

# Research on Informatization Teaching Ability Cultivation of Normal Students under the Background of Digital Teaching

Junlei Dai<sup>1, 2, \*</sup>

<sup>1</sup>Hunan University of Science and Technology, Yongzhou, Hunan 425199, China

<sup>2</sup>Philippine Christian University Center for International Education, 1004, Manila, Philippines

\* Corresponding author: Dai JunLei (Email: 771363632@qq.com)

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**Abstract:** The digital teaching background environment provides a good environmental foundation for the information teaching. How to find the development opportunities in the digital teaching background and solve the main problems in the training of the information ability has become the practical need for the improvement of the information teaching ability. This study analyzes the current situation and shortcomings of informatization teaching ability training of normal students under the background of digital teaching, the exploration of informatization teaching ability training approaches of normal students, and the strategies of informatization teaching ability training methods of normal students. Aiming at improving the comprehensive teaching ability of normal university students, the cultivation of informatization teaching ability of normal university students is constantly strengthened.

**Keywords:** Digital Teaching, Normal University Students, Information.

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## 1. Introduction

Digital curriculum can change the subject of curriculum development, enrich the content of university curriculum, change the carrier of university curriculum and the means of curriculum implementation, help to improve the professional knowledge and skills of teachers, improve the effect of classroom teaching, help to cultivate students' active learning ability and enrich students' learning life. Normal university students are the main group of teachers in the school. The cultivation of the information teaching ability of normal university students is an important guarantee for the improvement of the information teaching level of the school. With information teaching ability as the core, it builds a high-level information teaching team, promotes the information teaching reform, breaks through the dilemma of the traditional teaching model, and lays a solid foundation for the improvement of the overall national education level and teaching ability.

The information teaching ability of normal university students is composed of two parts: normal university students group and information teaching ability, which mainly refers to that in the information environment, normal university students use information technology to collect information teaching resources, design information teaching content under the guidance of information teaching concept, and carry out information teaching practice. Teachers effectively guide and inspire students' thinking, and use a variety of information communication tools to carry out inquiry learning. In this process, the comprehensive teaching ability and practical teaching ability of normal university students are given full play. The main goal is to promote the all-round development of students, coordinate and integrate information teaching resources, connect practical teaching knowledge, and carry out bilateral teaching activities. The cultivation of informatization teaching ability of normal university students needs certain implementation process and

training strategy. Under the dual influence of time effect and practice stage, the informatization teaching ability of normal university students presents dynamic and systematic characteristics. Information teaching ability is based on information technology. The development of information technology is characterized by advancing with The Times. With the continuous optimization and upgrading of The Times, more realistic functions are added. Information teaching ability must be changed with the change of information technology. The knowledge structure of normal university students is constantly optimized, and the level of mastering information technology and equipment is constantly improved. In the process of self-improvement, normal university students embody the dynamic of information teaching ability. On the other hand, the ability training of information-based teaching needs a perfect training mode, and the piecemeal training scheme cannot cultivate high-level teaching talents. Teachers' teaching ability needs to be done before the orientation information-based teaching knowledge and practice teaching practice experience, after the formal entry for more professional training on a regular basis, and through the increase in the daily teaching and training practice teaching scene design, content design more specific and deep ability, do pre-service in close coordination with the post.

## 2. Analysis of Current Situation of Informatization Teaching Ability Training of Normal Students

The cultivation of the informatization teaching ability of normal university students should be based on the current teaching practice, grasp the reality of the informatization teaching ability of normal university students, find the demand points to be improved, deeply analyze the main causes of the existing problems, and provide a realistic basis for the construction of a scientific and effective training mode. This book makes an in-depth analysis of the current situation

of informatization teaching ability training of normal university students and summarizes the following practical problems.

