

DIFFICULTIES AND MEASUREMENTS IN  
STATISTICAL CONTINUING EDUCATION IN CHINA

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*This paper analyzed the difficulties the statistical continuing education of China faced and suggested the measurements to perfect the statistical continuing education system.*

Statistical continuing education, is a kind of professional education to meet objective needs for adults after graduation from schools who are engaged in statistical professions. Generally, continued education covers academic education and non-academic education. However, only a few among those who have taken jobs have opportunities to enjoy a higher level of academic education. That is why this essay mainly discusses the statistical continuing education on non-academic aspects.

Continuing education is necessary in all fields. As to statistical work, continuing education is quite important not only because statistical data greatly influences national economy and people's life, but also because social development and human progress raise more and more requirements on statistical work, the statistical scope becomes wider and wider. These developments require statisticians are of competent knowledge and abilities and the key measurement to keep statisticians competent is to accept statistical continuing education. This is a virtuous circle in satisfying the social requirements for statisticians.

The establishment and improvement of a statistical continuing education system in one country, is closely dependent on its economic system, educational system, judicial system and so on. Developed countries like the United States, Canada and Germany, all have a long history in developing market economy. With strong economic powers, these governments are strict with statistical works, and have already established statistical continuing education systems with their own characteristics. However, as a developing country like China, who is at the economic transforming stage, market economy has not been established, statistical system not well-established, and imbalance exists in developments of different regions, statisticians differ much in working skills and abilities. The main difficulties in statistical continuing education in China are:

1. Statistical system and statistical administration system are not well established. After more than ten years of reform and opening, China has gained great achievements in

transforming to market economy, and made a basic progress in establishing a suitable national economy accounting system and modern statistical administration system. Even though, the statistical system and statistical administration system are far from well-established, statistical continuing education cannot be conducted in an ideal theory without considering current statistical system, it must be related with currently adopted statistical system, which requires the content of statistical continuing education be often updated to reflect the step-by-step improvement in the nation's statistical system and statistical administration system.

2. People lack knowledge in statistical education, and the government's financial supports are inadequate. Knowledge updates of statisticians have long been neglected in China. In another aspect, the government gives financial supports to specific statistical tasks while neglects financial support requirement in statistical continuing education.
3. Greatly differences exist in levels in skills and abilities of trainee statisticians. In China, the proportion of statisticians to the total population is extremely low, compared with developed countries and some other developing countries. However, the absolute number of statisticians is considerably great. Among them, especially those working in towns and counties, there are quite a lot who have not been systematically trained for professional statistical knowledge and skills. The quantity of statisticians with higher education takes no more than ten percent in all statisticians. The greatly different levels in skills and abilities of statisticians require statistical continuing education with appropriate content and methods for trainees from different areas, of different ages, with different education. This brings considerable difficulties for statistical continuing education.
4. The rapid development of computer hardware and software brings new challenges to statistical continuing education. In recent years, updates of computer technologies have been greatly quickened, which gives statistical information management more scientific and effective methods as well as new challenges to statistical continuing education. Upgrades of computer hardware, software and appearances of new software mean process of statistical data could be more efficient, which also mean more money shall be put in purchase and maintenance of computer equipment and software for statistical continuing education organizations. As a world trend, the upgrade cycles of computer hardware and software have been shortened and

shortened, which requires the training cycle of statistical continuing education be shortened accordingly.

Facing with many difficulties in statistical continuing education, what measurements should we take to ensure the progress in the development of statistical continuing education? We suggest currently take the following measurements:

1. Attention should be paid to make people aware of the importance of statistical continuing education, especially the government authorities should be aware of the importance of statistical works and according professional continuing education. On the one hand, we should put more efforts in publicizing that the statistical work is a fundamental work with great importance for national economy and people's life, that accurate and effective statistical figures could only be provided by well-trained statisticians. On the other, the importance of statistical works in supporting government's making policies and decisions shall be proved. By these efforts, people may be aware of the importance of statistical continuing education, and we can try to get more support in funds and policy from the government to meet the requirement of statistical continuing education.
2. Lawful supports should be provided for statistical continuing education. To meet social requirements for statistics and knowledge updates, statisticians must accept statistical continuing education training, at a training cycle of three to five years at least. The government should make laws in granting the collection of the training fees, to ensure the financial source for statistical continuing education. The Personnel Ministry and the State Statistics Bureau of China have jointly publicized the Provisional Regulations on Continuing Education for Statisticians in early 1997, in which it is stated that accepting statistical continuing education is an obligation as well as a right of statisticians, and is protected by state laws. The publicity of these provisional regulations makes a good beginning in providing lawful support for statistical continuing education.
3. For trainees from different areas, of different ages, with different education, appropriate training periods, training courses and training methods shall be adopted to ensure each one may attend suitable courses in accepting statistical

continuing education training in order that he may get what he need to be competent in his work.

4. Professional knowledge and skill tests, regular and irregular, shall be proposed for statisticians. Special attentions shall be paid to tests of new knowledge, new skills and computer applications. For those who regularly attend continuing education training courses and do a good job, salary promotions or awards shall be given, those who refuse to accept continuing education training courses and fails in these tests should be required to go off duty and accept training.
5. More efforts should be made in training of teachers for statistical continuing education. The government authorities shall give special funds annually for further training of teachers engaged in statistical continuing education. University students in statistics major should be encouraged to engage in statistical continuing education on graduation. Excellent statisticians should be selected to strengthen the teachers' team in statistical continuing education.

Statistical continuing education in China, is just like the economic development of China, is meeting with opportunities as well as challenges. We hope this International Statistical Education Conference will be a good chance in promoting the government authorities of China, all kinds of statistical continuing education organizations in China, and all Chinese statisticians to work together to make the statistical continuing education system of China approaching perfection day by day.