Research on the Reform of College Computer Education

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*Abstract-*With the development of information technology, the computers have been beneficial to all aspects of social life. Computer education has been largely improved, however, the current university computer teaching effect is not optimistic. This paper proposes some corresponding reform strategies for current problem existing in college computer education, to promote computer education toward healthy direction as well as to meet the higher society of computer professional requirements.

Keywords-college; computer education; reform

I. INTRODUCTION

College computer education is a kind of work with only beginning but no end. It needs all of our educators to emancipate the mind, to change concepts, to constantly open and to be with bold innovation, even to further raise awareness. The use of modern educational technology is to promote the reforms of entire basing computer teaching. This will make great contributions to effectively improving the level of students' practical application of computers. So education curriculum reform is the key to promote quality education to make a breakthrough by the government and the community concern and attention.

II. COMPUTER EDUCATION PROBLEMS OF HIGH SCHOOL IN CHINA

A. The uneven starting point of students' knowledge structure

Freshmen are from different learning environments, so they differ on basic computer mastery level. Some have mastered the basic operation of computers and networks in general use, and even many of the students will be some simple web page creation and animation design; there are a considerable part of the students come from relatively remote mountainous areas. They know very little of the computer because of the relatively poor learning environment, and they even cannot use the most basic office software. Therefore, college computer education is facing a big new challenge that whether teaching mode is following beginners model or non- beginners teaching model for the university computer educators.

B. Teaching content lagging behind social needs

The pace of development of computer technology is evident to all, but most of the college computer textbooks cannot keep up with the development of society. According to the survey, it was found that the core curriculum of computer application development software is also lagging behind others. Some textbook versions used by colleges are too old. While the principles in the new version are similar to that in the old version, older version features and special effects are obviously less than the new versions'. Because the old version is not perfect, here are many constraints to use.

C. The unreasonable curriculum

Many college students are complaining about the curriculum. They said the college's curriculum is much different from social needs, even out of touch with the needs of the community. Besides colleges are over confident in students' self-learning ability, so they put a lot of core courses completed by the students themselves. This leads the students completely in a state that they struggle alone, which seriously affects the students' interest in learning. This teaching method has both advantages and disadvantages. The advantage is that students have more freedom to choose by themselves according to their interests and hobbies, and it will not be too restrictive [1].The drawbacks are that students' basic learning will rely on the self-study. Some students are lack of scientific guidance in learning, so there will inevitably be a variety of problems.

D. Teaching philosophy of emphasis on the theoretical rather than practice

There is emphasis on theory rather than practice in much college computer education. Teachers pay no attention to awareness training of engineering and engineering practice. Undoubtedly, the theoretical basis is necessary condition to high-level computer professionals and computer band education, so we cannot ignore the practical computer technology itself. Computer science students cannot work as the architect designers or system analysts after graduation, which is obviously unrealistic. Because of financial constraints and many other factors, computer science students have too few opportunities to practice. Basic problems of practice have not yet been solved, so the operating abilities of students are far behind market demand.

E. Not perfect monitoring system without scientific

Monitoring of computer teaching, evaluation and management of operating system are not formed. There are excessive human factors but lack of quantitative analysis, besides it is arbitrary and subjective with too many qualitative conclusions. It is often to evaluate a course or a teacher by 1 to 2 sessions. Therefore, there is a chance and one-sidedness and it is lack of monitoring, evaluation and effects feedback. Because there is no system, teaching plans, teaching objectives and evaluation developed at the beginning of the semester are lack of monitoring and evaluation at the end. The evaluation of teaching effectiveness range is too small and too narrow, so it is not

really to take the manager, all teachers and students all included among the monitoring and evaluation, due to the lack of universality, integrity and scientific [2].

