Retraction

Retraction: Research on Improving Computer Teaching Quality in Colleges and Universities in the Context of Big Data (J. Phys.: Conf. Ser. 1738 012049)

Published 16 September 2022

This article has been retracted by IOP Publishing following an allegation that raises concerns this article may have been created, manipulated, and/or sold by a commercial entity. In addition, IOP Publishing has seen no evidence that reliable peer review was conducted on this article, despite the clear standards expected of and communicated to conference organisers.

The authors of the article have been given opportunity to present evidence that they were the original and genuine creators of the work, however at the time of publication of this notice, IOP Publishing has not received any response. IOP Publishing has analysed the article and agrees there are enough indicators to cause serious doubts over the legitimacy of the work and agree this article should be retracted. The authors are encouraged to contact IOP Publishing Limited if they have any comments on this retraction.

Retraction published: 16 September 2022
Research on Improving Computer Teaching Quality in Colleges and Universities in the Context of Big Data

Wang Hong
Hospitality institute of Sanya
wang.hong@his.edu.cn

Abstract: With the continuous development of information technology, big data has entered all walks of life. As an important part of college education, computer teaching is very significant for enhancing students’ computer application ability and promoting comprehensive development. However, there are still many problems in actual computer teaching in Chinese colleges and universities, and the teaching effect is not ideal. Based on this, this article will discuss the characteristics of big data, analyze the problems in computer teaching in colleges and universities, and propose measures to improve the quality under the big data environment, hoping to have certain reference.

1. Introduction
Big data technology data covers a wide range and diverse data information, and its data update speed is fast. It is widely used in data information integration, analysis, and processing (as shown in figure 1). Computer teaching in colleges and universities should give full play to the advantages of big data, actively innovate and reform teaching methods, enrich computer teaching, expand teaching resources, provide students with high-quality learning resources, and effectively improve students’ computer application ability.

![The trend of computer application](image)

Figure 1. The trend of computer application
2. Characteristics of big data

2.1 The diversity
Under the environment of big data, the structure and source of data information have changed, and the data information has developed from a single structure to a diversified one in the form of video, audio, image, text, etc. These rich and diverse data information types lead to the pluralistic characteristics of big data.

2.2 Fastness
Under the environment of big data, information technology has also developed rapidly. People can understand data information more quickly, and it is updated faster and faster. People can obtain the latest data in time and the method has also changed. Valuable information can be found from a lot of data through multiple channels like Internet of Things technology, Internet technology, sensor technology, etc.

2.3 Dynamics
The data information has the dynamic characteristic. The cloud computing technology, the Internet technology and others cause the data information to increase unceasingly. The various kinds of data has formed the information network. The data information and the reserve present the dynamic development trend.

3. Problems in computer teaching in colleges

3.1 Single teaching method, outdated teaching
From the current status of computer teaching in colleges and universities, it can be found that many teachers have a single teaching method. This leads to the occurrence of problems such as low learning enthusiasm of students, low efficiency and difficulties for teachers to manage. Some teachers mainly impart theoretical knowledge to students, ignoring the students’ practical ability, and do not leave enough time to practice, resulting in students not understanding theoretical knowledge and reducing the quality of college computer teaching. In addition, the teaching is outdated after many years explaining the same knowledge. With the rapid development of Internet technology, a lot of knowledge has been updated and teachers have not noticed, resulting in a decrease in the quality of computer teaching.

3.2 Students have a poor foundation and do not focus on computer learning
In some colleges and universities, students have a poor foundation in computer learning and are not interested in learning the deep knowledge. Some students, having mastered the simple computer knowledge think that teachers’ explanations are meaningless and it is a waste of time. Many students just entering the university almost did not take the computer teaching in high school. No computer operation ability, professional knowledge is relatively dull and difficult. Students in a short period of time can’t really understand and master. It not only brings to the computer teaching difficulty but also hits the study enthusiasm. Loss of interest in computer learning seriously affects the college computer teaching level ascension.

3.3 Lack of hardware
Computer teaching in colleges and universities is more special. Students’ computer application ability needs to cooperate with the use of computers to get training. However, in view of the current situation of computer teaching in colleges and universities, students can only have access to computers during class. However, many colleges lack the hardware facilities for students to practice after class. In their spare time, they have no opportunities and facilities to practice, which will reduce the learning efficiency. In addition, there is a lack of communication between teachers and students. Some teachers
lack presentation in computer teaching. Many students’ mind will wander when teachers are not in the classroom, or even they will whisper and sleep, which will seriously affect the teaching effect of computer teaching.

4. Measures to improve the quality of computer teaching in universities

4.1 Improve and update the teaching and set up the course reasonably

The era of big data has entered new impetus into computer teaching in colleges and universities, which can effectively expand students’ learning and access to computer learning (see figure 2). To effectively improve the quality and level of computer teaching in colleges and universities, first of all, it is necessary to enrich and improve teaching, rationally set the sequence of courses, continuously innovate teaching methods, stimulate students’ interest in computer learning, and give students confidence in learning computers. Due to the rapid update, a new computer technology may appear every once in a while, so the computer teaching of colleges and universities needs to be updated continuously. From the perspective of social needs, it needs to enrich the computer teaching so that students can learn and master the current new computer knowledge and technology in a timely manner. Teachers need to design teaching courses scientifically and rationally, follow students’ cognitive rules, and lay a good foundation for computer learning, and then cultivate students’ computer application ability, and effectively promote the quality of computer teaching in colleges and universities as a whole.

