Study on the Reform of Computer Practice Teaching

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Abstract. According to the current situation of computer practice teaching, the paper analyzed the problems and reasons of it, put forward the important meaning of the reform, proposed the reform measures of computer practice teaching basing on the actual need in teaching work. The measures will raise the students’ creative and practice abilities, promote the students adapt to the social requests, and help the students work and develop better.

Introduction
With the deep application of computer technology in various industries, the social demand for computer talents is raising gradually. Therefore, providing qualified computer talents for society and strengthening the cultivation of engineering practice ability and innovation quality, which is not only the target of the reform and development in high education, but also is the important direction of the computer profession’s construction and development.

Current Situation of Computer Practice Teaching
The computer teaching system includes theory and practice. According to the course, it often carries out the theory teaching first and then establishes some practice links based on the theory, to attain the purpose combining theory with practice. Finally, the students will be requested to accomplish the graduation designs, to raise the comprehensive character and creative ability. The students’ practice ability is tempered in university, but it is so weak that will not adapt to the society needs, because some enterprises need the graduates to deal with concrete work[1].

Current Problems of Computer Practice Teaching
The main reason of the students’ weak practice ability is that the computer practice teaching links have some problems in ordinary university.

Separated Course System
The practice links between before and after continued courses lack the necessary connection, it causes the computer course system separated. Such system makes the practice links be set up based on the corresponding theory knowledge, which ignores the intrinsic relations among computer courses, and leads to be difficult that the students will know and comprehend the design contents from system analysis angle.

Inadequate Practice Teaching Period
The ordinary university pays more attention to theory teaching than practice teaching, which cannot guarantee the quality of practice teaching. In the practice teaching arrangement, the experiments are more basic than comprehensive, which cannot produce the students’ comprehensive designing capability. The computer teachers are more following the reform of the theory teaching than the
practice teaching, they are seldom studying on the practice content and method, which cause it difficult for students to increase the working ability.

**Disjointed Relation between Teaching Content and Social Need**

For social need, the ordinary university often understands it by investigations or lectures or exchanging with each other. But the teachers only know the simple demand by these ways, which makes the students’ practice ability frail and not solve the complex problems in working. With the fast development of the scientific techniques, the computer knowledge is applied for different professional fields, it is appeared that interdisciplinary and cross-specialty need in society, but the students cannot complete the cross-specialty study and cannot suit for social need.

**Sort of Open Laboratory**

For the convenient management of laboratory, the ordinary university usually arranges the students to enter the laboratory during the class time, not leaving to enough time for practice. In the teaching method aspect, the teacher is the main body who controls all the teaching, and the students are passively studied knowledge, which causes the students’ interests of practice become lower and lower.

**Incomplete Practice Examining and Evaluating Mechanism**

The ordinary university attaches great importance to the theory examining, and the students’ score is evaluated also by the theory, the practice examining mechanism is kept optionally and randomly. The teacher of always gives the students’ practice score by attendance and practice report and answering questions. This evaluation easily defeats the students’ enthusiasm and activity. So it hinders the training for the practice ability.

**Meaning of Computer Practice Teaching Reform**

The excellent computer professional technique talents not only have strong theory foundation but also have abundant professional knowledge and innovative ability, at the same time they must receive engineering training and quality edification. The practice teaching is an important teaching link, which has a special role that not be replaced by theory teaching. If the ordinary university wants to foster practical graduate students, it should select reasonable teaching method and set up a feasible engineering practice system, so it will increase the students’ overall qualities and creative spirit and practice capacity. It is necessary for the teaching reform that the students will develop comprehensively and symmetrically.

**Measure of Computer Practice Teaching Reform**

**Build A Reasonable Practice Course System**[2]

The ordinary university should distinguish clearly the relation of theory knowledge and practice link, then we should divide the practice link into some different study directions according to the different study contents. It needs to plan entirely and integrate highly, design the relation between the global contents and the local contents, we should ensure the continuity and expansibility of the practice teaching.

