

Research and Practice of Classroom Revolution Based on "Four Learning" and "Five Education"

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Abstract. At present, higher vocational colleges are facing many challenges, such as the innovation of teaching technology, the adaptation of teaching content to industrial development, and the transformation of teaching mode. Deepening the "reform of teachers, teaching materials and teaching methods" and promoting the classroom revolution are the only way for higher vocational colleges to improve the quality of talent training under the background of "double high plan". Based on the main problems existing in the current classroom teaching in higher vocational colleges, this paper puts forward the implementation strategy of classroom revolution based on "four learning" and "five education" in higher vocational colleges, so as to effectively promote the overall improvement of the quality of talent training in higher vocational colleges.

Keywords: Classroom Revolution; "Four Learning"; "Five Education"; Student Evaluation.

1 Introduction

On September 8, 2017, Chen Baosheng wrote in "People's Daily": Strive to Run a Satisfactory Education for the People. The article points out that we should adhere to the connotative development, take quality as the lifeline of education, and adhere to the return to common sense, return to the duty, return to the original intention and return to the dream. We should deepen the reform of talent training mode and set off a classroom revolution. The concept of "classroom revolution" was put forward for the first time^[1]. In September 2020, the Ministry of Education and other nine departments issued the "Action Plan for Improving the Quality and Training of Vocational Education (2020-2023)", which proposed: "Promote the 'classroom revolution' of vocational schools, adapt to the diversified characteristics of students, and push the reform of curriculum teaching in depth. This points out the direction for the return of vocational education to the classroom^[2,3]. The classroom revolution of higher vocational education is the core of the teaching reform of higher vocational education, and it is also the starting point and foothold to enhance the adaptability of vocational education. At present, higher vocational colleges are facing many new challenges, such as the multi-source of students, the diversification of learning needs, the innovation of teaching technology, the adaptation of teaching content to industrial development, and the transformation of teaching mode. Deepening the "reform of teachers, teaching materials and teaching methods" and promoting the classroom revolution are the only way for higher vocational colleges to improve

the quality of talent training under the background of "double high plan"^[4]. Setting off a "classroom revolution" and carrying out effective classroom teaching reform will help to fully tap the potential ability of higher vocational students, focus on cultivating higher vocational students' professional quality, effectively improve the quality and effect of classroom teaching in higher vocational colleges, and then return to the essence of higher vocational education, reflecting the characteristics of higher vocational education^[5].

2 The main problems of higher vocational classroom teaching

The classroom is an important channel for "how to cultivate people". The effect of classroom teaching determines whether the goal of talent training can be achieved. However, there are still many problems in the reform of classroom teaching, such as the marginal, boring and inefficient classroom, the award of "away from the target", the curriculum reform of "not landing" and the quality of "not getting up" and so on^[6]. Therefore, the following problems need to be solved:

(1) First of all, it is necessary to solve the problem of teachers' insufficient understanding of classroom revolution and lack of motivation. Some teachers have insufficient understanding of classroom revolution and lack of motivation for teaching reform. They still focus on imparting theoretical knowledge and skill guidance, ignoring the subtle educational role of classroom teaching. The overall planning and design of the new type of teaching combining online and offline is insufficient, the role of the Internet has not been fully played, and the classroom teaching reform has not been implemented in depth^[7]. Teachers are the main implementers of curriculum teaching and the object and subject of classroom revolution. In order to effectively play the effect of classroom revolution reform, it is necessary to strengthen teacher training and establish a professional and innovative teaching staff.

(2) It is necessary to solve the problem of outdated and slow updating of teaching materials^[8]. At present, there are many problems in the curriculum of higher vocational colleges, such as insufficient digital resources, outdated teaching materials, slow updating, disconnection from the actual production of enterprises, non-standard selection, and lack of online and offline integrated teaching materials.

(3) The problem of insufficient information technology support needs to be solved. Informationization is the basic manifestation of classroom revolution. It is different from the traditional mode of offline courses, close to the online courses of distance education, and is a hybrid teaching mode of deep integration of online and offline. The rational allocation of online and offline teaching resources and the rational organization and arrangement of course content are the key links in the design and development of hybrid courses. In the course design, it is necessary to ensure that the two can complement each other's advantages, allocate reasonably, and maximize their respective characteristics and advantages.

