Applying humanistic values to computer practical teaching for quality education

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ABSTRACT: The work reported here proposes teaching reform that is people-oriented, and which starts from a clearly defined objective that leads to reform. During the process of practical teaching, the ability of the students was found to be poor, which was largely due to the lack of humanistic values related to ideology, ethics and culture. Outlined in this article is an exploration that was carried out into the humanistic connotation of computer practical teaching, resulting in the humanistic education's fusion with computer practical teaching. In this way, the cultural attainment of students is promoted while, at the same time, a positive interaction between teachers and students is built.

INTRODUCTION

The rapid development of higher education in China provides a large number of technologically skilled graduates of high professional quality. At the same time, most college students do not have a high sense of humanity relating to ideology, ethics and culture.

The first task of a university is the training of students in a selected discipline. In a conference held to celebrate the 100th anniversary of Tsinghua University, Hu Jintao, President of the People's Republic of China, emphasised that the basic task of higher education is personnel training, and that the education should be people oriented. He also emphasised the priority of a ethical education, of enhancing students' sense of social responsibility, of an innovative enterprising spirit, and of a practical ability to solve problems.

With the rapid development and the wide application of computer science and technology, computers have penetrated into all aspects of education. At present, the construction of computer practical teaching centres is in the ascendancy and university education has moved in the direction of automation, networking and digital electronics.

Computer practical teaching is irreplaceable for college students' training [1]. Practice is a basic tool of study, and great attention is paid to it in science and technology. Practice is not limited to the natural sciences, as it is also important in the humanities.

However, in the process of practical teaching, the ability of many students under this study was found to be poor, which is largely due to a lack of humanistic values. Because they lacked the ideological motivation to explore unknown knowledge, the students were not willing to make an attempt. Now, an effort is made during the practical teaching to pass on humanistic values to the students, causing them to develop a deeper understanding and desire to explore and innovate.

PRACTICAL TEACHING

The Practical Teaching System

Computer science and technology changes rapidly, and practical teaching must be strengthened so that students can adapt to the needs of society. Teaching in the School emphasises the co-ordinated development of knowledge and practical ability. It is student-oriented, with practical ability as the main theme. The computer practical teaching system is built around the core principles of continuity, hierarchy, practice and innovation. The computer practical teaching system is shown in Figure 1.

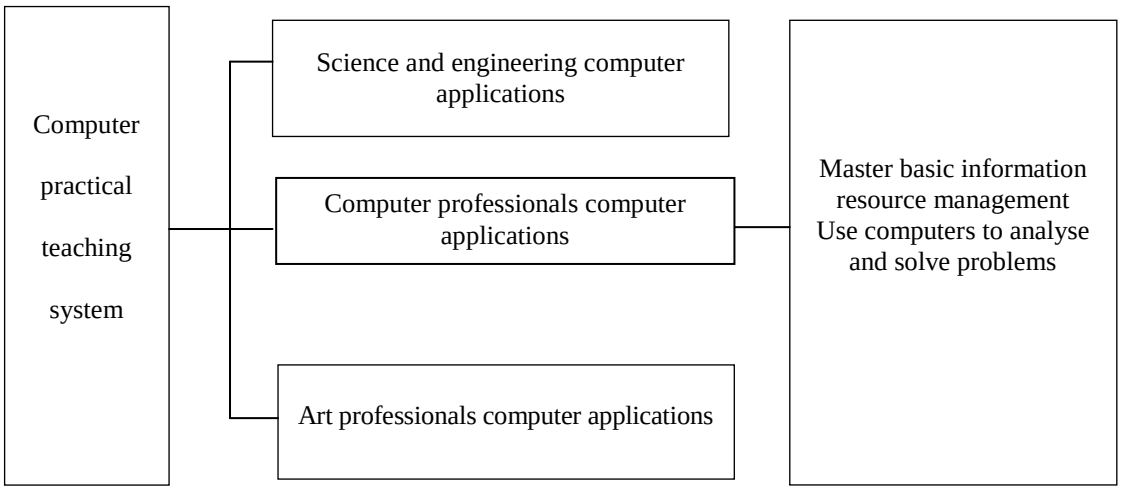

Figure 1: The computer practical teaching system.

