

# The Mechanism Construction of the Stable Promotion of Students majoring in mining' Professional Thought—Take Wuhan University of Science and Technology as an example

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## Abstract

With the acceleration of the construction of a two-oriented society in China, the mineral industry has also undergone transformation and upgrading, at the same time, it has also been accompanied by a large number of mining professionals. However, in the mining universities, the proportion of students transferring to majors is generally high, and the number of graduates engaged in mining industry is decreasing year by year, which affects the transformation and upgrading of China's mineral industry partly. In the professional theory and practical teaching, there is a lack of professional ideological stability education for students majoring in mining, and the essence of this major has not been recognized by most of the transferred students, so there is a blindness in transferring majors. This paper discusses the current situation of the students majoring in mining, analyzes from the reality, and proposes ways to improve the professional thinking of the students. The trinity mechanism of pre-enrollment publicity, initial enrollment education, and process education after enrollment has been proposed to improve the stability of students' professional thinking.

**Keywords:** Transfer to major, Ideological stability, Mining majors, Mechanism.

## 1. INTRODUCTION

"Promote comprehensive resource conservation and recycling" was clearly put forward by General Secretary Xi in the report of the 19th CPC National Congress. And the clear direction of country's ecological civilization construction in the new era is given by this report. With the acceleration of the construction of a two-oriented society in China, the mineral industry has also undergone transformation and upgrading. At present, there are only more than 30 domestic undergraduate universities offering mining engineering related majors, corresponding to which there are more than 180 listed mining companies, so that college students are still in short supply in the mining industry.

At the same time, the implementation of the "New Engineering" plan by the Ministry of Education has brought new opportunities for the development of mining engineering-related majors. The future of mining engineering-related majors will be multidisciplinary

cross-integrated development. The phenomenon of students majoring in mining transferring to majors is currently relatively common, which has led to a decrease in the number of college students engaged in this field in the future.

Compared with the "rare" theory and practice of mining-related professional teaching, professional ideological education of mining-related students is particularly important. The learning attitude interest, the establishment and realization of students' success goals, and the quality of training applied talents in this major are directly affected by the stability of professional thinking. Students adapt to college life as soon as possible is encouraged by positive professional thinking, and learning knowledge and mastering skills are also promoted.

## **2. THE CURRENT STATUS OF STUDENTS MAJORING IN MINING**

The major of mining engineering is relatively a subject with low application heat in the national university voluntary application, and a large proportion of students majoring in mining engineering are transferred in. The phenomenon of unstable professional thinking is widespread when the freshmen majoring in mining engineering enter the school. This has led to problems such as uncorrected learning attitudes, lack of professional interest, lack of motivation, and a generally high proportion of transitioning majors[1]. It is very common in the establishment of mining engineering colleges and universities, and it is also a problem worthy of attention.

The first round of major transfer of Wuhan University of Science and Technology in 2018 was cited as an example, with 38.38% of students switching majors. When choosing to transfer majors, their majors and their employment prospects are not fully understood by most of the transferred majors, therefore, it is very necessary to publicize how the mining engineering-related majors' ideas can be stabilized during the admission process when students choose their majors. Corresponding measures have been taken by universities to alleviate this situation. For example, the "Enlightenment Lecture Hall" with the theme of the practical education activities carried out by relevant schools of Wuhan University of Science and Technology, which uses peer-to-peer demonstration and expert lectures to reinforce students' sense of identity with the major. The proportion of students transferring majors dropped to 18.75% in 2019, but the problem of high proportions of students changing majors in most universities has not been alleviated.

## **3. WAYS TO IMPROVE THE STABILITY OF MINING MAJORS' THOUGHTS**

### ***3.1 Strengthen the propaganda of enrollment***

At the stage of college entrance examination, thoughtful, meticulous and focused publicity work should be done well. Avoid having the advantages and characteristics of the school being mainly introduced, while the majors are introduced very simply, or just introduce the professional settings, the deeper level of professional content has not been involved, such as professional knowledge structure, teacher status, core courses, development prospects and directions, social needs, employment situation and so on. At the stage of applying for the college entrance examination, publicizing and answering the candidates' professional questions on the spot should be required, and the disciplines related to mining engineering and the situation of graduation and employment should be introduced to actively connect with senior high school

teachers and parents of candidate. In the process of enrollment publicity, try to let the students and their parents understand the knowledge and skills that the major needs to master, so as to reduce the blindness of candidates' application.[3]

Through the new media channels, vigorously publicize the situation of mining engineering related majors in the form of text combined with pictures and videos, which to lay a good foundation for stabilizing professional thinking, clarifying learning goals and accurate career positioning in the future learning process.

