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The Research on the Program of Educational Technology Ability Building for Vocational Education Teachers

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Abstract

Modern educational technology ability is a very effective way to improve teaching efficiency and has become an important part of teacher training in most normal universities. Under the premise of the great development of vocational education, modern educational technology teaching to vocational teachers has become the general trend. Aiming at the characteristics of vocational education, this paper brings up construction program of educational technology capacity for vocational education teachers to standardize the management of vocational teacher training efficiently and improve the teaching performance of vocational education.

Index Terms: Vocational Education; Teacher; Ability of educational technology

1. Introduction

Currently, the reform of vocational education in China is entering a new stage, and brings up a new higher requirement to the construction of vocational teaching staff for people's satisfaction. Teacher is the key to improving the quality of vocational education. It is impossible to have high-quality vocational education without a high-level team of teachers. Modern educational technology capacity, which has been widely appreciated, is a good way to improve teaching efficiency and has become an important means of conducting educational reform. "Standard of Educational Technology Ability for Primary and Secondary School Teachers (trial)" printed in December 2004 , has made a clear standard of educational technology ability which should be achieved by teaching staff, and the standard includes four aspects of consciousness and attitudes, knowledge and skills, application and innovation, and social responsibility, providing reference for educational technology ability training to primary and secondary school teachers[1]. As the vocational education for facing vocational training and cultivating professional and technical talents, it lacks the standards of educational technology ability and seriously delay the teaching reform of vocational education.

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2. THE STANDARD OF MODERN EDUCATIONAL TECHNOLOGY ABILITY

As an important part of teaching training, modern education technology ability has been widely valued, and the standards of educational technology ability for teachers have been introduced accordingly. Research in this area has been started in the United States long periods ago. International Society for Technology in Education (ISTE) has developed the first version of "National Educational Technology Standard for Teachers"(NETS). NETS has been widely used in the United States, especiallly in those nationwide universities, state educational departments and school districts. It has become the main guiding framework of application in teaching, mainly used for evaluation of teacher certification training and normal students. NETS focuses on examination of all aspects of teaching process and overall capacity of students, putting the evaluation of learning process and comprehensive ability in the first place, providing reference for the cultivation of educational technology ability of the teachers in our country. US Department of Education launched a large-scale financing project of technical education for pre-service teachers in 1999, namely the project of "Preparing Tomorrow's Teachers to Use Technology"（PT3）. It aims to encourage and support pre-service teachers to do innovative practice and speed up the training to meet the requirements of high-quality teachers in the information age. Since the implementation of the plan, it has financed more than 500 projects of educational application and training, and the grantees including colleges, universities, and pre-service teachers of various educational institutions at all levels. The number of teachers participating in the project reaches more than 50% of the total, and has received expected results[2].

With the advance of education information, China also strengthened the research and development of educational technology ability for teachers. On March1, 2002, the Ministry of Education issued views on promoting the development of education information for teachers and printed "Standard of Educational Technology Ability for Primary and Secondary School Teachers (trial)" in December 2004 and even launched "Plan Project of Teacher Education Technology Ability"(The plan of TETA) in April 2005. The trainings of educational technology for primary and secondary teachers have been in full swing, and so far, most primary and secondary teachers have received educational technology training[3].

3. THE NECESSITY OF EDUCATIONAL TECHNOLOGY ABILITY BUILDING FOR VOCATIONAL EDUCATION TEACHERS

In recent years, policies have been continually issued to support great development of vocational education. The enrollment scale of vocational education is continually expanded, and the number of vocational education has increased to more than 30 million, and qualified teachers are seriously lacked. Most teachers are from various levels and has not been trained professionally. Their teaching methods are backward and the levels of their teaching performance are low. Cultivating the high-quality vocational teachers is the premise of promoting the performance level of vocational education and is the core content of vocational education of the scientific development. There are some problems in the training of educational technology ability for vocational education teachers in China and are highlighted in the following aspects:

A.   *Lack of Understanding of Modern Educational Technology.*

Modern educational technology mainly plays a role of assisting and promoting instruction rather than a simple information technology course. Most training organizations still take modern educational technology training as simple information technology training, and only talk about software without method, mention technology without efficiency.

