

The Positive Role of Competitive Consciousness in the Teaching Process of Energy and Power Engineering Specialty

Chaoyang Lu, Yanyan Jing, Danping Jiang, Yang Zhang, Zhiping Zhang, Yameng Li*

Key Laboratory of New Materials and Facilities for Rural Renewable Energy (Ministry of Agriculture and Rural Affairs of China), Henan Agricultural University, Zhengzhou 450002, China

DOI: 10.32629/jher.v3i3.829

Abstract: With the develop of the pluralistic and competitive society, the reform and thought of teaching model in high undergraduate education was investigated, which providing the development direction to explore and innovate the teaching model of undergraduates fundamentally. This article mainly presents the teaching ideas developing competition consciousness in combination with learning of Energy and Power Engineering majors against some problems in traditional high undergraduate education such as only led by teachers, the lack of class interaction, the decrease of student subjective initiatives and others. Not only stimulates it undergraduates to assimilate knowledge, attain fair competition space and develop competition consciousness sufficiently, but also it is benefit for students to play an important role in teaching and mobilizes the inherent motivation of students in maximum.

Keywords: competition consciousness, undergraduate phase, teaching combining with learning, exploration, revolution

1. Present situation of competitive consciousness in undergraduate course of Energy and Power Engineering

1.1 Single and lagging teaching model

It is counterproductive for education to utilize cramming method of teaching day after day, teach in a single and boring classroom and inculcate knowledge in one direction. Emphasizing on memory and directional thinking train is insufficient, which is lack of interaction in class. Teachers cannot attain feedback of students in a single teaching model by preaching courseware and textbooks. The closed and dull learning environment greatly reduces the result of students' independent exploration, cooperative communication and expanding their horizons, which gradually causes the decrease of interactivity, initiative and competitiveness in class.

1.2 Teachers occupy a dominant position in traditional teaching

Teachers considering the course progress as a mask to accomplish emphasize theory and neglect practice blindly based on teaching plan. Teachers and students only cooperate to complete the teaching plan, ignoring the design and expansion of teaching problems. In this process, the thinking about knowledge is ignored, which will cause some trouble to students' future development. With teaching as the leading role, students passively accept the fixed knowledge transmission from teachers, which makes students not understand the cutting-edge knowledge and relevant subject knowledge, and limits the breadth of knowledge that students acquire [1].

1.3 Limitation on studying

In traditional education, teachers have not instructed students, therefore it is difficult for students to react to examoriented education. They also blindly spend time and energy on mastering scoring skills, pursue high scores obstinately and ignore the accumulation of knowledge and practical operation. Students passively attain knowledge by learning mechanically, which results in that theoretical knowledge system divorcing from practical application is gradually weak. The mode of thought is solidified and the ability to think decreases. If things go on like this, nothing will be learned.

2. The role of developing competition consciousness in Energy and Power engineering study

2.1 Promote the reform of the teaching mode of Energy and Power engineering majors

Driven by competition consciousness the mode of competition in the classroom strongly stimulates students to inspire potentiality, which is favorable for broadening students' thought and impulse study interest. It is momentous for teachers to

choose an optimal topic, which stimulates students desire for champion, increases the participation and enthusiasm in class, and activates class. If that, students can master professional knowledge firmly in healthy competition. In the competitive classroom atmosphere, the teacher is the guide of the classroom, and the student is the leader of the classroom. They communicate with each other and class is more entertaining, opening, and more pluralistic [2].

2.2 Utilize the role of student subjectivity

Students who are lack of the development of thought and innovation listen to teachers blindly in the traditional class that is centered by teachers. When adds competition conscious, it is not only to teach singly. Students participate in discussion with their own opinions to claim personal thought. The same viewpoints can be discussed together, or different viewpoints can be agreed by discussion. The class full of competition conscious stimulates initiative and independence of students is centered by developing students ability, and this mode teachers and students interact together play a vital role in stimulating students objectivity, who also are enjoyable when study [3].

2.3 Enhance the synergy between individuals and teams

Whether individuals and team, the development of competition conscious play a conspicuous part. The best approaches are often the result of intense discussion and healthy competition. In the team, we must keep thought positive, connect with each other actively and make individual plan so that maximize the advantages of the team. The internal members of the team discuss with each other, exchange personal opinions, and continue to summarize and discuss, and optimize the plan. Communication in different teams promotes the expansion of each member's mind and enhances the overall strength of the team. In the competition which struggle with the outside, we can not only recognize the shortcomings of our own team in the competition with other teams, but also learn the advantages of others. In doing so, students can keep the transfer and feedback of knowledge in mind, penetrate the expansion of information into each other, realize the transfer and expansion of knowledge. And the strength of teams is achieved to progress synchronously [4].