Considering synthetically the cultivation goal and social need and subject advantage, we can build the practice system includes four levels of public foundation, professional core, professional direction and professional expansion.
Increase Practice Teaching Period\[3\]

The management of the ordinary university should pay enough attention to the practice course and allow the computer college to increase practice teaching period, which provides basic condition for students’ practice training. We should enlarge the proportion of the comprehensive experiments and the designing experiments, require all students to take part in all practice training until completing computer products. The management should install excitation mechanism properly, which can encourage teachers to follow the practice teaching and study relevant method deeply, to develop the students’ application ability.

Strengthen the Construction of Practice Teacher Ranks

The teachers’ practice teaching ability is the foundation and guarantee to develop the students’ applying ability, we should strengthen the construction of practice teacher ranks. On the one hand, the computer college should send the young teachers to enterprises for training, enhance the teachers’ skills, achieve the normalization of the teachers’ enterprise practice, promote the engineering level and service awareness of the teachers’ ranks. On the other hand, we can utilize the enterprises' experiment and superiority on new products and new technology, so the practice teaching soft and hard resource can be rich more and more.

Observe the Principle of Teaching Content Contacting with Social Need

With the market economy and the growing level of competition, the companies propose higher demands to computer technology persons who have multidisciplinary knowledge and good studying ability, and then they can cope with complex engineering questions. So we should observe the principle of teaching content contacting with social need in the practice teaching link.

The ordinary university should bring enterprise’s professionals into the class, they can help teachers and students to complete the practice teaching task, and they also make students understand the social need. The computer college should change the phenomenon of lagged practice content, increase enterprise’s surveying efforts and reasonably arrange the practice teaching content. The computer teachers must duly update the computer knowledge and promise students to study the new content, encourage them to study deeply in enterprises and institutions, thus to strengthen their practice innovating ability.

Increase the Open Laboratory Efficiency\[4\]

The computer college should increase the intensity of the open laboratory management and formulate the strict laboratory open archives. The archives need to be recorded at length and be easy to operate. According to the different study direction, profession or condition, the relevant department should add the number and category of open laboratory, so it can help students to finish different experimental content and satisfy enormously to apply the theory knowledge. We can construct the open practice teaching system, which includes three directions of hardware, software, network and three levels of basis, profession, application, such as Fig. 1 show.

![Open practice teaching system](image)

Figure 1. Open practice teaching system.
Simultaneously, according to the thread from basis to application, we can design the whole experiments system based on the theory teaching. Such as Fig. 2 shows.

![Diagram of Computer Practice Teaching System]

**Figure 2. Computer practice teaching system.**

The computer teachers should bring various science and technology competition into the practice link, let students cogitate on the question and test. When necessary we can raise the practice difficulty and thus to reach the goal of developing the students’ overall ability.

**Perfect Practice Examining and Evaluating Mechanism**[5]

The practice course teachers must carry the teaching reform. Based on different professional direction, the teachers should establish diverse reasonable examining mechanism, and they should check fairly the students’ practice score. In this way, the students’ practice interest and initiative is higher than before. In the process of examination, the teachers not only examine the students’ ability of designing and competing but also consider their capability of analysis and solving questions. Simultaneously, the teachers’ good or bad evaluation can inspire the student’s practice potential, which is worth adopting in teaching reform.

Moreover, it is necessary that the students will participate in the process of the practice teaching evaluation. The students study and promote with each other, they will obtain feedback information and learn a lesson and recognize the own knowledge degree. It is beneficial to improve the future practice for the students.
Conclusion

The computer talents’ cultivation needs set up reasonable practice teaching system, and we must ensure the teaching quality from many factors. The teaching reform should be paid more attention to practice than theory, and we must discuss the feasible measure and scheme, make great efforts to raise the computer professional talents’ innovation ability, provide the necessary guarantee conditions for cultivating engineering talents.

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References


