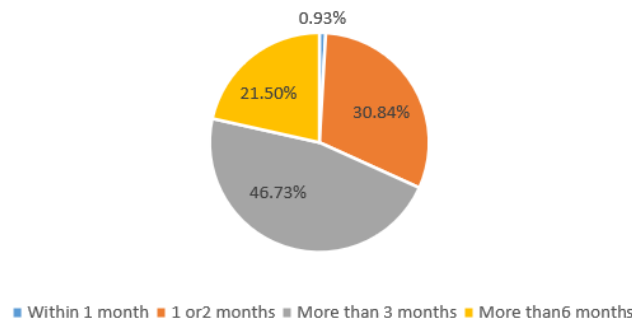


Figure 2: The new graduates who admit to the work under the perspective of an enterprise adapt to the time required to adapt to work

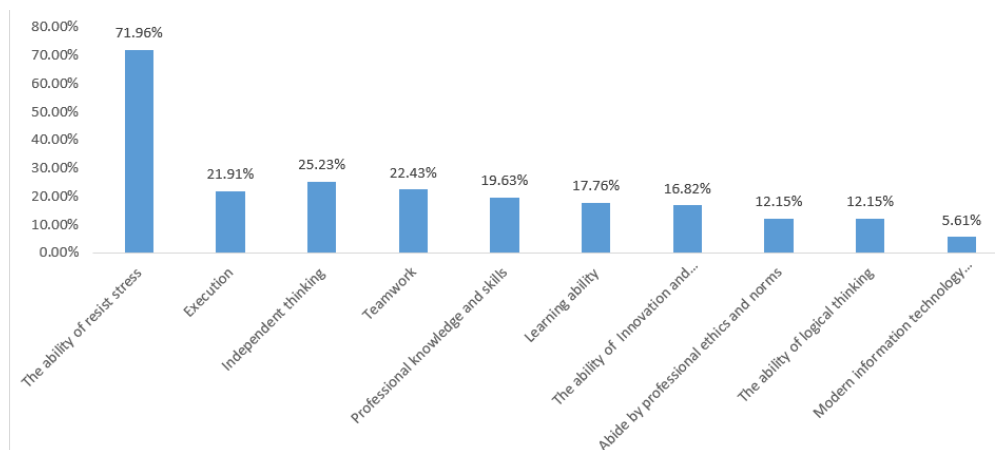


Figure 3: The quality and ability of the new graduates lacks under the perspective of an enterprise

The second is that the new graduates have insufficient ability to resist pressure. As shown in Figure 3, from the perspective of "what the main aspects of the current new graduates lack the quality", 71.96% of the company chose "pressure resistance". In the interview, some companies said that the new graduates showed insufficient resistance to compression during the internship stage. Due to the lack of sufficient awareness of the working environment and process in the school, when the actual work is prone to slackness, the task completion quality is not high or even giving up, and it is not allowed to take complex work tasks independently.

3.1.3. Self-evaluation of graduates

The first is that graduates have insufficient understanding of the industry before employment, insufficient professional knowledge and skills, and lack of ability to solve problems independently. Judging from "What are the quality you think you lack in work", "the degree of understanding of the industry", "professional knowledge and skills", and "ability to solve problems independently" account for 71.21% and 48.48%, respectively. , 45.45%, as shown in Figure 4. During the interview, many graduates believed that it was because of the lack of knowledge of their own industries and the lack of understanding, which led to unstable foundation in the school's professional foundation, lack of ability to solve practical problems, and facing great pressure in actual work. This is consistent with the evaluation of students' insufficient stress resistance in the eyes of enterprises, as shown in Figure 4.

