Teaching Research and Exploration of “Management Basis” in Engineering Colleges

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Abstract. Under the wave of the knowledge-based economy sweeping the world, as gradual exploration of Chinese open-up, the fast development of economic, fiercer competition of market, therefore, the society is crying out for a large number of the high quality compound talented person who not only has specialized skill, but also has the management knowledge. Based on the background of Engineering universities and characteristics of students, this paper studies some practical problems of this course from the aspects of teaching materials, teaching objectives, teaching contents, teaching modes and assessment methods of the “Management Basis”. Besides, combined with the actual situation of our school, based on the learning needs of undergraduates, and actively explores ways to improve the quality of management teaching.

Introduction

With the deepening of reform and opening up and the rapid pace of economic development, China urgently need to innovate personnel training mode and education teaching method, focus on aptitude teaching principle, the combination of aptitude and thinking, reform teaching contents, methods and means, advocate heuristic, inquiry-type and participatory teaching, and speed up the need of the economic and social development to the high quality and diversified talents. [1] There is also a crying need for a large number of comprehensive personnel that are familiar with the general law of management activities, the basic principles and methods of management, master a variety of management activities and skills. Although the reform of the management of Engineering colleges and universities has already emerged, and also has been the corresponding development, the reform of the idea mostly localized in case teaching and practice teaching of science and engineering students. This paper probes into the teaching reform of the course of “Management Basis” in Engineering colleges and universities, and puts forward the theory of self-compiling in the Engineering Specialty of University of Electronic Science and Technology of China, focusing on the importance of Chinese traditional management thought, knowledge management and the times of information management.

Problems in the Teaching of the “Management Basis”

Management is a comprehensive subject involving social science, natural science and thinking science, and it is a science with strong vitality and profound influence on mankind. Management is a science and an art; [2] therefore, “Management Basis” becomes the public general education course of Engineering colleges and universities, which plays a great role to understand the general law of management activities, basic principles and methods of management for the students of engineering majors. The increasingly current crucial social situation has put forward higher requirements for management, facing the new situation and new challenges, it is imperative to advance with the times. Looking over a series of reforms to improve the educational and teaching level in domestic universities, we can find that it is not a unilateral cut, but a comprehensive one, it is also a long and arduous process, in which many urgent problems have to be solved.
Lacking Pertinent Selection of Textbooks in Engineering Colleges

“Management Basis” is the foundation and core course of economic management, and its status is self-evident. Peter Drucker once said: "In human history, there are few things more rapid than the emergence and development of management, more important and more drastic impact on mankind." Therefore, the choice of textbooks must be prudent. Zhou Sanduo’s “Management-Principles and Methods” likes an evergreen tree in management materials and is more used by universities, but also more favored by the Government and enterprises. It is inclined to economic category, emphasizing the practical problems in the economic background. At present, the engineering colleges still copy the teaching materials of economic management, so that the teaching process can not be individualized, and the teaching objectives do not match. Lacking of professional pertinence to science and engineering students not only affects students’ enthusiasm for learning, but also reduces the teaching quality of "Management Basis" courses.

Too High and Inaccurate Orientation of Teaching Objectives

The teaching goal is one of the basic contents of the course construction, so the complete and systematic teaching course construction project must first have the realistic and the exact teaching goal. In most colleges, some professionals are positioned to create management talents who have a solid management theory and knowledge, proficient management skills to the practice, with good comprehensive quality, strong practical ability and innovative ability. Some professionals are clearly required to train advanced technical personnel, cultivate applied technical personnel with the capacity of construction, management and service.[3] “Management Basis” is the foundation course that the students of economic management must masterly, and it is impractical to apply the development strategy of "cultivating the future entrepreneur" to the students of Engineering College. At present, most engineering colleges still use this teaching goal.

Lacking of Case Base Suitable for Students of Science and Engineering

With the deepening of the curriculum reform of the “Management Basis”, more and more cases are introduced into the classroom. Case teaching is a method that it refers to wield actual material, along with analysis and explanation for this bringing the knowledge points into a specific scene environment.[4] The Engineering colleges are basically staying on the level of reference cases or large-scale cases, both of which are chosen from textbooks or newspapers and magazines. Owing to the very different politics, economy and culture between China and foreign, the background of the case is complicated. Most of the students of science and engineering have a very shallow understanding of the background of the economic and management students, and the use of such cases in teaching has directly reduced the participation of students in science and engineering. Therefore, it is necessary to select a case of pertinence, the characteristics of the times and to build a case base suitable for students of science and engineering.