III. STRATEGIES OF COMPUTER EDUCATION REFORM IN CHINA

A. Differing in various student and teaching according to different individualized

Currently, the college computer teaching should take individualized, deepen reform of teaching content, and make the subsequent integration of professional courses. During the whole teaching process, the teachers should keep abreast of student learning state. They also should hold a basic computer knowledge test for new university students, and teach at different depths respectively, based on the students' actual level. That is to say, they should organize tutoring with targeted goal, not engage in a unified teaching. The current public university computer courses request students not only to improve the mastery of basic knowledge, but also to meet the teaching and research needs of the creation of a common computer courses. At the same time, they should contact with the background of the convergence of computer professional courses. For different professions, teachers should adopt teaching at different levels according to the professional characteristics, in order to ensure that students follow professional learning and professional development needs.

B. Reforming curriculum and putting emphasis on logical thinking ability

Mathematics and English are required to master basic computer personnel skills. As we all know, computer technology originated in western developed countries. Nowadays, important core idea of the monograph of computer language, computer systems and computer methods are based on English. Colleges and universities should set up computer Mathematics and computer English curriculums for freshman students aiming at their professional core curriculums, targeting to improve students' basic learning skills and lay a solid foundation for after professional learning. Computer hardware and software industry of China should participate in international competition and form outward export-oriented industries. So foreign language level and computer professional math standard must be improved to some extent.

C. Teaching methods and course content in parallel reform

Teachers should let students take simulation training in schools under limited conditions to improve their operating ability; In addition, various professional courses should be found an appropriate breakthrough for the introduction of a large number of community resources, for instance graphic design courses. Professional teachers should be encouraged to take some company holding the outside tender in the classroom training courses as task, so that students will be from the classroom to the spirits reality [3]. We also should allow students to participate in more provincial and national competitions to find their own position at the same level in the competition as well as strengthen their practical ability.

D. Strengthening the construction of hardware, software and professional faculty

Updates of computer hardware and software can be described as changing day by day. Teaching power and level of teachers should increase with learning. In order to better equip students with the most frontier computer technology, colleges and universities should strengthen the construction of computer software and hardware, as well as attach great importance to the training of teachers' teaching ability. Firstly, the computer materials and ancillary equipment of colleges and universities should be updated, and colleges should spare no effort to let students learn the latest knowledge. Secondly, the construction of computer labs should be strengthened, and in terms of computer experiment targeted, advanced equipment should be purchased, so that students will have enough practical surroundings to improve their practical ability and innovative ability. Thirdly, computer teachers should be sent to professional business or authority training at regular time to enhance teachers' power, so that students can have a better scientific guidance, as well as ensure the quality of teaching and enhance students' learning confidence.

E. Improving system of teaching quality guaranteed

In order to ensure public computer teaching quality, colleges should build teaching quality guarantee system taking stable policy support as the core, from the teaching objectives, the teachers' optimization, the process of teaching, the experimental teaching methods and the assessment of implementation of other aspects. Countries or universities should develop uniform quality assurance standards, and make it computer teaching basis. Encouraging teachers to actively carry out teaching reform research and promoting the exploration of a good experience can not only meet the teaching needs, but also encourage teachers to actively participate in teaching reform. Student credits and project implementation capabilities will be hooked with computer skills certification. Students should be encouraged to accomplish computer ongoing involvement in public courses during the time in school by the way of compulsory& elective, as well as complete the practical project related and the ability to obtain the relevant certificate [4]. Universities should strengthen the regulatory process of computer teaching, focus on the preparation of teachers, speaking, batching, auxiliary, change, test and other aspects of monitoring, enhance their sense of responsibility and improve teaching quality. Especially strengthening the supervision of theoretical teaching and experimental teaching process, such as organizing teachers in listening, observation and evaluation, and research activities, teaching process in a targeted manner can solve the problems and deficiencies, so as to improve the effectiveness of classroom teaching. Organizing experimental teaching demonstration activities and exchanging of experimental teaching experience can help to build up experimental teaching exchange platforms.

IV. CONCLUSION

With the adjustment of economic structure, China's undertakings need a large number of highly qualified computer professionals. This requires computer science students to put a focus on broadening and deepening the foundation, and even improving the innovation ability and practical ability dominated overall quality. That will be a wide and multi-level adaptation. In order to achieve a comprehensive upgrade of the teaching quality, we can learn from the experience of international popular IT training programs, for direct introduction of the teaching process as well as develop international trade, business and practical talents.

R<small>EFERENCE</small>

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