(4) Finally, a problem that needs to be solved is that students' learning efficiency is not high. In the current higher vocational education environment, there are many problems in students' learning, such as weak learning initiative, poor classroom learning effect, insufficient learning ability, poor self-control, lack of innovation consciousness, weak professional awareness and career planning consciousness^[9]. Teachers need to divide learning groups according to specific

rules, so that students can cultivate their team consciousness and cooperative spirit while completing knowledge learning, improve their ability of communication and active learning, so as to stimulate students' enthusiasm for learning and improve students' learning efficiency.

3 The research path of "four learning" and "five education" classroom revolution

We construct a classroom teaching reform system based on the "four learning" model and the "five education" evaluation. It is necessary to reconstruct the curriculum system, construct curriculum resources, adjust teaching strategies and contents, improve teaching mode by means of information technology, and improve the teaching evaluation system.

3.1 Compile the overall plan of classroom revolution reform

The classroom is the main position of teaching reform, and it is particularly necessary to do a good job in the top-level design of the classroom. Based on the course major, the talent training program and curriculum system are optimized, the dynamic adjustment teaching module is created, the online and offline double-line parallel hybrid teaching mode is adopted, and the overall reform plan of classroom teaching is compiled^[10]. The implementation process is a progressive teaching design, which is divided into "publishing task objectives, knowledge and skills teaching, plan formulation, learning project implementation, achievement display, summary and evaluation". At the same time, with the help of digital learning platform, the teaching process is extended from pre-class to in-class and after-class.

3.2 Establish a structured team to implement "one lesson with multiple teachers"

Teachers are the designers, organizers, implementers, participants, and promoters of students' knowledge acquisition in the teaching process, and have an educational impact on students' knowledge, skills, thoughts, and morality. Teachers play a vital role in the process of education. Teachers must first complete the self-revolution in order to truly promote the revolution of learning^[11]. A structured team composed of enterprise tutors, famous teachers, senior technicians and teachers is formed. Based on the individual expertise of team members, we develop a "one lesson with multiple teachers" course teaching plan. The part with strong professional skills is completed by part-time teachers in enterprises, and the part with strong theory is completed by full-time teachers. Through the implementation of "multi-teacher class, relay teaching, teacher walking class", talents are trained.

3.3 Develop new teaching materials and establish an update mechanism

We deepen the cooperation between schools and enterprises, and continue to meet the needs of enterprises to compile new teaching materials such as new loose-leaf type and work manual type. New technologies, new processes and new norms are incorporated into the textbook to ensure its scientificity, forward-looking and adaptability, and to improve the fit between the content of the textbook and the actual work of the industry and enterprises^[12,13]. The construction of teaching materials and virtual simulation platform and other information-based teaching resources are combined to develop three-dimensional teaching resources that are mutually integrated and complementary. We make full use of "AR technology + teaching

materials", "information technology+ resources" and other means to create integrated online learning resources. In the presentation of teaching materials, the content should be updated in time to meet the needs of various teaching methods such as online and offline mixed teaching and online learning. At the same time, it is necessary to maintain that professional teaching materials can follow the development of the Internet, information technology and industrial technology upgrading, and improve and update these materials in time.

3.4 Practice the new teaching mode of "four learning"

Based on the "four learning" model of "pre-class self-study, in-class guidance, after-class supervision, and whole-process companion learning", the online and offline teaching content is reasonably arranged and refined, and the online and offline mixed teaching mode of innovation and diversification is promoted by hierarchical classification, so as to ensure the cross-complementation and deep integration of online and offline teaching links. According to time, it is divided into three stages : pre-class, in-class and after-class ; it is divided into online and offline directions according to space; according to the explanation of knowledge points, it is divided into three steps: teaching, internalization and externalization. We reconstruct the multi-dimensional teaching content, clarify the reasonable allocation proportion of online and offline teaching content, and truly realize the teaching according to their aptitude and the whole process of learning, so as to innovate the classroom teaching mode, break the limitation of time and space, and extend the classroom category. The classroom revolution "four learning" mode is shown in Figure 1.

