Dialectical unity of teaching and learning - research on the path of "teachers, teaching materials and teaching methods" reforms in Higher Vocational Colleges

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Abstract. By solving the problems of "who will teach", "what to teach" and "how to teach", we can respond to the problems of "who will learn", "what to learn" and "how to learn". In view of the problems, higher vocational colleges should build a community of teacher-student development, then develop teaching materials close to learning needs and explore teaching methods to help students construct independently, as well as promoting "understanding students, supporting learning, and improving students' academic abilities" with "teachers, teaching materials and teaching methods", so as to realize the dialectical unity of teaching and learning and further improve the quality of education and teaching.

Keywords: higher vocational education; "teachers, teaching materials and teaching methods" reform; teachers; teaching materials; teaching method

1. Dialectical unity of teaching and learning: the internal logic of the reform of "teachers, teaching materials and teaching methods"

"Learning and teaching would be the technical core of all schools." In order to achieve results in the reform of teachers, teaching materials and teaching methods, we need to promote the dialectical unity of teaching and learning. The three elements in the "teachers, teaching materials and teaching methods" reform complement each other, as well as having a certain systematicness and unity, and there are thousands of connections between them. Then teachers are the premise of implementing the reform of "teachers, teaching materials and teaching methods" and the designer and executor of teaching materials and teaching methods. Only by building a scientific and reasonable teacher team can we design and implement teaching materials and teaching methods that meet the requirements of the current vocational reform. Moreover, teaching materials would be not only the result of teaching designs, but also an important auxiliary resource in the teaching process. They organically connect the teaching activities of teachers and students, and can guide teachers and students to teach and learn efficiently. In addition, teaching method is the core of educational activities in vocational schools. It is the strategy and method used by teachers in the process of implementing teaching materials. What’s more, it is also the means to display the achievements of reform of teachers and teaching materials. Whether its methods and means are reasonable or not directly affects the quality of curriculum teaching. And the effectiveness is the key to the success of the "teachers, teaching materials and teaching methods" reform. In the process of implementing the "teachers, teaching materials and teaching methods" reform, we should coordinate the planning and design of the three, integrate the three together for construction and implementation, and realize the scientificity, practicability and feasibility of talent training, so as to improve the quality of talent training.

2. The practical problems of the reform

2.1 Reforms of teachers

In order to achieve high-quality development of higher vocational education, the construction of high-level teachers is particularly important. Nowadays, at the entrance of teacher recruitment, higher vocational colleges have strict requirements for teachers' academic threshold and academic level,
resulting in the introduction of most teachers from school to school and lack of front-line practical experience in industry and enterprises. In addition, colleges have no planning for the career development of new teachers, and have not formed a systematic training system, resulting in the unclear goal of teachers' development. Moreover, colleges generally pour more attention into introduction of teachers rather than training of students. And the teachers’ knowledge and reserves of skill have not been updated in time, giving rise to the disconnection between the teaching content and the actual work.

2.2 Reforms of teaching materials

As an important carrier of curriculum teaching, teaching materials play an important role in improving the quality of talent training. At present, there are the following problems in the construction of teaching materials in higher vocational colleges. First of all, the content of the textbook is not compiled in combination with the actual production of the enterprise. Secondly, the updating of teaching materials lags behind, and the new technologies, new processes and new norms of the industry would be not reflected in the teaching materials in time. Moreover, in the process of compiling teaching materials, there is no connection between industry and certification of vocational qualification standards. Finally, teachers in vocational colleges are lack of unified planning and audit, and the quality of textbook compilation can not be guaranteed.

2.3 Reforms of teaching methods

In order to achieve the training goal of technical skilled talents and effectively connect the talent training of Higher Vocational Colleges with the actual demand of work, it is imperative to reform the traditional mode of teaching. At present, in the process of implementing teaching method reform in higher vocational colleges, some teachers still focus on the teaching of theoretical knowledge in the teaching process. Secondly, under the background of diversified students, the analysis of learning situation in the teaching process is not deep enough, and the grasp of the characteristics of students and the law of teaching of education is not in place, and the reform and innovation of education and the teaching mode is not timely, which affects the teaching effect to a certain extent. In addition, some higher vocational colleges have backward methods and fail to integrate the new generation of information technology into the reform and innovation of teaching mode in time, which can not meet the diversified and personalized needs of students. Finally, there is no clear index of evaluation for the evaluation of teaching methods and teaching effects. Teachers' weak awareness of quality, inadequate teaching norms and inadequate monitoring make it difficult to implement the reform of teaching methods.