### **2.1. The Curriculum Is Not Practical, Which Hinders the Cultivation of Students' Information Technology Ability**

At present, most normal university students are relatively independent from primary and secondary school teachers in the cultivation of information teaching ability. The training mode of normal university students' information teaching ability is simple and the curriculum is single. It mainly relies on the "Modern Educational Technology" course in the school, which is basically completely separated from the teaching front line of primary and secondary schools. The curriculum is often designed simply to impart theoretical teaching knowledge, and assessment and evaluation only pay attention to the final evaluation. This deviates from the fact that the goal, content and evaluation of the curriculum should be based on whether the knowledge and ability of educational technology can be applied to teaching practice. The single teaching mode, the limitation of teaching methods and the lack of sufficient teaching practice restrict the cultivation of informatization teaching ability of normal university students to a large extent. The teaching process emphasizes theory over practice. The cultivation of information teaching ability of normal university students depends on relevant information teaching courses, teaching information knowledge to normal university students, giving them practical opportunities to practice, so as to combine theory teaching with practice. However, in the process of informatization process teaching, excessive emphasis on the teaching theory knowledge, ignored the cultivation of students practical ability, make the most of the students only have basic multimedia operation ability, ability to the operation of the complex equipment shortage, difficult to use multimedia teaching equipment for teaching design, course development ability is weak.

### **2.2. The Current Situation of Information Teaching Design Ability Is Not Satisfactory**

Teachers in the information environment should not only have basic educational technology theory, but also have strong teaching design ability of integrating information technology and curriculum. According to the survey, most normal students can master the basic theories of educational technology, but lack understanding of some "student-centered" teaching strategies, or even have never heard of them. According to the survey results, most of the teaching practice activities support "teaching" but lack of "learning" activities. Although some students consider students as the main body in the design, most of them use technology to create teaching situation. The purpose is only to stimulate students' interest in learning, only to stay in the simple application stage of technology, rarely as a tool to promote students' inquiry and high-level thinking formation.

### **2.3. Lack of Ability to Integrate Teaching Resources and Design Activities**

Survey found that students of the related curriculum resources development according to the teaching contents only simply multimedia teaching courseware, it's hard to do according to the characteristics of the discipline of the

integration of information technology and the curriculum implementation, not targeted to design the teaching activities and provide teaching resources for development, will not set up the appropriate information, This also directly affects the teaching effect of students' practice teaching, and it is easy to discourage the enthusiasm of college normal university students to carry out information teaching. Lack of quality teaching resources. The cultivation of informatization teaching ability of normal university students requires a group of teachers with professional quality and comprehensive ability to teach professional theoretical knowledge to normal university students, and at the same time, use the practice equipment provided by the school to apply information knowledge and information equipment for practical operation. At present, the lack of professional teachers trained by normal university students can not meet the requirements of real-time answering questions and training guidance for normal university students. There is a weakness in the supply of professional information equipment, and it does not provide advanced practical operation platform for normal university students, such as large-scale information equipment training room, practical operation room, etc., which separates theoretical learning from practical operation and makes it impossible to timely check the learning effect.

### **2.4. Low Teaching Implementation Ability**

Teaching implementation ability is a kind of comprehensive ability. It not only includes the ability to use modern teaching media to optimize teaching, but also includes the ability to guide, organize, manage and promote students' learning, which is directly related to the effect of information-based teaching [1]. The information teaching environment is more complex and open than the traditional teaching environment, which requires higher quality in order to control the information teaching classroom. Survey found that students in information technology teaching practice, many of them in the teaching activities of uncontrolled phenomenon, can't reasonably choose and properly use the media, such as unable to cope with software and hardware problems in the teaching, not timely response to the students in the process of digital teaching "learning difficulties" and "lost" wait for a phenomenon.

## **3. Exploration on the Cultivation of Theoretical Educational Technology Ability of Normal Students**

As a qualified teacher major student, on the one hand, must have the theoretical course education ability; On the other hand, they should have the ability to guide practical teaching. Based on the perspective of normal students as learners, this paper aims to promote their ability to use educational technology flexibly in the teaching process of theoretical courses in three stages.