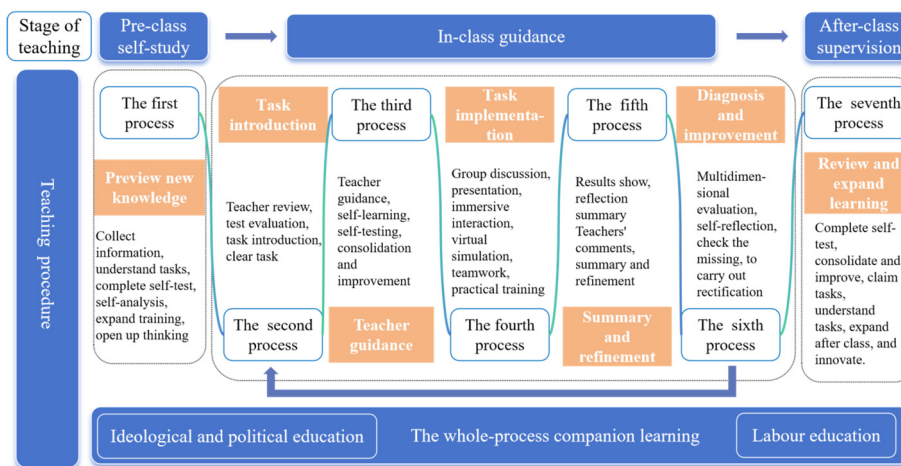


Figure 1. Classroom revolution "four learning" mode

3.5 Integrate professional quality and deepen curriculum ideological and political education

In view of the quality requirements of the positions that graduates are engaged in, we should pay attention to ideological and political education, excavate professional characteristics including professional feelings, professional quality, professional behavior, professional thinking, professional language and so on, and then excavate ideological and political elements from professional education objectives and professional characteristics. Through the

"three-style" education, we can experience it in the hand, infiltrate it in the brain, internalize it in the heart, and externalize it in the behavior, so as to deepen the ideological and political education in the curriculum.

3.6 Improve the learning platform and develop learning resources

We use advanced science and technology to develop a "fixed end + mobile end" digital learning platform, which can be used by teachers and students. With the main line of "integration of learning and doing, gradual improvement of ability", combined with the actual teaching needs, with the system and integrity of curriculum resources as the basic requirements, with the basic goal of rich resources and full opening and sharing, schools and enterprises cooperate to develop high-quality digital teaching resources for classroom revolution courses, and cover the whole course with granular digital resources such as animation and video. After the standardization of all resources, they are synchronously uploaded to the teaching platform, and the dynamic construction and update of curriculum resources are continuously carried out in the later period.

3.7 Construct the "five education" student evaluation system

We should adhere to the guiding ideology of "cultivating people with morality and five educations", deeply implement the "three complete education", formulate the implementation plan of student evaluation reform, and optimize the evaluation links of moral education, intellectual education, physical education, aesthetic education and labor education. We will earnestly guide students to strengthen their ideals and beliefs, cultivate patriotism, strengthen moral cultivation, increase knowledge and ability, scientifically evaluate the quality of student training, and strive to promote students' all-round development of morality, intelligence, physical fitness, aesthetics and labor. We construct the "first classroom+second classroom" student evaluation system, highlighting the "process evaluation+result evaluation+value-added evaluation". We design process evaluations such as self-evaluation, group evaluation, inter-group evaluation, and teacher evaluation before, during, and after class and summarize the final results of the course, the annual quality report, the status database, and the result evaluation of the third-party evaluation. According to the process evaluation data, the value-added rate of each student in each stage is calculated. By comparing the value-added situation of each student's quality goal, knowledge goal and ability goal, several students with higher value-added rate in each stage are selected. We pay attention to students' progress and realize value-added evaluation. The "five education" student evaluation system is shown in Figure 2.