In addition to the above, firstly, publicizing academic competition results should be done vigorously. Taking discipline competitions as the leader, adopting incentive measures to encourage teachers to guide students to participate in various high-level discipline competitions, highlighting the achievements of professional construction, and increasing professional reputation with indicators such as discipline competition results and postgraduate entrance examination rates.

Secondly, admission to all faculty and staff, so that all teachers recognize the situation of enrollment, take the initiative to join the professional brand building, mobilize and organize experts and professors of various professions to actively go to the front line of enrollment and publicity, and use their professional advantages to carry out learning for high school students lectures, holding popular science activities, entering high school and participating in enrollment publicity consultation and other work.

Thirdly, publicizing the investment in software and hardware and the continuous improvement of school running conditions. It should be done to attract outstanding teachers, encourage teachers to upgrade, guide teachers to invest in curriculum construction, teaching quality construction, create famous teachers and famous courses, establish professional curriculum brand with teachers and courses as the center, building professional reputation and create a brand-name continuously.

Fourthly, all kinds of third-party professional rankings need to be paid attention to be tracked and regard the school ranking as an important publicity display point. The construction of professional rankings and strive to implement professional quality standards and norms in accordance with international standards should be strengthened.

### ***3.2 Integrate career planning into entrance education***

Mining engineering cognitive knowledge system should be constructed, so that the professional education of mining engineering freshmen will be presented with a new model and system. A basic, systematic and

comprehensive knowledge related to mining engineering discipline and mining industry will be mastered by students, which can make necessary preparation for future professional study, make them firm career choice, enhance their confidence and interest in learning, and stimulate their desire to explore professional knowledge. Taking the mining engineering major of Wuhan University of Science and Technology as an example, the current situation and trends of the mining industry in Shaoxing and its surrounding areas should be introduced first. A detailed interpretation of the training program of mining engineering major should be taken as the second step, it mainly includes the professional direction and the research object, the professional training goal, the professional core ability, the teacher staff, the laboratory construction, the curriculum system, etc. The cooperation between the major and local enterprises should be introduced finally, by listing the new technology achievements obtained by teachers and students sharing cooperation and the construction of enterprise practice base, the freshman's thirst for knowledge is stimulated, and their expectation and hope for the future of their major are filled.[2]

The focus is to convey the question of what to learn in this major, it can provide a possibility to help freshman form a systematic understanding of the basic content of the following aspects including the major content, extension major development history, development trend, industry relevance and professional curriculum system. Taking the mining engineering major of our institute as an example, firstly, it is necessary to introduce the development status and trends of the mining industry including China and its surrounding areas; secondly, the training scheme of mining engineering specialty is interpreted in detail.[4] It mainly includes professional direction and research object, professional training goal, professional core competence, teaching staff, laboratory construction, curriculum system and so on. Finally, the cooperation between industry, university and research in local enterprises will be introduced by professional teachers through enumerating the new technological achievements made by teachers, students and sharing cooperation, as well as the construction of enterprise internship bases, it stimulates freshmen's curiosity for professional learning and makes students full of longing and hope for the future of the profession.

A network platform is built to feed back students' opinions and suggestions in real time. Special lectures and interactive exchanges including freshmen of mining engineering majors, undergraduate senior students, professional graduate students, famous professors, professional teachers, well-known professional alumni, and related enterprise engineering and technical personnel will be actively carried out. Sharing the current situation and development prospects of mining industry, training and teaching of mining engineering specialty, employment prospect and personal development, as well

as personal learning and development experience of the participants are used as the content. And narrowing the distance with the freshmen, helping the freshmen to plan for a new university life and study in the future, and providing suggestions for students' career planning are used as the purpose.

