

Exploring Strategies for Improving the Effectiveness of Teaching Design in Information Technology Courses

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Received: 1 February 2024; **Accepted:** 28 February 2024; **Published:** 12 March 2024

Abstract:

This article mainly analyzes the current development status of instructional design in China, explores the significance and existing problems of the effectiveness of instructional design in information technology courses, and based on this, proposes methods and approaches to improve the effectiveness of instructional design in information technology courses in China, mainly including updating and improving the concept of information technology courses, emphasizing interdisciplinary and cross disciplinary content settings, implementing the basic principles of combining classroom organization with open activities Encourage diversified teaching evaluation models for information technology courses, etc., in order to provide reference for relevant educators.

Keywords:

Instructional Design, Information Technology, Validity

1. The Development Background of Teaching Design

The relevant theories of teaching design in our country are generally believed to have been introduced by the United States after the reform and opening up. In fact, China has already formed the concept of organizing and planning teaching, and in modern times, it has also begun to form an overall planning thinking of analyzing teaching tasks, learners, teaching strategies, textbooks, teaching evaluations, etc. In the past century, the development of instructional design in China has gone through several important stages. At the beginning of the last century, the practice of instructional design began to develop; In the early days of the founding of New China, instructional design was widely known in the form of “teaching plans”; After the reform and opening up, with the active translation and guidance of educational researchers, the almost complete theoretical system of instructional design in the West came from afar and was subsequently referenced by keen educational researchers. Relevant disciplines were quickly established, courses were offered, and textbooks were written; Afterwards, China’s teaching design has achieved fruitful results in both theory and practice.

Schools and teachers are influenced by exam oriented education and place more emphasis on learning cultural courses, while easily neglecting information technology courses, which account for less in the middle and high school entrance exams. Many schools still adopt traditional teaching methods when carrying out information technology courses, emphasizing theoretical knowledge and only demonstrating some basic software operations. The boring content gradually makes students lose interest in information technology courses, making it difficult to improve their information technology abilities. With the continuous promotion of quality education and core competencies, many teachers have conducted in-depth exploration and practice to improve the effectiveness of information technology teaching design. This not only enriches the teaching content, but also innovates the teaching mode, effectively stimulates students' learning interest, and enables them to better engage in information technology classroom learning, effectively improving the quality of information technology teaching [1].

Teaching design is a bridge that connects teaching theory and practice. The development of Instructional design in our country has yielded fruitful results, prominent features, obvious problems, and complex influencing factors. Afterwards, we must base ourselves on the practical level, start from reality, and actively absorb, dialectically promote and abandon teaching problems in China, in order to innovate teaching design and optimize teaching quality.

2. Current Problems in the Teaching Design of Information Technology Courses

2.1. The Course Content is Repetitive

A comprehensive analysis of the descriptions of information technology course content in previous documents issued by our country reveals that there are many repetitions in the design of the course content. There are many modules in information technology courses in primary, middle, and high schools that have similar or identical teaching content. These similar or identical teaching contents not only cause waste of related resources and manpower, but also lead to low learning enthusiasm of students, thus losing their interest in learning and lowering their status in the heart. Therefore, it is necessary to adjust and innovate the content of information technology courses, further explore the difficulty, depth, and breadth of teaching content, in order to avoid overlapping teaching content on the basis of strengthening the connection between students at different stages, and achieve good teaching and learning effects. Information technology is a subject with relatively strong practicality. In the setting of teaching content, emphasis should be placed on cultivating students' computer operation abilities rather than simply preaching theoretical knowledge without considering whether students have mastered relevant operations. In addition, the teaching content should also consider the requirements of the times for students, and promote their comprehensive development while learning scientific and cultural knowledge.

2.2. Poor Course Implementation

The rapid development of information technology and the continuous improvement of related courses, but there are still many shortcomings in the implementation of information technology courses in China. Although China has determined the course hours, nature, and content of information technology courses at the institutional level,

the results of implementation are not very satisfactory [2]. Due to the relatively small proportion of this course in China's middle and high school entrance exams, some schools still have the problem of occupying information technology courses, which greatly hinders the effective implementation and popularization of information technology courses; In addition, many information technology teachers lack systematic training and comprehensive mastery of information technology curriculum teaching. From the current implementation of information technology courses in our country, there are still many problems waiting to be solved: insufficient class hours, non-standard curriculum implementation methods, incomplete textbooks, and teacher burnout caused by various factors. Curriculum implementation should be continuously developed and improved as the main channel for imparting information technology knowledge and skills.