For example, before developing professional computer knowledge, computer teachers should first help students to establish the relationship between professional computer knowledge and the public basic course they have learned before, and help students to change their thinking. It is necessary to lay a good foundation for the students set up computer courses in colleges and universities. It can first carry out courses such as computer introduction, computer architecture, computer composition principle, object-oriented programming language and so on. To avoid the computer courses that need good foundation such as Java language, web application development, database, Windows transformation and so on in freshmen and sophomores, and design computer teaching courses reasonably can lay a good learning foundation for students, build up computer learning confidence for students. For non-computer major students, such as traditional mechanical major students, they think that computer learning is not important. As long as they master rich knowledge, mechanical disciplines can meet the employment needs. In view of this situation, teachers should introduce knowledge related to mechanical drawing and CAD, let students pay attention to the study of computer courses, and improve the comprehensive quality of students.
teachers can introduce painting software, such as Photoshop, and animation design software, such as Flash in computer teaching. By integrating computer knowledge with professional knowledge, students’ professional quality can be improved and their comprehensive development can be promoted.

4.2 Adopt diversified teaching methods and focus on the cultivation of operational ability

Teachers can make full use of rich data and information resources, expand teaching resources, constantly innovate diversified teaching methods, stimulate students' interest in computer learning, create a good classroom atmosphere for students, and improve students’ learning enthusiasm. This subject of computer is different from other subjects, which pays more attention to the cultivation of students’ operational ability. Therefore, teachers should pay more attention to the cultivation of operational ability and link the theoretical knowledge with practical teaching to improve students’ computer application ability.

For example, teachers can use the big data to integrate practical information resources that can improve students’ practical ability, and give full play to the value to satisfy college students’ computer knowledge learning individual needs. Computer classrooms in colleges and universities should pay full attention to the cultivation of students’ computer practical operation ability, and more teaching equipment can be opened, so that students can also operate computers during class time. In computer teaching classrooms, teachers need to arrange teaching reasonably. They can use questioning methods to guide students to think, let students become the main body of the classroom, and divide students into study groups. For example, in the teaching of C language knowledge, teachers can design simple computer software programming, and let the group work together on the task. When all groups are completed, teachers need to evaluate the research results of the group and give appropriate guidance. In this way, it can not only improve the students’ dependent learning ability, but also allow students to learn from each other and make progress together. In the process of researching topics, students can cultivate their independent innovation ability, establish learning awareness, and improve students’ computer application ability. In addition, teachers can also reduce theoretical courses appropriately and increase the time to operate. Students only accept computer theoretical knowledge without hands-on operation, which will reduce the teaching efficiency of theory teaching, and students cannot understand. Through practical operation, students can have a more thorough understanding of theoretical knowledge and a deeper impression. The teacher in the computer teaching in the classroom can carry out computer knowledge contests, such as computer skills competition. It can enhance students’ competitive consciousness. The competition can see the gap with others, improve the enthusiasm of students and cultivate students’ innovative ability, improve the students’ practical ability. Teachers can make full use of the Internet era of big data technology, build a network learning platform, use social platforms, such as the WeChat, QQ. It regularly pushes computer courses, pays attention to the course of time and highlights the teaching emphasis, so that it can break the student to the computer learning space and time limit. The teacher can also have more opportunity to exchange and communicate with students, improving the quality of computer teaching in colleges and universities.

4.3 Establish an evaluation system of teaching quality to promote the comprehensiveness

With the deepening of China’s educational reform, higher requirements have been put forward for the quality of computer teaching. Colleges and universities can make full use of the convenience brought by big data to construct the evaluation system of computer teaching quality in colleges and universities, realize the goals of computer teaching, and promote the comprehensive development.

For example, it needs to determine the teachers and students as the object of computer teaching quality evaluation. According to the teacher’s teaching situation, the quality of teaching objectives and students’ computer application ability are needed in the assessment of teaching quality evaluation. Because each student is different, it can’t be their final exam scores as the only criteria. Teachers can be named by students in the classroom, quizzes, set up the mid-term examination and operation
practice ability appraisal and so on comprehensive evaluation of students’ learning situation, check students’ study effect. Teachers can timely modify and improve the quality of computer teaching in colleges and universities.

5. Conclusion
To sum up, the quality of computer teaching in colleges and universities is of great significance to the growth and development of students. With the development of big data era, computer teaching in colleges and universities should make positive changes. Teachers should actively innovate teaching methods, seize the psychological characteristics of college students, improve students’ attention to computer courses, give full play to the advantages of big data, and create a good computer learning atmosphere for students. In addition, colleges and universities need to constantly strengthen contacts and exchanges, exchange and share computer teaching methods, improve the level of computer teaching, provide the society with excellent computer application ability talents.

References:
[1] Du Chuanhu. 2018. Research on improving computer teaching quality in colleges and universities in the context of big data [J]. Modern Vocational Education, (20):78.
[2] Fu Mingli. 2020. Research on college computer teaching reform integrating CDIO education concept [J]. Science and Information Technology, (3):121.
[3] Wang Qi. 2020. Research on college computer teaching based on the cultivation of students’ innovation ability [J]. China-Arab Science and Technology Forum, (5):178-179.