Research on the Enhancement of Informatization Teaching Ability of Teachers in Colleges and Universities

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Abstract: The development of information technology has prompted the development of college teaching in the direction of informatization, which puts forward higher requirements for the informatization teaching ability of college teachers, and this paper researches how to improve the informatization teaching ability of college teachers, firstly, summarizes the status quo of the informatization application ability of college teachers' teaching and the status quo of the informatization teaching ability enhancement training of college teachers through the research questionnaire. Secondly, it analyzes the informationized teaching ability of college teachers from four aspects: the ability to acquire and configure informationized teaching resources, the ability to design informationized teaching content and teaching mode, the ability to reasonably implement informationized teaching mode, and the ability to evaluate the informationized teaching of college teachers. Finally, it puts forward the countermeasures to improve the informatization teaching ability of college teachers, such as constructing a systematic training system to improve the informatization teaching ability, establishing an integrated mechanism to improve the informatization teaching ability of college teachers, encouraging teachers to actively declare or participate in informatization teaching-related teaching and research projects and competitions, and creating a benign environment for the development of teaching informatization.

1. Introduction

With the rapid development of information technology, information technology is constantly integrated into various fields of society, based on the deep integration of information technology and education and teaching, information technology empowers higher education, provides technical

means for the informatization of college teachers' teaching and the informatization of teaching management, and plays a key role in the development of education modernization[1]. The Modernization of Education in China 2035 clearly points out that it is necessary to promote and accelerate the transformation of education in the era of information technology. At present, the informatization infrastructure of Chinese colleges and universities has been perfected, and the degree of timely sharing of resources among colleges and universities is rapidly increasing. Teaching informatization ability of teachers in colleges and universities mainly refers to the improvement of teachers' teaching informatization ability by using informatization technology to optimize teaching comprehensively and improve the quality of teaching[2]. The use of information technology in the teaching process of college teachers can change the monotonous characteristics of the traditional teaching mode, and through the use of advanced information technology, the teaching of college teachers has the characteristics of open and diversified teaching, which improves the learning effect of the students, and at the same time, it also improves the students' ability to process information and their independent innovation ability, and improves the quality of teaching. The development of university teachers' teaching informatization teaching ability is the basis for university teachers to carry out teaching and research activities and promote the modernization of higher education, and it is the main way to improve the innovation ability of college students and improve the teaching effect[3].

Based on this, this paper discusses the connotation, status quo and problems in the teaching process of college teachers' informatization teaching ability, and puts forward the development strategy of college teachers' informatization teaching ability enhancement, in order to help improve college teachers' teaching informatization teaching ability.

2. Current situation of the development of informatization teaching ability of college teachers

The sample of this questionnaire research is mainly teachers in F colleges and universities, a total of 536 questionnaires were issued, 498 valid questionnaires were returned, and the validity rate of the questionnaire was 92.9%. The questionnaire is mainly in the form of Richter Scale, assigning values of 1, 2, 3, 4, 5. Organizing the data in the questionnaire and summarizing the answers in the questionnaire, it can be seen that at present, the current situation of the development of information technology teaching ability of college teachers is mainly manifested in the following aspects:

2.1. The status quo of teaching informatization ability of college teachers

Regarding the questionnaire "your proficiency in using information technology in teaching", 72% of the teachers answered "proficient"; 22% answered "very proficient"; only 6% of the teachers answered "average". Only 6% of the teachers answered "average". It can be seen that teachers in colleges and universities have already applied information technology in their teaching process, and 94% of them can skillfully use information technology in teaching. In response to the question "Do you think there is a correlation between the courses you teach and the enhancement of informationized teaching ability?" 84% of college teachers think there is a great relevance and 26% think there is a relevance. Some courses require students to attend classes in the computer room and apply software related to their majors during the classes. Teachers often use informatization technology in the process of teaching these courses, so the demand for the informatization ability of the teaching staff is also very high, and the teaching staff will continue to improve their informatization ability in the process of teaching in order to improve the effectiveness of the lectures. Regarding the question "Is there a correlation between specialization and the improvement of informatization teaching ability?" 77% of the college teachers think that there is a great correlation because some majors are information technology-related majors, so most of the teachers