2.3. Single Course Evaluation Method

Teachers need to grasp the progress and learning situation of students as much as possible, and curriculum evaluation is a very important means and method. However, in terms of information technology courses, the evaluation method is relatively single, and its maturity and completeness are far from enough compared to the course objectives and content. The common evaluation methods for information technology courses in our country are mainly paper tests and computer-based exams. But these two methods can only reflect the final result of students' stage learning and cannot reflect their performance in the learning process, and these methods can easily lead to students only focusing on exam scores and ignoring other aspects of learning. Only studying the content that needs to be tested in exams, ignoring the content that is not tested in exams, and becoming a machine for learning for exams, will naturally reduce students' interest in learning information technology, their innovation ability will also decline, and it will not produce good learning results, and it will also affect their potential to play [4], which is not conducive to the comprehensive development of students' overall quality. To avoid a series of adverse effects of single evaluation on students, teachers should introduce diversified evaluation models in the process of information technology teaching, enhance students' learning interest, and achieve relatively good learning results.

3. Methods and Approaches to Improve the Effectiveness of Information Technology Curriculum Teaching Design

3.1. Continuously Improving Teaching Design Concepts

3.1.1. Emphasize Student-centered Approach and Tailor Teaching to Individual Needs

No matter which subject, each student's learning situation is different, and the learning of information technology courses is the same. As a teacher of information technology courses, we need to adopt different teaching methods for students with different learning foundations and attitudes, and carry out hierarchical teaching to achieve the goal of teaching according to their aptitude. The traditional teaching mode of information technology courses only allows students to learn and operate on their own, and does not attach importance to the cultivation of students' ability to acquire information technology knowledge. But now that the information age has arrived, teachers should pay attention to cultivating students' ability to obtain information and

computer operations when teaching information technology courses, rather than repeatedly explaining theoretical knowledge. After all, the explanation of theoretical knowledge is relatively dry and boring. If teachers do not use information technology platforms and equipment reasonably to create a relatively real learning situation for students, Students may not have the interest and patience to study the theoretical knowledge of information technology seriously. The information age requires information technology teachers to cultivate more personalized information technology talents who can adapt to the development of the information society. To cultivate personalized information technology talents, it is even more important to focus on teaching according to individual needs and promoting personalized development of students. The information age is leading the transformation of teaching from traditional models to intelligent models.

Using information technology means to achieve personalized teaching in information technology classrooms: Before class, teachers can use relevant technologies and equipment to conduct micro lesson teaching for students, so that students have a rough understanding of the content they want to learn, and analyze their online learning data to provide differentiated guidance to different students; During the teaching process, teachers can use relevant teaching platforms and equipment for interactive teaching, grasp the dynamic learning process of each student in real time, so as to adjust the teaching content and rhythm of the entire class in a timely manner. Through this personalized teaching mode, true personalized teaching can be achieved; After class, teachers can test students on corresponding teaching platforms and conduct specific and effective analysis of their learning situation, ultimately giving students corresponding evaluations. For students, this can help them better understand their own learning situation, in order to optimize themselves and adjust their learning status.

3.1.2. Emphasize the Cultivation of Students' "Information Literacy"

In today's rapidly developing information society, the information literacy of students is receiving increasing attention. How to cultivate students' information literacy has become a problem that many information technology course researchers want to solve. Information technology courses can improve students' information literacy by setting practical tasks, such as teachers providing a topic, allowing students to collect relevant information on the topic, analyze and summarize it, etc. In addition, in the teaching of information technology courses, teachers can also allow students to engage in discussions on some open-ended issues. During the discussion process, students can collect relevant knowledge through computer networks to support their views. This not only arouses students' interest but also exercises their ability to collect and analyze information.

3.2. Emphasize Subject Integration in Content Setting

3.2.1. Strengthen the Integration between Disciplines

According to the disciplinary characteristics of information technology, its applicability and comprehensiveness are relatively strong, and it has a strong correlation with other disciplines. Therefore, the process of integrating information technology with other disciplines will be relatively smooth. The integration of information technology with other disciplines is not only about using information technology as an auxiliary teaching tool, but also about using it as a stimulant to

arouse students' interest in learning and stimulate their self-directed learning, thereby achieving better learning outcomes and improving the effectiveness of student learning. Before integrating information technology with other disciplines for teaching, teachers should make relevant preparations, clarify the integration methods of each knowledge point, preset the level of student mastery of the knowledge points in advance, and effectively explain them to achieve better teaching results. The effective integration of information technology with other disciplines is a win-win teaching model worth developing.