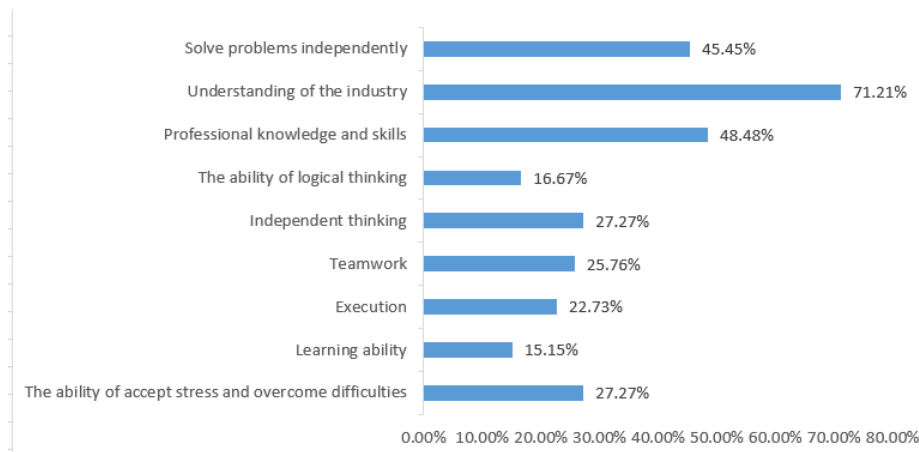


Figure 4: The new graduates who joined the job believe that they lack the quality and ability

The second is that graduates have low viscosity after employment and poor employment stability. In response to the problem of "you have changed a few jobs after graduation", more than 60% of graduates have said that they have changed their jobs, and 1/3 of them have changed their jobs more than twice, as shown in Figure 5.

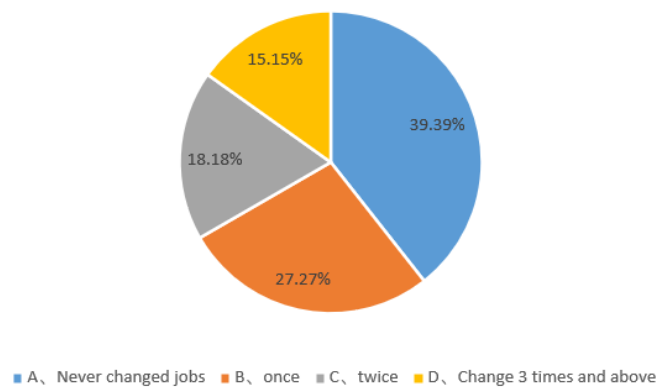


Figure 5: Graduate change jobs distribution

Combined with the graduation period of graduation, a cross-analysis was performed. As shown in Figure 6, it was shown in Figure 6. Without 42.86% of the job within one year of graduation, about 1/3 of people who graduated from 2 to 3 years changed to work more than 2 times, and graduation 5 Nearly 30% of the work more than three times.

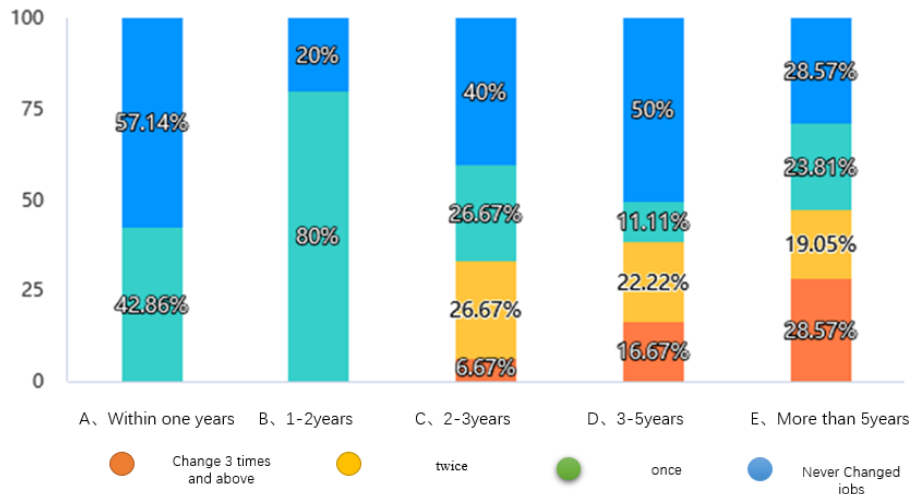


Figure 6: The relationship between the number of graduates and the number of graduates and graduation years

It can be seen that the frequency of changing jobs should not be ignored, which is closely related to their lack of awareness of the industries they are engaged in the field. It is closely related to the changes in the industrial environment. Regarding the reasons for changing work, most people do not understand the job before employment, which is inconsistent with expectations.

Based on the above statistics, it can be seen that current graduates generally have poor job adaptability, insufficient pressure resistance, insufficient industry understanding, poor professional knowledge and skills, lack of problems in independent solution, poor employment stability, etc. insufficient.

3.2. Cause analysis

Students' lack of awareness of the industry has led them to breed a series of problems after employment. The lack of industrial awareness is mainly the disconnection of college talent training goals and professional curriculum systems with the actual industry, the teaching organization model is not scientific and reasonable, and there is a gap between practical education and the actual situation of engineering.