### **3.1. Formation of Pedagogical Students' Educational Technology Ability -- Blended Learning Perspective**

Under the background of information society, the blended learning method is adopted to cultivate the educational technology ability of normal students. Blended learning is the organic integration of the advantages of traditional learning methods and network learning. The core idea of blended learning is to adopt different ways to solve problems

according to different problems and requirements. In teaching, it is to adopt different media and information transmission methods to solve problems, and its purpose is to pay the minimum cost and obtain the maximum benefit. [2] Blended learning is a strategy that comprehensively uses different learning theories, different technologies and methods, and different application ways to implement teaching. [3] The core competence of educational technology of normal students consists of four aspects: basic theories and skills of educational technology; Educational technology awareness and attitude, social responsibility and other implicit ability to determine the effectiveness of technology application; The ability to integrate design, educational research, and applied innovation; Strong technical and operational skills. Different abilities require different learning modes, and blended learning methods are adopted to cultivate students' abilities in these four aspects.

### **3.1.1. Learn Basic Theories and Skills - Self-Answering Learning**

Under the guidance and help of teachers, students of normal education major in the learning stage adopt the mode of autonomous learning to master the basic knowledge of educational technology, such as the experience of using network tools, the relevant declarative knowledge of educational technology, the history, definition and basic theory of educational technology, etc. Teachers will be distributed in all sorts of study resource of education technology subject database or network embedded in autonomous learning task list, and task through the network to share with students, and then the learners within the prescribed period of time to complete the task according to the requirements of the task list, in the process of the learners in class or learning encounter any problems, can ask questions through the network in time, the teacher answers questions for learners in time. So that learners can set the pace for learning, fully embodies the learners' subjectivity, initiative, can cultivate the future normal professional students' independent consciousness and the ability of online learning, the strategy for the troubles and problem solving skills, etc. At the same time, deepening the learners to understand and grasp the basic theory of knowledge.

### **3.1.2. Cultivating Implicit Ability - Communicative and Discussion Learning Mode**

Interactive discussion learning is a teaching model in which teachers, through advance design and organization, students, through self-study and thinking, express their own opinions on a certain issue under the guidance of teachers, and actively explore knowledge. [4] Consciousness and attitude of recessive aspects, such as ability. If teachers adopt the way of teaching, students' learning will not be impressive, and may produce resistance. But if with the method of discussion, they can develop the students' thinking and ideas, and let the students in the discussion in the process of independent construction understanding these hidden problems. This requires the teacher to upload some cases or publish some discussion topics and provide discussion details through the network before class. Under the guidance of the teacher, learners can use the network chat tools to discuss in the form of individuals or groups. In this way, the information literacy of learners is constantly improved, and the ability of learners to understand the importance of educational technology and other hidden aspects is improved.

### **3.1.3. Develop the Research and Application Ability of Instructional Design - Collaborative Design Learning Mode**

Collaborative design learning mode is a learning mode of group cooperation and active exploration to complete the task. The teacher first provides the instruction of learning tasks through the network, and then the learners are divided into groups through communication and determine the theme of each group's work and the task module that each person is responsible for. With the cooperation of relevant software, the learners complete the learning tasks and publish the works on the network platform. It not only realizes the process evaluation, but also realizes the mutual evaluation among learners and learning groups through the sharing of works, which is helpful to improve learners' teaching design ability and teaching research ability in the information environment.

### **3.1.4. Improve Technical Operational Skills - Operation Demonstration Learning Mode**

For teaching software production technology, multimedia classroom equipment use and maintenance, as well as the use of audio and video acquisition equipment in the process of teaching and other highly operational technology, it is necessary to adopt the operation demonstration learning mode. This is a task-driven learning method. Before class, teachers introduce the working principle and use rules of the equipment to learners through the network. In class, teachers explain and demonstrate the use and production skills of the equipment or software, and then learners practice operation under the guidance of teachers. And the operation process will be made into a video uploaded to the network for peer mutual observation and learning and error correction. In this process, cultivate students' practical operational ability, as well as critical ability. The blended learning model based on network plays an important role in the initial formation of the educational technology ability of normal students, but it also requires high self-control ability of learners, because the network learning is easy to distract learners and the depth of reflection in learning is not high.