3.2.2. Pay Attention to the Effectiveness and Authenticity of the Integrated Content

Not all subjects can be integrated with information technology. Before integration, the internal connections between each subject should be considered to achieve a subtle effect. Make good use of the disciplinary characteristics of information technology courses, effectively strengthen their internal connections with other disciplines, and improve the effectiveness of course integration. In the process of curriculum integration, teachers should create a scenario based on real life, and the closer it is to students' daily lives, the more interested they will be.

3.3. Classroom Implementation should be Effectively Carried out in Conjunction with Relevant Activities

3.3.1. Guide Students to Adopt a Collaborative and Exploratory Learning Approach during Classroom Implementation

Information technology is a subject with strong operability and practicality, and it is necessary to guide students in a planned manner to stimulate their interest in learning. During the teaching process, teachers should pay attention to the individual development of each student and their strong thirst for knowledge. They should use various teaching strategies to cultivate students' ability to cooperate and explore learning, and then issue cooperative exploration tasks to improve classroom efficiency while students consciously adopt cooperative inquiry learning methods.

3.3.2. Emphasize the Central Position of Students in Activities

In traditional teaching models, the teacher-student relationship in many situations is active and passive, with a class like connotation, resulting in an unequal position between teachers and students. The unequal teacher-student relationship categorizes teachers as manipulators of teaching, while students are passive learners and easily develop negative attitudes. This not only suppresses the personality and creativity of students, but also replaces their central position. Over time, students' initiative and enthusiasm for learning will decrease. The comprehensive development of students is the essence of education. Information technology courses are aimed at all students, and each student is an independent individual with its own uniqueness. Therefore, the design of information technology courses should be student-centered. In the teaching process of information technology courses, teachers should take the lead in the classroom and students should be the main center of the classroom, so as to better integrate students into the classroom.

The teaching process is completed through teacher-student interaction, and the ultimate goal of teaching is for students to learn well, which means that students are the masters of learning. Classroom activities in the new era should focus on student

development and focus on cultivating their abilities to discover, analyze, and solve problems.

3.4. Adopting a Diversified Curriculum Evaluation Model

Course evaluation is a method and means used to measure whether the course tasks or objectives have been completed, and it is also the key to improving the quality of teaching and learning. The single course evaluation model is no longer applicable to the development of today's society, and a new, diversified, healthy and effective evaluation model should be pursued. Information technology courses are constantly being reformed and innovated, and the development of information technology courses cannot be separated from healthy and effective evaluation models. We should accelerate the process of implementing diversified course evaluation models.

In a diversified evaluation model, a diverse evaluation subject is particularly important. In actual teaching, the evaluator is often the teacher, while students are in the position of evaluation. We emphasize the diversification of evaluation subjects, so the evaluation subjects can be teachers, students themselves, classmates, parents, etc. The evaluation results that combine self-evaluation and cooperative evaluation are considered relatively comprehensive.

The abilities of students are multifaceted, and each student has their own advantages. Moreover, the core competencies of students are comprehensive and multifaceted. Therefore, in the process of curriculum evaluation, various factors should also be fully considered to construct multi-dimensional evaluation content. This includes but is not limited to evaluating student classroom performance, evaluating student learning outcomes, evaluating student learning processes, and evaluating student assessment results.

In a diversified evaluation model, teachers should pay attention to adopting multiple evaluation methods to comprehensively evaluate students. Currently, the common evaluation methods in information technology courses include group evaluation, teacher evaluation, self-evaluation, and online evaluation. The information technology course combines multiple evaluation methods to comprehensively evaluate students, and the results are relatively fair, reliable, and helpful in stimulating students' learning enthusiasm.

4. Conclusions

In today's rapidly developing information technology, the teaching design of information technology courses should continuously improve the concept of course teaching design, transform teaching methods and models, pay attention to interdisciplinary and cross disciplinary content settings, and adopt diversified teaching evaluation models at the end of the classroom, so that more updated teaching methods and strategies can be applied in information technology teaching, and students can also have a more comprehensive understanding of their true learning situation, Thus adjusting one's own learning state to form a positive learning attitude and promoting the comprehensive development of student quality.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

Funding

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

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