Research and Practice of Teaching Mode in Economics and Management Specialty

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Abstract. During the “twelfth five year plan” period, our school decides to realize the "two basic changes". One change is that our school’s position will be changed from the teaching type to the teaching research type; the other is to change the content from the outside to the inside. These two changes ask our professional foundations and professional course teaching to do homologous reform and innovation. For this, the writer combines with several years’ teaching experience and studies the merits and demerits of the current statistics teaching mode from the content of course, teaching method and practice teaching. Well, the writer also puts forward a corresponding reform suggestion from these aspects.

Introduction

With the accelerated pace of Chinese market, society’s demand for new knowledge is increasing step by step. Both the national economic management and companies’, personal management, investment and decision-making are much more dependent on DA as well as statistical methods. Statistical method has become an important method of scientific research in the field of management, economy, trade, finance, etc. In order to achieve this transformation earlier and make statistics better serve school’s scientific research work, it is imminent to explore new teaching mode.

The Definition of Teaching Mode

In foreign countries, it is American B. Joyce and M. Will who earliest studied teaching mode, and they published a book "the teaching mode" in 1972, which said: "Teaching mode is a kind of paradigm or plan to constitute the course and assignment, choose teaching materials, and prompt teacher activities." Today, the classic concept of teaching mode has been familiar to the majority of researches, well; it gradually comes down to "planning".

Professor Ye Lan of East China Normal University said: "Teaching mode is known as "the big method". It is not only a kind of teaching method, but also an operation style from teaching principle, teaching contents, teaching objectives, teaching process and the whole teaching organization. Meanwhile, this operation style is theoretical." Professor He Kekang put forward a new view about the definition of teaching mode: "Teaching mode belongs to the domain of teaching method and teaching strategy, however, it is not totally equal to teaching method or teaching strategy; teaching method or teaching strategy generally refers to use a single method or strategy during the teaching process. Well, teaching mode is two or more kinds of methods or strategies' stable combination and application."

The Reform of Statistics Teaching Mode

Ren Yiping (2012) proposed that it was indispensable to teach non statistics majors students statistics and she also emphasized the use of Excel in statistical jobs[1]; Chu Xu (2014) found that in the process of enterprise management, the effective use of statistical theory can improve the
management ability of the enterprise[2]; Luo Jinhua, Shan Qinqin, Wang Zhouhuo (2015) thought that it was important to improve the practice teaching quality of the course, to cultivate students' basic skills and to improve students' practical ability and innovation ability[3]; Hu Xiaowen (2015) proposed that Statistics was one of the core courses of economics and management specialty, based on the ability of training students to collect, display and analyze data, which can lay the foundation for the following courses[4]; Zheng Shuxia (2015) put forward that Statistics played an important role in the teaching system of economic management, but there were still many problems in the current teaching of statistics[5].

The factors in teaching process and the connection among each factor constitute a certain structure. Hence, this forms a kind of teaching mode. Teaching mode is generally composed of several basic elements, such as ideological guide, target, content, evaluation and so on. All the teaching modes have complete structure and mechanism. It will be one-sided for us to regard teaching content and teaching program as teaching mode. To this end, the writer plans to base on the teaching content, teaching methods and practical teaching to study the merits and demerits of statistical teaching mode, and then reforms from these aspects.

The Reform Content of Economics and Management Statistics’ Teaching Mode

Teaching Content

Statistics, as the basic course of economics and management specialty, compared with other economics and management specialties, like accounting, marketing, management, is still focused on the principles’ teaching on the undergraduate level. But as a method curriculum, the purpose of statistics teaching is not only to teach statistical theories and methods, but also to cultivate students' ability of statistical thinking and practical application. The goal of teaching content’s reform is to establish a teaching material system, which is based on the general statistical theory and descriptive statistics, meanwhile, takes inferential statistics and applied statistics priority. And it also ought to adapt to the undergraduate’s teaching material and add quantity research methods with specialty characteristics.

These days, there are mainly two parts in statistics teaching materials: descriptive statistics and inferential statistics. We ought to compress the teaching of descriptive statistics and highlight the key points. Due to the fact that this part is relatively simple and easy for students to understand, we can teach less about it. While teaching nothing about descriptive statistics is not correct, either. Because the content is the basic part of inferential statistics' learning. For instance, we should collect the sample data and measure the degree of its concentration and dispersion, in order that we can know the distribution pattern of the data. Then we should consider how to choose and select the number of samples, meanwhile, we can do some necessary preparation as well. It is indispensable to expand the method application of inferential statistics, because in actual work, most data we get is sample information, and it is more common and practical for us to use the sample data to explore the law of the whole quantity.

After 300 years' development, statistics has become a widely used multidisciplinary science. Statistics is to research specific quantity in different fields, and the statistical method contains mathematical statistics method, calculation method, and index method, etc. Well, teaching statistics also should be carried out in accordance with this method. Based on economics and management students’ different characteristics, teachers ought to select diverse teaching content and teaching cases. For example, we can emphasize the accounting method to economics major students, because the national economics accounting connects closely with the actual application; for finance major students, we should stress on teaching time series method, which is widely used in financial data. Meanwhile, we need to teach public finance major students index method and guide them to know how to apply it in social problems. Then, for management students, we can underline the method of sample survey and how to collect the right data.
**Teaching Method**

As we know, the statistical course is regarded as the most difficult one by students of economics and management specialty. Statistics connects a lot with mathematics and needs students to do many complex calculations. Therefore, teachers should know how to show the abstract and complex knowledge in a vivid way. It is very important for us to improve the teaching effect of statistics, and this requires the teacher to make corresponding adjustments in teaching method.