## **3.2. Development of Pedagogical students' educational technology ability from the perspective of e-learning Community**

As a virtual learning environment supported by network technology, e-learning community emphasizes the service of information technology tools and learning resources for cultivating learners' problem-solving ability and promoting learners' development. It pays attention to the changes of community members, resources, tools, activities and other elements as well as their relationships. It provides a good condition for problem-based learning, collaborative knowledge construction, collective wisdom and collective development. [5] On the one hand, e-learning community provides a visual space for the learning process; On the other hand, it provides a learning home for the exchange and sharing of values and emotions among members. The E-learning community here is mainly composed of teachers' major students. According to individual development needs, the E-learning community with different goals has been established. The members of the community come from a wide range of sources, which provides a broad platform for each member to learn from each other. By learning community members in the interactive network platform to release common research topics, such as providing a class

instance, for instance a certain link, teaching design, teaching evaluation, etc. Combined with the theoretical guidance, carry out interactive discussion, analysis the advantages and disadvantages, through the interaction of the members of the community, constantly promote the development of education technology ability. As a teacher major students, high level of educational technology ability is a necessary skill. The level of their educational skills will directly affect the improvement of the professional level of their teachers and the process of educational informatization. Therefore, students of normal education majors should not only have higher educational technology ability of theoretical courses, but also master enough educational technology ability of practical courses, especially the virtual reality experiment technology brought by modern educational technology.

#### **4. Training Strategies of Informatization Teaching Ability of Normal University Students**

In order to meet the training standards of students in three aspects, such as information technology literacy, information technology assisted learning ability, and information technology teaching application ability, this paper proposes corresponding improvement strategies for the problems existing in the training of information teaching ability of normal university students, and strives to better enhance the information teaching ability of normal university students.

##### **4.1. Strengthen the Training Target of Informatization Teaching Design Ability**

Training objectives are specific requirements for the cultivation of various teaching abilities of normal university students, which play an important role in guiding, regulating and evaluating the selection of methods and methods for the cultivation of information teaching abilities of normal university students. Colleges and universities should emphasize the importance of information-based teaching ability training in the training system of normal university students when making training programs, focus on enhancing students' awareness of using information technology to carry out teaching activities, and strive to improve students' attention to information-based teaching ability. By strengthening the training target of information teaching ability in the training link of normal university students, we can promote the cultivation of students' information literacy.

##### **4.2. Construct A Curriculum System That Meets the Requirements of Informatization Teaching Ability Training for Normal University Students**

The cultivation of informatization teaching ability of normal university students is a long-term and systematic work, which needs a lot of repeated training to meet the corresponding training requirements. Schools should optimize the training curriculum system, balance the proportion of theoretical courses and practical courses, add information education courses deeply integrated with disciplines, provide more information teaching and training platforms, stimulate students' interest in learning, so as to improve their practical ability. First of all, starting with the content setting of the curriculum system, the subject curriculum standards and the training standards of teachers'

information teaching ability are analyzed, and the courses and course groups required for the training of normal university students' information teaching ability are extracted, which are incorporated into the basic curriculum training system according to the categories of theoretical courses and practical courses. Secondly, in the design of specific course content, according to the training requirements of information technology application ability of each course, the specific knowledge points involved in each course content module are determined for the purpose of solving the subject framework problem, and finally the curriculum system that meets the requirements of the standard of informatization teaching ability of normal university students is established.