Incomplete Teaching Content, Lacking of Knowledge Management and Information Management

The teaching content is the carrier of implementing the teaching target, the choice of the textbook is in itself the problem, and it is not enough to rely on teaching material to arrange it. The changing times witness the development of the trend of management. Informatization and knowledge permeate all levels of administration, and the knowledge management is the extension and development of information management, and also the new stage of the development of information management.[5] So how to improve the quality and quantity of teaching? First of all, the selection of teaching content should pay special attention to follow: fundamentality, scientificity, expansibility, acceptability, contemporaneity, polyfunctionality, disciplinarity of seven criteria. At present, the major engineering colleges still remain in the selection of teaching materials, not focusing on the development of the times and the needs of the society, which leads to the teaching content deviated from the basic criteria, and not perfect.[6]
Appreciating Western Management Thought and Ignoring Chinese Thought Schools

The management thought is formed after the emergence of the human society, and is continuously developing in the social progress. The development of Western management is more mature. China's management is still in the construction stage of the theoretical system.[7] Western management thought constitutes the bulk of the textbooks that on the one hand, elaborated the Western traditional management thought in detail, on the other hand, elaborated the Western modern management thought the development in detail. Because the Western management ideology has already formed, presenting in the teaching material in orderly; Nevertheless, China is still in the period of exploring management ideology, lacking the carding of Chinese thought school, especially neglected the actual reference value and the far-reaching influence that advanced management idea contained in Chinese traditional culture. The phenomenon get students to be unfamiliar with native management thought, even are not how to deal with practical issues when students expose themselves to foreign management thoughts all the time.[8]

Thoughts and Ways of Teaching Reform of “Basic Management” in Engineering Colleges

According to the present situation of the above exposition, this paper puts forward the following solutions.

Taking Science and Engineering Students’ Characteristics as the Main Body and Rewriting the Handout

Currently, there are only a few management textbooks about the characteristics of science and engineering students; beyond it, few can be used by engineering colleges and universities. Therefore, it is the primary starting point of reforming teaching materials to rewrite the handouts for students of science and engineering. The students in engineering colleges are based on practical technology, cultivate concrete knowledge and skills, be good at rational logical reasoning, thinking operation, lack of behavioral psychology and basic management quality. Then, the handouts should focus on basic concepts and basic theories, especially on the theoretical basis and knowledge necessary for scientific research activities and production and operation. At the same time, emphasizing the practicality of management. In the Engineering universities, combined with professional characteristics teach students what to feel when in the use of administrative production operations.

Clarifying Teaching Objectives and Making Rational Teaching Target Orientation

Teaching goal is the soul of teaching, the premise of implementing teaching, and the reasonable orientation of teaching target is the basis of improving teaching effectiveness. On account of teaching goal's orientation and inspiration, so the established teaching targets of “Management Basis” should play a great important part in the guidance and stimulation for science students. Taking the industrial engineering specialty of author’s school as an example, the curriculum goal is formulated as follows: Take the employment as the direction, take the ability as the standard, take the vocational skill as the main line, take the unit project curriculum as the theme, and consolidate the foundation, adapt the position as the goal, finally form the modular curriculum system. From this point of view, it is a steady teaching motivation to further improve the student’s outstanding rate and strengthen their capacity that bring modern engineering science and technology knowledge, information technology knowledge, humanity attainment, and they toss them in the mix.

Establishment of a Case Base for Engineering Students

Case library is a teaching aid as a bridge to connect with theoretical knowledge and social practice. Implementing case teaching method can not only stimulate student’ learning desire and invigorate the atmosphere, but also break through cramming system. In the course of case teaching, as for teacher, it is essential to know, at first, how to analyze the hot issues. Secondly, on the basis of the original teaching case, construct the teaching case base of “Management Basis” and increase the vivid image of the video case. Furthermore, the paper suggests that improve the management
system of the case base and equip the case discussion facilities. Finally, for teacher, should be strengthened the training of the teaching, so as to conducive to select targeted and rooted in the local cases.

**Improving Content, Increasing Information and Knowledge Management**

Knowledge management is the inevitable result of information management adapting to the development of knowledge economy, knowledge management is a new growth point in the development of information science. And carrying out knowledge management and promoting informatization construction, both are the requirement of society to enter into globalized economy. So the university should that the proportion of information resource management and knowledge management should be enlarged in the course of management Foundation. In author’s school, according to the features of engineering specialty and the demand of scientific research activities, has increased knowledge management, especially as the foundation of knowledge management--the content of information management.

**Grasping and Combining, Summarizing and Sublimating Chinese Management Culture Schools**

Although Chinese management thought culture is profound, it is still in the theoretical system construction stage. So the most important is to improve the understanding of the Chinese management culture, and then to thoroughly analyze and extract the general law of the management, and finally make the students of science and engineering learn the knowledge liking a sponge. On the other hand, time witnesses the development of management, and this era needs the Chinese School of Management. Thence, it is imperative of teacher to combine with the Chinese culture, modern management technology knowledge and the practice of Chinese enterprises, then expand science and engineering students’ horizons with Chinese humanities and inspire the humanistic feelings of modern management with Chinese ancient wisdom.

**Conclusion**

In this era of rapid development, the society is more desperate. Moreover, high quality compound management talents are urgently needed. In order to adapt to this great environment, it is urgent to reform the basic management teaching of science and engineering colleges, so that students can absorb the essence of management in a subtle way, and form a management theory system with Chinese characteristics. In a word, in order to promote the effect of basic management teaching, it is necessary to start with the teaching materials, teaching objectives, teaching content, teaching mode, assessment methods and so on, so as to explore the best methods and approaches. Taking the course of management basic course offered by engineering major of University of Electronic Science and Technology of China as an example, the researcher has made thorough research, exploration and practice, and has achieved substantial results to a certain extent. But we hope that the reform of management teaching can continue to be discovered and explored, and also the quality of teaching is further improved.

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