3.2.1. Talent training target and professional curriculum system out of the actual industry

Talent training goals, professional curriculum systems, etc. are disconnected from the actual industry, which leads to insufficient awareness of the graduation industry. The industry is not well understood in the future, and self-positioning and career planning cannot be clear.

(1) The talent training goals are not clear, and the needs of industrial needs are not accurately connected.

Cultivating application-oriented talents must meet the needs of talents in the economy and society, but the definition of many application-oriented college talent training goals is not clear enough. The first is the barriers of traditional concepts. It is believed that the training of application talents should be the positioning of schools in higher vocational colleges, rather than the talent training goals of undergraduate colleges and universities. Discover, analyze, and creatively solve high-quality talents. Second, many colleges and universities continue the cultivation model of academic talents in the past, the consciousness of actively connecting the needs of social development, and formulating talent training goals has not been actively investigated and exchanged by relevant industry enterprises, and cannot resonate with regional economic development^[5] Together in theoretical type and academic type, failed to accurately connect the industrial situation in the planning of talent training goals, resulting in the failure to match the needs of educational supply chain and industrial talent.

(2) Professional curriculum system is disconnected from the actual industry

First, the knowledge system is old and the docking with the market is unbalanced. During the survey, nearly 80% of graduates believed that "through learning during the school period, contacting related knowledge and industry specifications, etc." at 3 points and below (Figure 7), that is, most graduates

believe that learning during school can be exposed to contact with contact with The degree of the frontier of the industry is average. The company believes that the course system that most graduates have learned at present, and have continued the professional knowledge structure courses a few years ago or even ten years ago, which led to the knowledge structure of graduates staying at the past level and derailment with today. The level of industry awareness is still in the past, and it is difficult to quickly get started in actual work, so that enterprises need to conduct re -training.

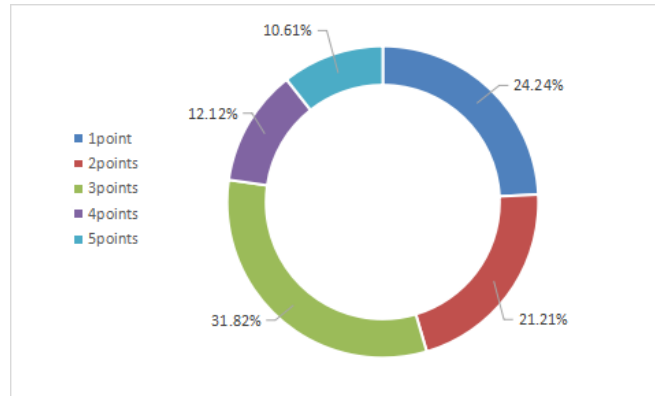


Figure 7: Study in the scoring distribution of the industry at the forefront of the industry (1-5 points gradually increases)

The second is that the setting of professional courses is not compatible with market demand. More than 80%of graduates believe that the degree of professional courses arranged by the school and the current work are generally or below, and 43.94%of graduates believe that they are not fit or do not fit completely (Figure 8). Many colleges and universities have a serious knowledge of knowledge in professional cultivation, focusing on academics and practical practices. All universities lack full research and demonstration of new majors and the adjustment of old majors. Often, I have to declare in other colleges and universities. , Ignoring the development of the local economy and the characteristics and advantages of school running, ignoring the changes in the needs of enterprises for talents, which leads to lack of understanding of the industry and enterprises, the lack of industry awareness and professional application of the trained students can not meet the application of the market for applications. The actual needs of type talents^[6].

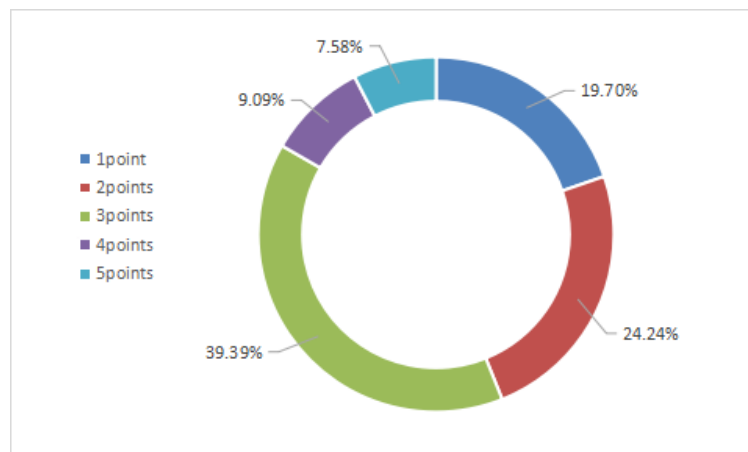


Figure 8: The degree of professional courses arranged by the school and actual work (1-5 points gradually increases)