B.   *Acute Input-Output Contradiction*

Most vocational schools mainly raise funds by themselves and have little school funding. Due to the slow

effect in modern educational technology and the requirement of large investment in training and application, the contradiction between input and output has become prominent. But most leaders have not paid enough attention yet.

C.   *Diverse Sources of Vocational Education Teachers.*

Due to the speciality of vocational education, most vocational teachers are not normal school students and they often teach by feeling. For the characteristics of vocational education, Minister of Education encourages vocational schools to employ double-quality teacher and advanced technical personnel. While most of them lack of understanding of teaching methods and technology,   it is difficult for them to conduct teaching well.

D.   *Lack of Research on the Characteristics of Vocational Teacher Training.*

The cultural basis of the students in vocational education is relatively poor, so the focus of modern educational technology training should be different from the primary and secondary schools. Vocational teacher training should emphasises more on the training of educational technology ability in the professional competence teaching.

In order to promote the modernization of vocational education, improve the level of teaching performance, and attract the interest of the students in vocational education, improve the practical ability and innovative ability of vocational education students, it is necessary to establish a set of construction program of educational technology capacity for vocational education teachers, which is supervised and practical and will effectively regulate the management of vocational teaching, and improve the performance of vocational teacher training as well.

4. Ⅳ. THE PROGRAM OF EDUCATIONAL TECHNOLOGY ABILITY BUILDING FOR VOCATIONAL EDUCATION

In December 2006, Minister of Education brought up "Enhancement Program of The Quality of Secondary Vocational School Teachers", to promote the construction of teachers comprehensively. The major work includes (1) Training 150,000 professional backbone teacher in secondary vocational school by 2010. (2) Developing eighty training program, curriculum and teaching materials of professional teacher training by relying on the base of vocational education teachers of state key construction. (3) Supporting a number of secondary vocational schools to hire professional and technical personnel and highly skilled personnel to do part-time teaching[4]. As the training of information literacy, educational technology ability of improving educational performance level has not been specially mentioned in the target of training. As a national and provincial training base of secondary vocational teachers, our school has trained more than ten batches of secondary vocational teachers in the last three years. We have put the construction program of modern educational technology ability into the training program of vocational teachers in the training process, and have done the trial and reflection. It can be specified from the following aspects:

A.   *Target*

According to the guidance of scientific development and the characteristics of the production of educational goal, the practice of educational process, the vocation of educational content, we need to enhance modern education ideas of vocational school teachers from the start of training of educational technology level of teachers. Facing the professional development of teachers in the future and the sustainable development of vocational education, we should develop dual-qualified teachers for vocational education.

B.   Principle

1) Development

Third Plenary Session of the Sixteenth Party proposed the scientific concept of development of "Insisting on people-oriented, Establishing a comprehensive, coordinated and sustainable development, and Promoting full development of economical society and people". Vocational education needs development, but it is not enough by only relying on old technology and method. It is an urgent priority to cultivate and create a batch of secondary vocational high-level teachers of advanced educational thought, modern educational technology skills through linking up with the information society.

2) Operation

Vocational institutions in China often emphasis too much on theory, while practice and do little. Students can not immediately meet the job requirements, or simply can not be hands-on related technologies after induction. As a direct teaching on vocational technology educational teacher, it should focus on operation of teaching method and cultivation of practical ability.

3) Target

Vocational education teachers are adults and they have the characteristics of adult education. As teachers are in the atmosphere of respected by students, and their individual independence is strong, we need to pay attention to this point in the training. In addition, secondary vocational education is also currently opening up more channels, and adding a large number of professional technicians and highly skilled personnel as full-time and employed teachers. For this group of teachers,   it should be focused on the training methods and education philosophy.

C.   Method

1) Situation: By creating and using good training environment and technical usage environment, those trainees can personally feel the change of vocational education brought by technology. Due to the constraints of funds and venues, a perfect practice can't be provided during the teaching process of vocational education. So you can choose educational game or virtual laboratory for cultivating vocational ability, to expand teacher vision and ideas, and explore new ways of vocational education, improve vocational education students' enthusiasm.