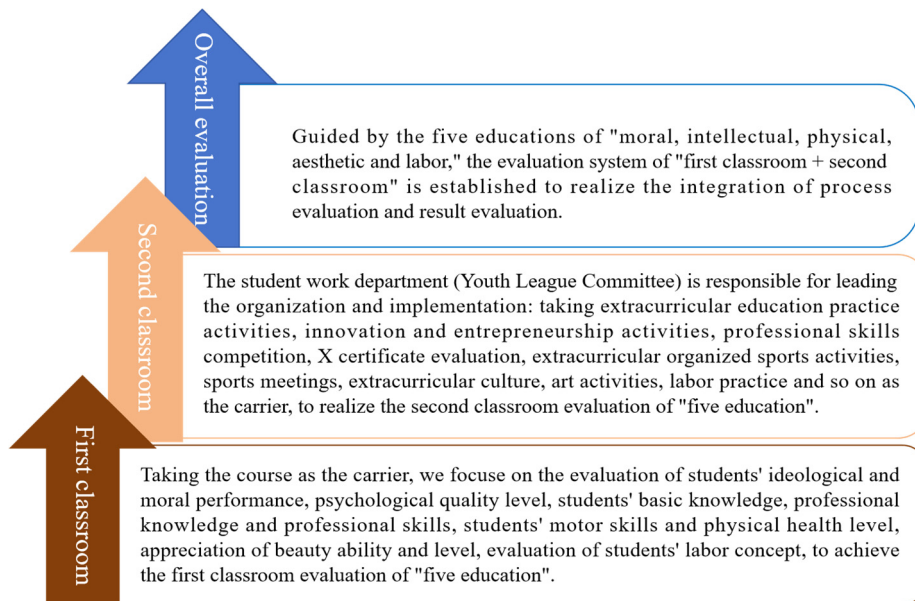


Figure 2. The "five education" student evaluation system

3.8 Form a demonstration case of classroom revolutionary teaching reform

From the classroom teaching practice, education and teaching research, the construction of school-enterprise cooperation teaching mode, and the evaluation of education and teaching effect, the rules of vocational education and students' learning are summarized. The teaching content should be systematized, structured, educated and learned, so that the reform of teaching methods can enter a cycle of continuous improvement, and a case with demonstration value can be formed for benign promotion, so as to escort the implementation of classroom revolution.

4 Reform results

In view of the major of power plant and power system in our school, we have compiled the overall plan of classroom teaching reform, built a fully functional digital learning platform for Shandong Electric Power College, constructed the "five education" evaluation system of "the first classroom + the second classroom", constructed the cooperative education mode of ideological and political courses and professional courses, constructed the new teaching material development mechanism of school-enterprise cooperation, created the "five hases" classroom of "classroom with motivation, education with means, teaching with objectives, communication with love, evaluation with standards", and promoted the "five revolutions" of "curriculum revolution, student status revolution, teacher role revolution, classroom organization revolution, multiple evaluation revolution" landing.

4.1 Promote the curriculum revolution

Through the integration of post, course, competition and certificate, the reconstruction of curriculum modules, and the compilation of worksheet-type loose-leaf textbooks, we have realized the projectization and modularization of curriculum, which is convenient for students to learn innovatively, conducive to expanding and innovating students' thinking, and promoting the implementation of curriculum revolution.

4.2 Promote the student status revolution

We have constructed a student-centered curriculum revolution, which enables students to change from passive recipients of knowledge to constructors of knowledge, promotes students to actively learn knowledge, makes the classroom student-centered, learning-oriented, and promotes the revolutionary landing of student status.

4.3 Promote the role revolution of teachers

The teacher is transformed from a teaching expert in the classroom to a guiding expert in the students, and the classroom is returned to the students, so that the role of the teacher is transformed from the leader of the classroom to the organizer of the classroom. At the same time, combined with "multi-teacher co-teaching, relay teaching, teacher walking", the teacher's role revolution is promoted.

4.4 Promote the classroom organization revolution

The organizer of the classroom has changed from teacher-centered to student-centered, and has become a classroom organization form for students to learn independently. It has cultivated students' ability to explore independently and study in groups, stimulated students' innovative ideas, and promoted the revolution of classroom organization.

4.5 Promote the multi-evaluation revolution

By reconstructing the evaluation system of "full-time, full-course and three-dimensional progress", the evaluation is changed from focusing on results to focusing on process. At the same time, the problems are analyzed and summarized in time, the list of problems is given, the rectification plan is put forward, the curriculum diagnosis and improvement are realized, and the multi-evaluation revolution is promoted.

5 Conclusion

The classroom revolution is a subversive reform of the traditional classroom, a revolution of the mind, but also a revolution of behavior. It is directly related to the quality of higher vocational talents training, which is the key to cultivate high-quality technical and skilled talents needed by industries and enterprises. Through the classroom revolution, we can clarify the role of schools, enterprises, teachers, students and other subjects in classroom teaching, and work together to carry out revolutionary innovation and exploration. Through the effective implementation of the comprehensive reform of management mechanism, talent training program, teaching object, learning environment, learning resources, teachers, teaching materials and teaching methods, we can provide personalized, diversified and high-quality

education services for students of different levels, different types and different characteristics, and promote students' active learning, release potential and all-round development.

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