Research on Teaching Method of Computer Application Course Based on Evidence-based Teaching Method

Yong He1,*, Yizhi Li2

1School of Preschool Education, Jiangxi Teachers College, China, 335000
2College of Internet of Things, Jiangxi Teachers College, China, 335000

*Corresponding author e-mail: hy15731555@163.com

Abstract. The basis of computer application is not only useful for office automation, but also useful for the study of cognitive disciplines. For example, if you learn how to surf the Internet, you will use network resources to collect Chinese extracurricular books and find relevant literature. The experimental research includes the design of questionnaire survey, the development of teaching practice, the collection and collation and analysis of experimental data. This paper demonstrates the effectiveness of evidence-based teaching in computer application experiment teaching through sufficient data.

Keywords: Evidence-based Teaching, Computer Application

1. Problems in the teaching of computer application course

Computer This course is a very important course in secondary vocational schools. Schools in different regions and with different conditions can appropriately increase or decrease the teaching content according to the actual situation of the school and the syllabus issued by the Ministry of education in 2009. This subject has become a compulsory course for all majors in secondary vocational schools. With the gradual improvement of the level of information technology, in addition to personal computers and electronic tablets, there are also smart phones, cloud desktop and other hardware innovation, rapid iteration. Resource platforms, systems, software, etc. have also undergone earth shaking changes, and the latest syllabus was introduced in 2009. Obviously, the syllabus is difficult to meet the needs of the times. It can be said that the teaching of computer application course is facing unprecedented challenges. [1]

Fortunately, the syllabus does not rigidly unify teaching materials and teaching methods, but leaves flexible space for educators. It is precisely because of this that secondary vocational schools do not restrict the teaching materials of this subject, and almost every school uses different teaching materials. From the current teaching state, teachers are not able to do what they want, and students are not interested in learning. As far as the current teaching mode is concerned, teachers mainly adopt the form
of practicing while speaking, practicing after speaking, and combining speaking with practice. Teachers lack passion, students lack goals, students can not use what they have learned in practice and life, can’t connect with other subjects; knowledge, and can’t combine with old knowledge, which leads to weariness of learning . Most of the students think that the purpose of studying the fundamentals of computer application is only to cope with the passing examination.

As a result, the computer application course is just a guide for preparing for the examination, and the teaching material is just a skill training manual. Even if the students have successfully obtained some certificate or qualification certificate, it is impossible to realize the effective integration of the course and other disciplines knowledge, and also can not achieve the effective improvement of learning information literacy and ability. Therefore, making the teaching of computer application more efficient is the first problem we must solve. (see figure 1)

![Computer application course](image)

**Figure 1.** Computer application course

### 2. New ideas brought by evidence-based teaching method

#### 2.1. Integrate the strategy

After evidence-based medicine has been highly recognized by the society, other areas of society also began to pay attention to the essence of evidence-based medicine, which is widely used in psychotherapy and other disciplines. The concept of evidence-based teaching was put forward for the first time in a report on education and teaching in 1990s. He believes that teaching strategies and medical strategies have a lot in common, and education and teaching should be supported by their own unique and objective evidence.

Computer application is a subject that attaches importance to practice and operation, and it is a science. Medicine is to solve the patients; pain and difficulties, and computer application teaching is to solve students; doubts and help them skillfully use computer tools to eliminate the difficulties in learning and working. The participants of teaching activities are teachers and students. Through the teaching activities, various information data are collected and the best teaching measures are extracted. The teaching of human centered computer application, like medicine, embodies science, art and operability.
2.2. The structure of evidence-based teaching is stable and practical

In the teaching syllabus of computer application, it is particularly emphasized that in classroom teaching, students should be given full play to the dominant position of students, so that students can consciously and actively participate in teaching activities, and give play to the leading role of teachers in teaching organization and teaching activities. Let teachers play a leading role in teaching design and teaching organization, and flexibly choose teaching plans, teaching methods and teaching strategies. Pay attention to the cultivation of students’ ability, emphasize the combination of "learning and doing", cultivate students’ practical ability and the ability to solve practical problems.