### ***3.3 Continue to strengthen the ideological education of professional process***

#### ***3.3.1 Classroom teaching is integrated into professional ideological education***

After freshmen enter the school, the idea of entering the professional knowledge study as soon as possible is eager. First, freshmen want to judge whether this major is suitable for them as soon as possible so that they can choose to transfer to a major later. Second, they want to clarify the future employment direction, employment environment, specific work they are engaged in, and the employment market trend of their major after four years. Therefore, at the beginning of the school, the professional teachers go deep into professional class to carry out "face-to-face" professional meetings should be organized. Senior students' employment, postgraduate entrance examinations and university study and life experience are taken as guidelines, and the "Enlightenment Lecture Hall" activity taking Wuhan University of Science and Technology as an example is launched to grasp the situation of students and answer the questions in time. Professional ideological education is integrated into professional classroom teaching, and normal teaching is integrated into professional frontier technology and professional ethics education.

On the one hand, it can make the "boring" theoretical study lively and stimulate students' enthusiasm for learning. On the other hand, it enriches the content of classroom teaching and broadens students' knowledge, and makes students' professional cognition more comprehensive. The students' sense of identity and pride in the major is enhanced, and the students' awareness of the major is improved in the subtle way.

#### ***3.3.2 Establish a system of tutors for head teachers and counselors***

Different from the "full-time monitoring" test-oriented education of high school head teachers, the "open" university requires a high degree of self-consciousness and self-management ability of college students. Otherwise, it will seriously affect the development of students' physical and mental health, the cultivation of good study habits and correct the development of outlook on life and values. Therefore, the head teacher and a counselor system should be established. The head teacher mainly helps students plan their studies, cultivate their learning ability and innovation ability, and

the counselors mainly help students solve students' problems in life and thought, and improve students' self-management ability. The tutorial system with the head teacher and counselor as the core can help students adapt to university life as soon as possible. The goal of the system is to improve the quality of their university life, and reduce their worries about professional studies and employment.

### *3.3.3 Stimulate learning interest by practical activities and competitions*

For engineering majors, practice is the foundation of theory, and the early learning of college students is based on theory and lacks practical links. However, the employment direction of this major is urgently understood by students, and on the other hand, students' interest in learning mainly comes from their sense of achievement and putting learning results into practice will greatly promote students' interest in learning majors. Therefore, the student practice platform can be set up, students declare various topics and participate in various discipline competitions should be organized, and professional laboratories should be opened. These measures provide a practical opportunity for students to verify their ideas, meet students' learning for application, and reflect their own value needs, so as to meet their learning achievement.

For example, the School of Resources and Environmental Engineering of Wuhan University of Science and Technology is guided by professional science and technology competitions and academic exchanges, organized and compiled the "Guide to Extracurricular Academic Science and Technology Activities for students of School of Resources and Environmental Engineering, Wuhan University of Science and Technology". The annual "Summer Academic Summer Camp" will be launched to build a practical and innovative platform for students, organize students, and let students find their own interests and pursuits with purpose and direction.

Through practical education, it will effectively address students' professional confusion and strengthen education and guidance to enhance students' sense of identification with mining engineering-related majors, In addition, it will also help students enhance their confidence and smooth employment. A certain reference and basis for the reform of college professional training programs can be provided to draw lessons from the effect of college students' professional learning and the quality of talent training and future employment.[5]

## **4. CONCLUSIONS**

In this paper, the trinity mechanism of pre-enrollment publicity, initial enrollment education, and process education after enrollment has been proposed to improve

the stability of students' professional thinking, increase the one-volunteer application rate of mining engineering related majors, and stabilize professional thinking. Students' professional confusions are effectively targeted, and education and guidance are strengthened at the same time. Students' identification with mining engineering-related majors is strengthened, which can help students enhance their confidence and smooth employment.

After a year of practice at Wuhan University of Science and Technology, there has been a strong improvement in the transfer of students, the percentage of students majoring in mining who transferred majors dropped to 18.75% from 38.38% in 2018. The reference and basis for the reform of professional training program, the effect of professional study, the quality of talent training and the improvement of future employment are provided by the construction of this mechanism.

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