The computer practical teaching system includes basic, innovation and design levels. The practical lessons are divided into mandatory and optional, which vary according to the level of the curriculum. The training is multistage and co-ordinated. Students are trained to master information resource management, to think logically, and to use computers to analyse and solve problems.

Practical teaching is used in basic training and it also improves innovative ability and exposes the students to new computer technology. At the same time, college students' extracurricular activities in science and technology are held, such as technology competitions, which encourage students to engage in scientific research and innovative activities. These enrich the teaching [2][3].

Present Situation in Computer Practical Teaching

Computer education is popular: university students are required to be computer literate and college students have an increasing thirst for knowledge about computers. Computer education for non-computer majors is not simple and as a field of learning is no longer satisfied, for example, by simply knowing how to use a word processor.

The national Ministry of Education has put forward training targets for non-computer professionals and a multi-module, three-level curriculum for teaching computing, with an emphasis on practical teaching. Teachers should design practical content according to cognitive theory and subject characteristics. However, in practice, it is hard to achieve the expected teaching effect.

Through observation and reflection of practical teaching, the following conclusions have been drawn [4]:

- Educators have an insufficient understanding of practical teaching. Many computer courses pay most attention to theory, with practical teaching playing a minor part. If the theory hours are not enough, then, the practical hours may be reduced.
- Capital inputs are inadequate. Computer education content gets updated involving a large number of new technologies, which need more practical equipment. Many experiments cannot be completed on a single device in a fixed place. There is a need to ensure the rational use of education funds and a proper rate of use of equipment to improve the teaching. This generates new requirements for investment in education and a practical management system.
- Teachers should not ignore young students' personality traits. The young college student has much energy and curiosity, but lacks patience. Because living costs are high, those with insufficient means tend to endure hardship and are fearful of hardships.
- There are differences between students' computer skills. Personal computers have been around for more than 20 years. Different regions of China have various degrees of development in computer education. Some students in elementary schools receive basic training in computers, while other students only began to use computers in college. This causes problems when setting teaching content.

The question is how to solve these problems and improve teaching. The above points, in addition to the investment problems, list many problems for education managers and educators, which require the importation of new teaching ideas.

THE PRESENT SITUATION OF QUALITY EDUCATION IN UNIVERSITIES

Development of Higher Education in China and the Connotation for Quality Education at Universities

In recent years, China's university education has undergone rapid development and is an indisputable success. But the emphasis has been on quantity rather than quality. On reflection, it was realised that Chinese higher education has many

bottlenecks and disadvantages. Higher education deviates from *quality education* as advocated by other countries. Higher education was too examination-oriented and ignored the cultivation of practical ability.

According to the national definition of quality education, there should not only be good theoretical and practical teaching, but attention should be paid to enhancing students' adaptation to market developments and the needs of modern society [5]. The basic aspects include:

- Ideological and ethical qualities: students should have a strong ability for political analysis, good professional ethics, be law-abiding, honest and trustworthy, as well as firmly dedicated to serving the people and winning honours for China.
- Cultural quality: students should be psychologically healthy, have good social adaptation, have wide knowledge and good cultural accomplishments, be good at communicating with people and have strong writing skills.
- Specialised quality: students through studying their specialty course, will have acquired all the abilities to equip and qualify them for employment.

Unfortunately, the vast majority of students failed to achieve the goal of a quality education.

The Problems of Quality Education at Universities

University education in China attaches great importance to established knowledge. There is a lack of innovation and there is not complete quality-oriented education. For a long time, Chinese students, under the constraints of examination-oriented traditional education from primary school to high school, have become accustomed to this type of education and so, it is difficult to change when they enter university.

Present university education is, to a great extent, the continuation of traditional education, with examination given priority and theory divorced from practice. Teaching content and methods are often backward while, at the same time, university curricula fail to develop the students' practical ability, preferring theory to practice. This approach does not develop actual work ability and also inadvertently cultivates a sense of superiority, which is damaging. Universities should reflect more market reality of the actual need for talent.