Evidence based teaching emphasizes teaching practice and helps teachers and educators to pay attention to the boundaries between various theories and different research methods. American scholar Geoff petty pointed out that many customary practices in teaching practice are adopted by most people, but they may not be the best and most effective methods.[6]Peidi further pointed out that, like the medical field, the teaching field should carefully and accurately apply the best teaching evidence (Theory) available at present, combined with the situation elements such as teachers’ personal knowledge structure, knowledge, teaching experience, students’ personality characteristics and students’ learning motivation, make accurate judgments, select the best teaching strategies and methods, and formulate specific teaching methods Case. Peidis’ teaching thought points out an easy way for teachers and educators. The concept of evidence-based teaching, just for secondary vocational school teachers to re-establish the concept of teaching and education, to cultivate students’ high-level thinking, comprehensive ability to contribute new ideas.

![Figure 2. Computer equipment](image)

3. Research meaning

Education is an important force that affects social culture, and its highest goal is to make a person develop and perfect. It will be the core idea to guide the teaching strategy to promote the learners’ learning initiative and the generation of their humanistic view, so as to promote the healthy growth of learners. Evidence based teaching is the product of evidence-based medicine and western educational scientization movement. It provides theoretical basis and practical guidance for teaching leaders and enriches the relevant theories and principles of education and teaching. Generally speaking, the research of this subject is an exploration with innovative significance and full of challenges, so this subject has certain research value.[4]
Evidence based teaching has not been put forward for a long time, and the relevant theories need to be improved, especially in the domestic education field has not been fully recognized and promoted. This topic is to carry out in-depth practical research on the basis of previous studies, and then promote the theoretical system to develop forward.

4. Research method

4.1. Literature research method

The method of literature research mainly refers to the method of collecting, identifying and sorting out documents, and forming a scientific understanding of facts through the study of documents. This research combines professional books, How Net database, network resources, expert exchanges and other channels to carry out the collection and learning of literature, systematically understand the relevant research at home and abroad, and accumulate a solid theoretical basis.

4.2. Experimental research method

Experimental research method refers to the method of adjusting certain research parameters or conditions to influence the research object, so as to explore the relationship between phenomena and reveal the law.

4.3. Questionnaire survey

Questionnaire survey method is a method that investigators use the designed questionnaire to understand the situation or seek opinions from the respondents. It is an empirical method in essence. It has similar logical procedure and content structure with many natural science methods. In order to fully understand the learning effect, this study adopts the method of distributing electronic questionnaire to let students participate in the research survey, so as to collect scientific data. In the specific implementation of the questionnaire survey, questionnaire star is an important tool to carry out the survey smoothly. Questionnaire star is the most commonly used electronic questionnaire. Its characteristics are paperless, multi-channel distribution easy statistics, visualization and so on. (see figure 3)

Figure 3. Basic composition of evidence-based education

5. The nature and characteristics of evidence-based teaching in computer application course

With the rapid development of computer technology, the information environment is also undergoing earth shaking changes. The connotation and extension of concept, definition, theory and technology continue to expand and supplement. Peoples’ definitions of technical standards are complex, and the versions of various software are constantly upgraded and optimized. This discipline direction has strong uncertainty and plasticity.
Pay attention to practice, ignore theory, pay attention to operation and ignore understanding. The computer application foundation class hour has the majority in the computer room or the multimedia classroom. Therefore, some students can finish an assignment efficiently, but they may not be able to understand the principles or internal relations.

The teaching of this course is carried out in the computer room, so the computer application classroom is full of information elements and multimedia elements, that is, the environment full of information elements. The environment full of information elements has three characteristics. One is to provide an interactive and visual platform for teachers’ management and control. Second, it affects the classroom interaction behavior, which makes the classroom teaching behavior show a complex, diverse and diverse situation. Generally speaking, when information technology promotes teaching, it is a positive behavior, when it interferes with teaching, it is a negative behaviour. Third, in teaching activities and evaluation, information technology has always been highly involved and integrated.

6. Conclusion

Evidence based teaching means the change of teachers' thinking, that is, from superficial thinking to self reflection thinking. In teaching activities, teachers combine evidence to carry out teaching, and explore the logical relationship between students and teachers, motivation and effect, environment and personal situation preference. At the same time, teachers will consciously reflect on the teaching events in daily practice, gradually examine teaching ideas and concepts, adjust improper and improper behaviors in the teaching process, and then adjust teaching behavior and organization, so as to promote teaching to be close to excellent quality.

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