who teach courses in these majors must have high information technology teaching ability. In response to the question, "Are teachers' personal characteristics related to teachers' informatization teaching ability?" 89% of the teachers think that it is related, only 7% think that it is not related, and 4% think that it is not related; it can be seen that whether teachers in colleges and universities adopt informatized teaching means to teach or not is not related to teachers' personal characteristics. The research data shows that the younger the teacher is, the stronger his/her informatization teaching ability is; the longer the teaching experience and the higher the education level of the teacher, the stronger his/her informatization teaching ability is. In recent years, new full-time teachers have a doctoral degree, and these teachers have already applied informatization technology a lot in their scientific research during their doctoral studies. After joining the profession, with the assistance of their teaching supervisors, they continue to accumulate teaching experience and apply informatization technology in their teaching, and their informatization teaching ability has been improved continuously. However, it was found during the research process that some teachers do not have a strong awareness of informatization teaching and are accustomed to the traditional teaching mode, resulting in their informatization teaching ability is also relatively low, which has nearly affected the teaching effect.

2.2. Status of training for improving informationized teaching ability in colleges and universities

In the teacher's version of the questionnaire, for the questionnaire "How many times a year does your university set up informationized teaching training?" 89% of the teachers answered no, 11% of the teachers answered "1 time"; for "Is the school informationized teaching training satisfactory?" 64% of teachers were satisfied. During the survey, some teachers expressed the hope that the school could organize online or offline training on improving teaching ability in information technology once or several times a year, and hope that these trainings would be systematic. 84% of the teachers hoped that they would be able to skillfully use information technology in the classroom to improve the quality of teaching.

Interviews with leaders in charge of teaching reveal that: there is no specific training for teachers' informatized teaching ability at the level of second-level colleges and schools; sometimes online training is specifically for rain classroom operation, but it is initiated by the software provider, and the specific training time, training content, and training form are also formulated by the software provider, which doesn't fully consider the teachers' time and specific needs, and it is difficult to satisfy It is difficult to meet the teachers' effective demand for improving their informationized teaching ability. Colleges or schools also did not summarize the effect of the training. As for other training related to the enhancement of information technology teaching ability, almost no one organizes it, and it is entirely up to the teachers to figure it out on their own. The school also did not formulate an incentive mechanism for the improvement of informatization teaching ability, so there is no driving force for teachers to carry out informatization teaching, and it is difficult to stimulate the enthusiasm of teachers to carry out teaching using the informatization teaching mode, which is not conducive to the improvement of teachers' informatization teaching ability.

3. The Composition of university teachers' informatization teaching ability level

From the perspective of the overall teaching process of college teachers teaching a course, college teachers' informatization teaching ability can be divided into college teachers' informatization teaching resources acquisition and configuration ability. College teachers' informatization teaching content and teaching mode design ability, college teachers' informatization

mixed teaching mode implementation ability, and college teachers' informatization teaching evaluation ability[4].

3.1. College Teachers' Ability to Acquire and Configure Informationized Teaching Resources

In the vast amount of informationized teaching resources, college teachers take the content of lectures as the basis and the teaching objectives as the main focus, obtain the data, real-time news and other elements and information related to the courses on the Internet through the use of informationized technology, and screen, organize, summarize, summarize, and match with the content of the lectures, so as to realize the effective connection between the informationized resources and the content of the lectures and to achieve the natural integration of these elements and information. These elements and materials are fully utilized before, during and after class to maximize their effectiveness, which is a reflection of college teachers' ability to acquire and configure informatized teaching resources. The process of acquiring and configuring informatized teaching resources for college teachers mainly refers to the tools and technical means used by college teachers in collecting teaching resources, the teaching content presented, the methods and modes of presenting the teaching content, and the evaluation of teaching effects.

3.2. Teaching Content and Teaching Mode Design Ability of University Teachers' Informatization

The design of teaching content and teaching mode is an important part of the teaching process, which plays a key role in the process of teaching theory and teaching practice. College teachers' informatization teaching content, teaching mode design ability mainly refers to the college teachers in the teaching process with modern education theory as the basis theory, mainly through the use of information technology, methods to set teaching goals, enrich teaching content, enrich teaching resources, diversified teaching methods, real-time teaching evaluation and a series of teaching process using information technology ability. Colleges and universities will apply this ability to the teaching process can make the subject teaching more vivid, stimulate students' interest in learning, and improve the teaching effect.

3.3. Teachers in Colleges and Universities Have the Ability to Reasonably Implement the Teaching Mode of Informationization

The ability of college teachers to rationally implement the information technology teaching mode is a concrete manifestation of the information technology teaching content and teaching mode design ability of college teachers in practice, which mainly refers to the ability of college teachers in the information technology teaching environment, the use of information technology in the whole teaching process of teaching design and teaching management, improve teaching effect and achieve the teaching goals. Specifically, it includes the collection of teaching resources, the design of animation effect of courseware, the playback of multimedia courseware, the use of learning platforms such as rain classroom, as well as the guidance and instruction for students to use informatization technology for learning.