3.2.2. The teaching organization model is not scientific and reasonable enough

Cognition is the process of information processing. The process of using existing knowledge and discovering new knowledge is a process of self -learning. However, many colleges and universities' teaching organization models are too mechanized, teachers have a serious tendency to academicization, and lack of industrial knowledge. As a result, the talents that have trained not only lack of industrial awareness, but also have the initiative to learn new knowledge and adapt to the new working environment.

(1) Monsolation rigidity of traditional teaching methods, it is difficult to mobilize students'

enthusiasm

Teaching continues the traditional "duck -type" teaching method. It only pays attention to unilateral instilling knowledge and despise classroom interaction. It is not centered on students. In order to complete the curriculum tasks, some schools simply conduct theoretical teaching. According to this declaration, the students' thinking is limited, resulting in the dull atmosphere of classroom teaching, and insufficient interaction between teachers and students. In addition to dealing with the exams, students generally lack the motivation of active learning, which directly affects teaching.

(2) The teaching team is biased towards the academic type and lacks industrial practice

"Guiding Opinions on Guiding Part of General Undergraduate Universities into Applied Transitions" requires: "Actively introduce industry recognized specialized talents, and hire outstanding professional and technical talents, management talents and high -skilled talents as professional construction leaders and part -time teachers."^[7]From the perspective of the college talent recruitment announcement, although some colleges and universities have taken enterprise and industry experience as one of the applicants, when the talent selection, they are more valued by the candidate's education and scientific research ability. Obvious orientation of academicization. Especially in the introduction of high -level talents, compared with academic talents with various titles, scientific research awards, and high -water papers, application -oriented talents with corporate practical experience have not received the attention. The end^[8]. There is a gap in the industry cognition of the teacher team selected in this way, it is impossible to guide students' systematic thinking, and it is difficult to cultivate the ability to solve complex engineering problems.

3.2.3. Practical education lags behind production reality

The understanding comes from practice and guiding practice. Industrial cognition also comes from industrial practice, and can guide students to solve practical problems in the industry, innovate craftsmanship, and give play to students' creativity. However, because of the adoption of the old and the past, the past industrial processes are observed, and there are many deficiencies with the current industrial development.

The first is to focus on academic and light practice. The phenomenon of long -term theoretical lighting and knowledge and ability of colleges and universities. Due to the lack of support for schools and lack of professional instructors, laboratory construction has been far behind the development of production technology, lacks a practical platform, and does not establish a long -term consciousness of long -term cooperation with relevant enterprises, which leads to the lack of ability and innovation ability of students to solve practical problems and lack of innovation ability. Essence

The second is the disconnection of practical education and industrial needs. Practical teaching is floating on the surface, the practice content is simple, lagging behind the development of the industry, and lack of teaching situations to solve the problem of practical complex industrial engineering^[9], talk about soldiers on paper, the cultivation of engineering and technical talents in the cultivation of engineering and technical talents is not enough, and it is difficult to meet the needs of industrial development.

4. Research on countermeasures to enhance the cognitiveness of application-oriented talents

In response to the above problems and reasons, the author believes that reform should be carried out from the following three aspects.

4.1. Establish the goal of talent training in combination with the actual industry of the industry to reconstruct the professional curriculum system

Industrial cognition cannot be separated from industry reality. Therefore, in order to improve the industry awareness of application -type talents, talent training goals and professional curriculum systems cannot be separated from the actual industry, and the two need to be organically combined.

(1)Docking the needs of the industry and establishing a clear talent training goal. General Secretary Xi Jinping pointed out: "To enhance the ability to innovate education and services and cultivate more talents that adapt to high -quality development, high -level self -reliance and self -reliance." The close combination of talent training goals and industrial needs is not only to improve the level of student industry cognition level Important starting points are major measures to promote high -quality development of the industry. Nanjing Normal University cooperates with the Nanrui Group to jointly

build a school of electrical and automation to serve the intelligent and electrical automation of the power grid. In the direction of electricity and new energy, it cohesives to overcome difficulties and cultivates a group of characteristic talents with industrial needs^[10].