Many colleges and universities lack a guidance mechanism for students. Some students do not realise the seriousness and importance of learning, and pursue a *long live 60 minutes* saying. Students generally feel easy while at university, but the *easy to get, is less likely to be cherished* slogan often reflects their attitude. On the other hand, in today's rich social context, with unclear learning goals and incorrect learning methods, many college students become hedonistic, giving up the pursuit of ideals and aspirations, and abandoning the fine tradition of hard work and struggle.

In some universities, freshmen entrance education lacks an adequate introduction and guidance on the course, and social practice and employment. Increasingly, because of lack of awareness of the importance of study, students develop the habit of just accepting education, without understanding the importance of active learning, self-study and lifelong learning.

Students' practical ability is poor, given the examination-oriented education system. The main way of evaluation by examination, and traditional knowledge testing is by reciting knowledge, which can lead to the *final ball* phenomenon before examinations. Near the final examination, through rote memorisation, the examination may be passed, but in the end the students have not really learnt the skills of the course or how to find employment.

Examination-oriented education affects students and seriously violates the principle of quality education. Therefore, universities must reform examination-oriented education, strengthen the relationship between theory and practice, and strengthen students' practical ability, such as by internships, university community exercise and volunteer service.

BLENDING QUALITY EDUCATION WITH THE TEACHING OF COMPUTER PRACTICE

Blending humanistic values and quality education with computer practical teaching has advantages. In practical teaching, there is the educator and the educated, and the object of practical teaching - the computer. The computer can be considered an imitation of the human mind. This striking feature is different from other objects of practice [6].

Computer practical teaching is the process of human-computer interaction and human interaction, which can be viewed and understood from several aspects:

- The human-computer interaction: people through the input devices, such as mouse, keyboard and microphone complete the task of entering instructions and other inputs such as data. The computer acts according to the input instructions and feeds back the results to the user. The processing may need the user's continued participation. This process is called the human-computer interaction, but it is just one of the external relationships.
- The interpersonal interaction: the process of computer learning is a ternary system of learner, computer and educator. There is a relationship between the learners and the computer (including designer). In computer practical teaching, there is also a kind of thought interaction between the educator and the educated.

- This kind of teaching interaction is different from other categories of technology practical teaching, which is a stronger, more direct interaction between people's thoughts. The acquisition of knowledge covers the range, from software operational methods to highly abstract programming logic, and this constitutes the main body of the educational thought process. Eventually, the thinking mode of the students becomes a smooth, learning process.
- The externalisation of thought interaction with others: when learners generate the correct operating results or programmed system, their knowledge crystallises as perceived by others.

As stated earlier, the humanistic values include the grade of thought, ethics, cultural quality, aesthetic taste and other aspects. Admittedly, it is impossible to put the computer practical teaching into an art appreciation course or lectures on philosophy and aesthetics, but the computer practical teaching has good quality features, so it is not unrealistic to talk of practical teaching tasks being part of a quality education. Examples include:

- Cultural classics and history can be used as the content for practical material; thus, conveying the cultural knowledge behind the text to the students. This makes students review traditional history and culture in the process of operating a computer.
- To tackle a large topic, students can be divided into several groups, and consider the questions by decomposition, which promote students' thinking mode, communication ability and other non-intellectual qualities. In addition, because students tackle different parts, plagiarism can be minimised.
- For some design problems, educators can give students a classic design case to analyse, including, for example, the design of the audio-visual system and code. This will help students build up a strong aesthetic sense and logical analysis ability. Positive guidance can arouse a student's art consciousness, making them more active in learning about related works of art. Through studying classic program logic, students are helped in understanding computer language logic and, at the same time, they develop logical thinking.
- Consciously design a gradation of difficulty into the practical teaching. Guide students to ponder a problem from a different point of view and, in trying to seek the answer, they can experience the fun of realistic innovation.

Of course, this is just a superficial list and unavoidably there will be omissions, but it is useful attempt to promote humanistic practical teaching.

CONCLUSIONS

In recent years, China generally has improved quality education, with education departments at universities strengthening their quality education. Some humanities subjects are required for learning at some universities. This is positive, but could easily be a mere formality, if quality education returns to the traditional mode of teaching.

In this article, it was proposed that humanistic thought be put into the concrete operation of the design of computer practical teaching. This mode of practical teaching avoids biasing the students, and boosts a college's quality education. It helps students to perfect their personality and to build up a harmonious and ethical society.

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