3.4. Teachers' Ability of Informatization Teaching Evaluation in Colleges and Universities

The purpose of teaching evaluation in colleges and universities is mainly to grasp the teaching effect of college teachers, the feedback of students on teachers' teaching, and the mastery of the key and difficult knowledge of the course. Informatized teaching evaluation of college teachers mainly

consists of comprehensive evaluations by members of school-level supervisors, college-level supervisors, peer teachers, and students in the classroom. College teachers' informatization teaching evaluation ability mainly refers to the feedback results of the comprehensive evaluation of college teachers to solve some of the problems that exist in the process of teachers' informatization teaching, and also listen to the supervisors' suggestions to improve informatization teaching moderately.

4. Countermeasures to Improve the Informatization Teaching Ability of College Teachers

4.1. Constructing a Systematic Training System to Improve Informationized Teaching Ability

Informatization teaching ability training for college teachers should be led by the relevant administrative departments, online research questionnaires should be issued to teachers of various colleges to carry out the research on the informatization training needs of college teachers. And based on the results of the research, a training design that meets the needs of the teachers should be developed, with the main design of the training objectives, the training form, the training place, the training time, and other training contents, to try to satisfy most of the needs of the teachers and to improve the effect of the training[5]. When designing the training form, we should fully consider the characteristics of each audience group, and design different forms of training for different characteristics of the training object, for example, the more theoretical training can be carried out in the form of online and offline combined mode of thematic reports, lectures, etc., and the more practical can be observed in the field to learn, or in the form of salon, workshop, excellent teachers classroom teaching to listen to the classroom, and other forms of offline observation. After the training, the training effect should be tracked in a timely manner, and the training system should be improved in a timely manner according to the feedback results of teachers to further improve the training system.

4.2. Establish an Integrated Mechanism to Improve the Informationized Teaching Ability of College Teachers

The establishment of an integrated mechanism to improve the informationized teaching ability of college teachers can effectively encourage college teachers to continuously improve their informationized teaching ability, the integrated mechanism mainly refers to the training mechanism, incentive mechanism, assessment mechanism and ability improvement mechanism. The training mechanism for university teachers' informatization teaching ability mainly refers to the special training for informatization teaching at the college and school levels[6]. Different credits are required for teachers with different titles, and the credits are assessed, and the standard credits are used as the threshold conditions for teachers' end-of-year evaluation, teaching evaluation and title evaluation, so as to motivate college teachers to actively participate in the training of teachers' informatization teaching ability courses, and to improve teachers' informatization teaching ability.

4.3. Encourage Teachers to Actively Declare or Participate in Teaching and Research Projects and Competitions Related to Informatization Teaching.

Schools can release teaching and research projects related to teachers' informatization teaching ability in various forms and ways, encourage teachers to actively declare them, and hold informatization teaching skill competitions and microteaching competitions on a regular basis. In the process of hosting or participating in projects or competitions, teachers can combine theory and practice to strengthen their awareness of informatization teaching and thus improve their informatization teaching ability.

4.4. Create a Benign Development Environment for Teaching Informatization

In the age of informationization, students have been completely immersed in the network environment, and the intelligent learning environment has been the main learning environment for college students. The intelligent learning environment can accurately record the learning process of college students, perceive the learning characteristics of college students, and accurately analyze the learning behaviors of college students, and college teachers can screen out quantifiable information in the classroom based on the informatization teaching platform, so that the teachers can effectively control the teaching process, and teachers can guide and supervise the teaching process according to the feedback of data. Teachers are able to guide and supervise students' learning activities based on the feedback of the data, and provide guidance to students in a targeted manner. The informatized teaching environment helps college teachers to complete the pre-course preparation work, the teaching process in the classroom and the post-course improvement work through the informatized teaching platform. In the pre-course preparation stage, college teachers can screen out the learning resources in line with the content of the lectures to be pushed to the students, and in the post-course stage, the teachers can correct the assignments for the students through the teaching platform and answer the questions. In this process, teachers can not only master the main points of information technology teaching, but also through the use of big data can timely and accurately find some of the problems in the teaching process, and can rely on information technology to choose scientific and reasonable solutions to comprehensively improve the teacher's own information literacy.

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