3. The relations of "teachers, teaching materials and teaching methods" and "understanding students, supporting learning, and improving students' academic abilities"

3.1 Strengthening the development community of teachers and students

Vocational education puts forward clear requirements for "who will train people". Teachers are the organizers of educational and teaching activities and play a leading role in the whole educational and teaching activities. At present, most of the teachers in higher vocational schools are trained by general higher education and normal education. These teachers have been engaged in classroom theoretical teaching for a long time, lack of enterprise background and practical experience, and their professional skills are far from meeting the needs of the development of practical teaching. This poses a severe challenge to the construction of teachers in higher vocational colleges, which requires vocational colleges to strengthen the contact and interaction with industries and enterprises to form a professional team of teachers. The team of teachers should build a professional team composed of industrial tutors, famous teachers and technical masters. The industrial tutor is appointed by senior
technical talents of the industry and enterprises. Then, famous teachers select young teachers with
good teaching reform and innovation ability from the backbone teachers in Higher Vocational
Colleges for key training. For teachers who have participated in skill competitions and won the first
prize of provincial competitions, or teachers who have guided students to participate in skill
competitions and won more than the first prize of provincial competitions, a famous teacher studio
shall be established to make them excellent famous teachers. The master of technical skills selects
excellent young teachers with good technical skills from the backbone teachers, and takes part in the
production practice and technological innovation of the enterprise by means of industrial tutors and
enterprise experts, so as to make them grow into masters of technical skills. In the process of
promoting teachers' reform, we should pay attention to improving teachers' comprehensive quality
from the aspects of teachers' professional ethics, teachers' teaching ability and the level of practical
application of various teaching methods.

3.2 Developing teaching materials close to various learning needs

Firstly, we should deepen the reform of Higher Vocational textbook compilation system and build
a diversified and open higher vocational textbook compilation system. On the one hand, when
establishing a textbook compilation team, China should strengthen cooperation with the industry,
jointly develop and compile higher vocational textbooks with higher vocational college teachers, as
well as realizing both theory and practice of content, and ensure effective connection with industrial
needs. On the other hand, we should actively adopt the methods of service purchase and bidding
to determine the compilation unit, together with attracting more qualified, professional and experienced
publishing institutions to participate in the compilation of higher vocational teaching materials, and
enrich the contents and forms of teaching materials.

Secondly, we need to implement the construction project of high-quality teaching materials in
higher vocational colleges, and create a number of high-quality library of teaching materials in higher
vocational colleges. In terms of specific implementation, the ministry of education can take the lead
in organizing domestic high-quality higher vocational colleges to jointly establish a national high-
quality teaching material preparation department, and transfer experts and scholars from higher
vocational education circles to establish preparation teams for various subjects according to discipline
classification. At the same time, through the recommendation of local governments and higher
vocational colleges, we can attract senior people in the industry and senior technicians of enterprises
to participate in the compilation of high-quality teaching materials in higher vocational education, so
as to concentrate the strength of national higher vocational education and industry and enterprises to
jointly create a number of high-quality teaching materials with the combination of theory and practice
and novel content.

Finally, we should establish the mechanism of survival of the fittest and promote the selection of
higher vocational teaching materials. Specifically, higher vocational colleges should formulate
systematic and perfect standards for the selection of teaching materials according to the professional
curriculum standards and the training requirements of high-quality technical and skilled talents and
the needs of skills of industrial production. Secondly, on the one hand, we should establish rules and
regulations for teachers and students to participate in the selection of teaching materials, on the other
hand, we should expand the scope of the selection of teaching materials, which should not be limited
to the teaching materials prepared by cooperative units. Thirdly, we should establish a dynamic
adjustment mechanism and efficiency monitoring as well as the evaluation system for the selection
of teaching materials, and regularly investigate and evaluate the teaching effectiveness and usage
response of professional materials after entering the classroom, so as to ensure that inferior teaching
materials are cleared in time and high-quality teaching materials can be retained.
3.3 Exploring teaching methods that help students construct independently

3.3.1 Constructing a student-centered classroom model

We ought to effectively promote classroom reform and cultivate students' learning interest and autonomous learning ability. The classroom should not be a one-way transmission of knowledge and theory, but guide students to improve ability of their autonomy. What’s more, students enter the classroom with problems, also interact with teachers in the classroom, then discuss problems openly, and solve problems together, together with creating a good learning atmosphere and giving full play to the educational effect of the environment.

3.3.2 Expanding new horizons of online classroom

In the Internet + era, we should make full use of information means and online teaching resources. During the epidemic period, many schools can not start school as scheduled, and the importance of online resources highlights. In the post epidemic era, we should gradually improve online teaching resources, enrich students' learning ways and means, and facilitate students' autonomous learning.

3.3.3 Giving full play to the main role of skill training of enterprises

Last but not least, we need to strengthen cooperation with enterprises, together with giving full play to the main role of enterprises in skill training, and make craftsmen participate in school teaching through class cooperation, so as to cultivate students' practical ability and improve practical abilities.

In short, teaching and learning complement each other and are dialectically unified. The fundamental task of implementing the reform of "teachers, teaching materials and teaching methods" is to establish morality, cultivate people, and cultivate high-quality workers and technical and skilled talents. Teachers are the main body and shoulder the important tasks of curriculum construction, the reform and talent training. Textbook is the carrier, which directly reflects and transmits the latest achievements of curriculum construction and teaching reform. Teaching method is the path, which highlights the reform and innovation of teaching methods and means, and the ultimate goal is to improve the quality of talent training. To truly implement the reform in practice, we need to run through not only the whole process of "teaching", but also the whole process of "learning". We must focus on the dialectical and unified relationship between teaching and learning, move down the reform focus synchronously, and explore the realistic path of "teachers, teaching materials and teaching methods" linking "understanding students, supporting learning, and improving students' academic abilities" (i.e. students, learning materials and learning methods), so as to further improve the quality of education and teaching.

Reference