(2)Based on the actuality of the industry, the school -enterprise linkage builds a professional curriculum system. According to the cognitive law, the industrial reality should be fully combined, the advantages of resources should be used, and cooperation with industrial head enterprises should be used to reform and optimize the professional structure, and build a professional curriculum system. Relying on its distinctive characteristics of the petrochemical industry, Changzhou University will integrate the achievements of joint scientific research projects such as "phenol alkylated" and the integration of cutting -edge technologies such as supercritical and continuous industry and cross -scientific knowledge. Course system^[11].

4.2. Innovative teaching organization model, create a "dual -teacher" teaching team

In order to meet the needs of high -quality development, applied talents not only need a strong professional knowledge foundation, but also need a certain degree of autonomous learning ability to obtain deeper and wider industrial awareness. Therefore, at the school stage, students should be cultivated to have their own learning ability in order to develop longer in the long run. Teaching teams of industrial practice experience to guide students to take the initiative to learn and expand industrial cognition. Southern University of Science and Technology breaks the traditional teaching organization model, designing and learning guidance projects, classic product research and development cases, corporate field inspections, etc. according to teaching goals, etc., create a scenario -based learning environment for students to explore independently, and attract students to voluntarily devote themselves to learning to learn from learning. , Experience Teaching^[12], the School of Engineering introduced the corporate mentor. With the help of dual mentors, the comprehensive graduation design of the actual problems of corporate problems was used to replace the traditional graduation design through the team cooperation of 4-5 people to solve the actual problems of enterprise^[13].

4.3. Optimize the practice education link, and make the industrial practice experience ahead

Practice can resolve the single nature of students' cognitive experience under the education system of traditional colleges and universities, and form the integration of science and education that improves the level of industrial technology^[14]. Industrial practice is the best means to break through the limitations of students' industry cognition. From Figure 1, we learned that graduates have a significant improvement in the industry's recognition of the industry after two years of production practice. The ability and creative ability of the problem helps the long -term development of application -oriented talents and the high -quality development of the industry.

(1) Construct a "immersive" practical teaching system with project -oriented. The case of school -enterprise cooperation proves that breaking the traditional repetitive and verifying practice, integrating actual production projects and the transformation process of actual products into the practice link can greatly stimulate students' enthusiasm and creativity, significantly improved their industrial awareness level. Dongguan Institute of Technology's Guangdong -Hong Kong Robotics Institute adheres to the project -driven teaching and innovation and entrepreneurial training concepts, combined with the connotation of design thinking custom practical teaching system, runs through the undergraduate stage of the student^[15].

(2) School -enterprise cooperation to build a practical base together. The practical base is an important platform for practical education. Schools can use regional industrial advantages to seek cooperation from relevant industry enterprises, fully integrate the resources of all parties, and build a practical education base together. In accordance with regional industrial needs, Huzhou Teachers College Advanced Equipment Manufacturing Industry Institute relying on government and industry enterprises to jointly build a new generation of new materials training bases; Zhejiang Ocean University School of Petroleum and Chemical Engineering and Zhejiang Petrochemical Co., Ltd. jointly established Zhejiang Laboratory. Both have achieved good results.

(3) Construct a comprehensive and multi -level practical ability evaluation system. According to the author's interview with graduates in the early stage, most graduates believe that the practical assessment of the undergraduate stage is too simple, and it is difficult to truly reflect the students' engineering practical ability. Therefore, it is urgent to establish a comprehensive and multi -level practical ability evaluation system to emphasize practical ability and effect evaluation. First, the mentors of both schools

and enterprises participate in the evaluation and evaluation to ensure the professionalism and objectivity of the evaluation. Second, it is necessary to set scientific and reasonable evaluation indicators according to the engineering practice ability of college students, and comprehensively evaluate the engineering analysis ability, teamwork ability, independent ability, etc.

5. Conclusions

After two months of investigation on the awareness of the graduation industry in the early two months of the company and graduates, it was discovered that the current problems of application-oriented talents trained by colleges and universities generally have the problem of insufficient industrial awareness. This is also social issues such as difficult employment of graduates. The direct factor, through questionnaire analysis and interviews, learned that there are disadvantages of the current talent training model, professional curriculum system, teaching organization model, teacher team and practical education. An important way to improve industrial awareness is to introduce enterprises into schools, so that schools and enterprises can cooperate deeply in all aspects.

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