Teaching method can help teachers and students achieve the purpose of finishing the teaching content and completing the teaching task in the process of teaching. Teaching method is an activity that is guided by the teaching principle. It includes the methods of teachers’ teaching method and students’ learning method. Teaching method is the one that teachers can use it to help students both to master the knowledge and to obtain the physical and mental development. For this, teaching method’s reform goal is to introduce the multi-media teaching, some cases with professional characteristics and the software operation demonstration into class. This can reflect the characteristics of statistics so that students will feel statistics is much closer to our real life, although it has plenty of connect with abstract mathematics.

The teaching of "Statistics" involves a lot of algorithms and reasoning process’ demonstrations, while the traditional teaching method has many shortcomings, for instance, the performance form is relatively simple, the capacity of blackboard’s layout is limited, and the writing process is a kind of time waste. Thus, there are limits on the logical connection of teaching content, the amount of knowledge and etc. For this, we should use the modern teaching methods and introduce multi-media teaching into class. Meanwhile, it is better to for teachers to change their course content into the teaching course ware. And then we can use multi-media technology and projection technique to show all readers the content in a vivid way. Also we will easily connect one content to another and save writing time to increase the amount of teaching information. If teachers can add images, pictures, music, etc., we will greatly stimulate students' learning enthusiasm and improve the teaching effect. At present, because of the limited teaching conditions, not all the classrooms have multi-media; it is also hard for teachers to apply for classrooms with multi-media. So I hope the school facility can be improved as soon as possible. At the same time, teachers should have full preparation and design rich multi-media course ware in order to put it into use as soon as they can.

Using correct teaching cases can lead students to understand the basic theory, basic method and statistical thinking. For example, when we teach mass observation, we can introduce the case: a drop of water has no color, but tens of thousands of water forms the ocean, and it will be blue; the air is colorless, but the sky can be blue or navy; a new baby's sex does not have the law, but thousands of newborn babies will show the gender ratio of 14:13. This will make students feel the mass observation is really different from the law of large numbers. The mass observation uses a story to tell us “A random phenomenon is accidental and not stable, but a large number of random phenomena will show a regular”. Well, the law of large numbers uses a series of rigorous but boring mathematical symbols to express the same meaning. If we can effectively use teaching cases, statistics can be no longer boring, monotonous and difficult; it will become a vivid, interesting and simple symbol. This can not only teach students knowledge, cultivate the ability and improve their quality, but also strengthen their practical and other capacities. It truly reflects students’ main position in teaching process. Well, teaching will be not a simple lecture any longer, it is to explore, discuss and practice, and then teachers’ dominant position will be showed.

In addition, if the non-statistics major students do not have statistical course experiment, it will be more important for teachers to use software to do some demonstrations in class. For instance, when we talk about the collation and display of statistical data, we ought to use a set of economic data to demonstrate how to use the software to divide them into groups and which graphics display is more suitable.
Practice Teaching

Practice teaching is that students take part in some practical work under teachers’ organization and guidance during the whole teaching process. It can help them use theory in practical work. And the purpose of practice teaching is to train students’ ability to analyze data, to solve specific problems, to strengthen their professional capacity and to train their practical ability. It can also combine theory with practice, well; the practice contains students’ personal practice and social reality. Practice teaching is an important part of personnel training, is an indispensable way to realize the coordinated development of human knowledge, ability and quality. It will improve students' practical ability and train their applied talents as well.

Through students’ research, most students hope “practical knowledge can be closely connected with professional theory; teachers ought to add practical parts and experiment analysis courses in class”. This shows that we really have a lot of work to do in practice teaching, but the practice teaching does not really need to go out of the school gate. Going out of school will cost plenty of money, and it does not have much effect and significance. According to the teaching contents and tasks, students can use the library, the Internet and other ways to collect the information and data. Then they are able to do class discussion, class demonstrative, case analysis, etc. After investigation, we should establish statistical teaching experiment bases, improve statistical analysis software and teach more experimental cases. Hence, we have to strengthen the practice teaching to cultivate students’ ability to solve practical problems and improve their comprehensive quality.

Statistics’ Teaching Mode Reform

The reform of statistics teaching mode has significant influence on statistics teaching to our school and even the whole country. These mainly reflect in the following aspects.

Firstly, it can change the teaching methods. We ought to combine the knowledge’s teaching and exploration in order to arouse students’ autonomous learning and stimulate students’ curiosity and creativity. All of these are the main goals of changing the teaching methods. For instance, it is better for us to apply modern teaching method and case teaching method to students. Then, students can become the master of learning, and it will also fully mobilize students’ enthusiasm, initiative and creativity.

Secondly, it can change a school’s function. Statistics’ teaching mode reform can direct the function changes among teaching, research and social services.

Thirdly, it is conducive to the cultivation of talents with innovative spirit and practical ability, and it can also promote the sustainable development of economic management talents. Through class discussion, practical training and practice on the computer, students will exercise their courage, broaden their horizon, learn professional knowledge and improve the comprehensive ability and comprehensive quality in order that they adapt to the market demand and better service to the local economic development.

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