2) Collaboration: The targets of vocational education teachers training always come from different regions and institutions, and have a different environment and background. Therefore, the application of collaborative learning will help exert the advantages of the trainees, and raise their enthusiasm. In connection with strength of vocational teacher training, the students can learn from each other to make a difference advantages, and maximize training efficiency.

3) Layering: The computer ability of teachers in vocational technology school varies greatly. Therefore, we need to make a diagnostic survey of participants' basis in the training, take the teaching way of hierarchical group in the teaching, and teach in group by arranging different levels of the task to students of different basis. Training focus will be put in the weaknesses of students during the usage of teaching software and information technology.

4) The Form of the Combination of Intense Training and Learning-Practice: The form aims at establishing integrated curriculum to combine the contents of intense training courses together and focusing on the result of practical exercises of students in the assessment. For example, we can put the assessment of teaching design and information quality courses into assessment of teaching software, and students can digest what they have learned to improve teaching results.

D.   Training Details

It shouldn't take too much time on the training of educational technology ability for vocational education teachers, but the results must be seen effectively. So the key point should be focused on what should be trained in a limited period of course. The following specific training programs are summed up during the course of training:

1) The Thought of Education and Teaching :   Grant a man a fish, it is better to teach him to fish. It is essential for them to develop the lifelong learning ability of vocational teachers and stimulate the ability of students' learning activity to have advanced teaching thought of education. Some teachers think vocational education is a simple skill training without any advanced teaching methods. Constructivism believes that knowledge is constructed by students, not simply obtained through the teaching of teacher. Due to the youth and strong plasticity of vocational education students, it is particularly important for training teachers to master creative thinking and good teaching methods to cultivate students' learning ability.

*2)Design Capacity of the Teaching Environment***:** Teaching design is one of the most important aspects in the process of education teaching. Though most of the traditional teaching designs spare no effort to teaching plans, the problem of how to rearrange the teaching process and rationalize the use of new teaching media has become an vital issue in the field of educational technology with the rapid development of information technology. It is necessary for teachers to transform the traditional thinking ways and redesign the teaching environment by using new ideas, new technology, and new ways to help vocational teachers teach in varieties of teaching styles and strategies, and help them combine practice teaching with daily teaching environment to cultivate the vocational ability of vocational education students.

*3) Information Retrieval and Communication Skills***:** Learning to learn is one of the necessary skills for talents in 21st century. Equipped with information literacy is the key for students to continue learning and develop lifelong learning skills in the complicated information world. It is necessary for teachers to be equipped with the ability and method of expertly obtaining and using teaching resources and actively use new technologies in different teaching situations to enhance students' future development. And it would be included in the construction program of educational technology ability[5].

*4)Reasonable Use of Teaching Software***:**   Most of the teachers participating the vocational training are equipped with basic skills to use the modern teaching media of computer and network. But those teachers usually lack the ability to appropriately and timely use the teaching media. The key point should be focused on the training scope and rational use of teaching software to improve teaching efficiency and attractiveness of the class.

*5) The Transform of Evaluation Model***:** The unwillingness of sending their children to vocational schools for many parents and the approval of some teachers invisibly affect those vocational students, generally make them feel inferior, and lack the motivation for study. During the training, we should strengthen the evaluation of technical information, guide teachers to take the new evaluation technology and methods, focus on the improvement of evaluation method, and operate the study of evaluation strategies, valuation tools, evaluation standards and gauge which are based on the technology, then, integrate them into educational process. The vocational teachers should also be approved to confirm the improvement of students' multi-capacity in the evaluation pattern of layering and multielement according to students' specific conditions.

Technology serves development. In the construction process of educational technology, we should constantly play an exemplary role, remind teachers of combining educational technology with specific courses, enhance integrated ability of modern educational technology and vocational course, and combine modern education technology with modern productive life to improve teaching efficiency, and promote vocational education fundamentally .

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