##### **4.3. Strengthen the Construction of Hardware and Software Facilities for Information Teaching in Colleges and Universities**

A good information teaching environment provides a strong basic guarantee for improving the training quality of normal university students and promoting the development of information teaching ability [6]. First of all, schools should increase the investment in hardware environment construction, and configure regular microclassrooms, electronic whiteboards, electronic reading rooms and so on. Colleges with better conditions can also provide students with the latest information technology facilities, such as virtual simulation laboratories, 3D printing, robotics, and so on. Secondly, schools should also strengthen the construction of software resources and facilities, actively develop and construct high-quality online teaching resources, build online learning platforms that meet the requirements of information-based teaching, and encourage and support teachers to use auxiliary teaching software platforms such as learning passes and micro teaching assistants to carry out blended innovative teaching. By creating a rich and diverse information teaching environment, normal university students truly experience the benefits of information teaching, promote their active use of information teaching, and constantly improve the information teaching ability.

##### **4.4. Strengthening the Practice of Informatization Teaching Ability of Normal University Students**

Informatization teaching practice is the core link to improve the informatization teaching ability of normal university students. Through practice, students can experience all links, elements and actual operation process of information teaching. The number of teaching practice opportunities directly affects the level of informatization teaching ability of normal university students. The theoretical knowledge and teaching skills learned by normal university students need to be exercised and tested through real teaching practice. In the training process of normal university students, education probation is to let normal university students through observing the reality of classroom teaching, experience each teaching link in teaching, and truly experience each part of teaching content. Educational practice is the simulation exercise of normal university students before they become teachers. Its purpose is to comprehensively test the teaching ability of normal university students in all aspects, and it is the core link from "learning" to "application". Colleges and universities should consolidate the link of "two practices", ensure that normal university students have

sufficient opportunities for practice and training, so that the improvement of normal university students' informatization teaching ability can "land and take root".

Considering from the practical dimension, there are many problems in the informatization teaching ability training of normal university students. It is urgent to explore a more scientific training strategy and build a long-term training mechanism. This book provides an effective path reference for improving the informatization teaching ability of normal university students. First, increase practical teaching courses. In the process of informatization education ability training, the normal operation informatization equipment for the ability of teaching design as an important target of cultivation, courses in rich field, make the students in multimedia, computer and other advanced theoretical knowledge learning at the same time, through the field courses in a timely manner to consolidate and improve. Form a perfect training curriculum system, with high quality teaching content and skilled technical operation to cultivate high-quality teachers. Second, ensure the supply of resources for normal university students' ability training. Strict requirements of teacher recruitment, expand the proportion of the assessment of information teaching ability, build a high level of information teaching teacher team, professional training for normal university students, and provide targeted guidance; The introduction of advanced information equipment, the establishment of a special practical operation base for normal students to carry out daily training to provide the site and equipment support. Expand resource supply channels, establish sufficient training resource reserves, and improve the training fund expenditure management system. Regularly check and maintain information equipment, timely improve and upgrade all kinds of software and hardware infrastructure. Third, develop a diversified evaluation index system. It is necessary to measure the comprehensive quality of normal university students to carry out multiple evaluations. Theoretical test paper scores, daily learning behaviors, practical operation drills, skills competition scores and so on are included in the evaluation index system to carry out comprehensive teaching evaluation. The proportion of each index is set reasonably, and the starting point of index design is the training goal of informatization teaching ability of normal university students, and the multivariate evaluation system is constructed. The improvement of information teaching ability of normal university students is conducive to promoting the process of information teaching reform, which has important theoretical value and practical significance.

## 5. Conclusion

With China's education information construction entering the new journey, the national system needs teachers who can deeply apply modern information technology and subject teaching in education and teaching. As the successors of the

future education career, the cultivation of the information teaching ability of normal university students needs more attention and attention from all walks of life. Colleges and universities should compare with the requirements of information technology application ability training of normal university students in the new era, take course learning and practice teaching as the starting point, build a systematic and three-dimensional training system of information technology teaching ability of normal university students, and explore new training ways and means. By creating an excellent information teaching environment, strengthening the normal students' cognitive experience of information teaching and building bridges between theory and practice, this paper aims to improve the teaching ability of normal students using information technology, and provide strong support for the development of our information education.

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