3. The comprehensive response of stimulate innovate vitality and cultivate a competition conscious

3.1 Optimize the teaching mode

The cultivation of competition conscious requires teachers to prepare for relevant content in advance purposefully in the schedule of teaching and introduce the competition for teams, individual, and groups. And teachers ask questions frequently so that students can explore problems independently, stimulate classroom vitality and effectively improve the interaction between teachers and students. For the problems that need to be demonstrated and demonstrated, students should be given enough time to think and discuss. It is necessary to give comprehensive scoring between teachers and groups timely. Guiding students to develop independently, cooperatively, and sustainably is the basis for adding the competitive model into professional learning. In the survival of the fittest competition, the aim is to continuously improve students' abilities and continuously strengthen professional knowledge and skills.

3.2 Strengthen the combination of competition and competition consciousness

The knowledge of Energy and Power engineer majors is extensive extremely, and the relevant competitions are also numerous such as the Challenge Cup, Agricultural Building Environment and Energy Engineering Innovation and Entrepreneurship Competition and others. From enrollment, determining projects, conducting experiments, optimizing schemes to the final live reply in argument, every link is inseparable from thinking and competition. The work must be innovative and have sufficient advantages in competition with other teams. A lot of time and energy must be invested in the preliminary preparations. This requires students to have a strong foundation of professional knowledge and good psychological quality. When participating in the competition, not only requires it mastering solid professional knowledge and broadening their horizons, but also stimulates students' awareness of exploration and competition. And students establish the subconscious of competition unconsciously. As a result, students are stimulated innovative vitality and the players with strong competitiveness are cultivated to adapt to the future society.

3.3 Organize presentation activities

Universities should regularly organize publicity activities at different levels inside and outside the school. Students who have participated in the school are invited to share their experience in the competition. The participators truly understand the psychological problems in the competition and know the competition from that. In addition, the event organizers and winners will be invited to give lectures deeply to further understand the precautions in the competition and learn their thinking mode

and language expression. Students can learn about the cutting-edge knowledge of the competition in academic or a certain competition report meeting, which provides new ideas for undergraduates. And it is also conducive to shorten the distance between students and the competition, improve the participation rate, create a full participation environment and further improve the comprehensive quality.

3.4 Complete the management and appraisal system

The traditional teaching mode should be replaced by new mode combination the innovation competition credit with final exam, whose aim is to cultivate first-class innovative talents. The single corresponding mode is replaced by new mode that people are divided into different groups. Different majors are grouped together so that students can get more knowledge in the learning process and it also stimulates students' creative thinking vastly.

4. Conclusion

With the development of society, the reform of the undergraduate teaching mode of Energy and Power engineering is an inevitable result of disciplinary development. Cultivating competitive consciousness can promote professional teaching, effectively to change the undergraduate teaching mode, students to firmly grasp professional knowledge, which breaks the limitations of learning and realize teaching forwardly. Competition conscious is also conducive to improving students' comprehensive abilities such as learning independently, thinking actively, and developing innovatively. It is pivotal to cultivate competition conscious through changing the teaching mode, strengthen the development of competition conscious or organizing report. What the most important thing is knowing why developing a correct competition conscious and competing fairly.

Acknowledgments

The present study was financed by Higher education research project of Henan Higher Education Association (2021SXHLX142) and Research and practice project of education and teaching reform of Henan Agricultural University (2022XJGLX069).

References

- [1] J.Fong C, BizelleDillard J, MollyHatcher. Teaching self-efficacy of graduate student instructors: Exploring faculty motivation, perceptions of autonomy support, and undergraduate student engagement. *International Journal of Educational Research*. 2019;98:91-105.
- [2] Lu C, Jiang D, Zhang H, Zhang Z, Jing Y, Li Y, et al. Successful exploration of China's higher education teaching mode reform in COVID-19. *Journal of Educational Research and Policies*. 2021;3:110-113.
- [3] A.G.Nes A, JofridHøybakk, JaroslavZlamal, T.Solberg M. Mixed teaching methods focused on flipped classroom and digital unfolding case to enhance undergraduate nursing students' knowledge in nursing process. *International Journal of Educational Research*. 2021;109:101859.
- [4] Lu C, Zhang Z, Jiang D, Jing Y, Li Y, Zhang Q. Role Change of Postgraduates in China's Education System. *Journal of Higher Education Research*. 2021;2:145-149.