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REVOLUTIONIZING PEDAGOGY: THE TASK-DRIVEN COLLABORATIVE INQUIRY APPROACH IN MODERN EDUCATIONAL TECHNOLOGY INSTRUCTION

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Abstract

The modern educational technology course, primarily designed for teacher training students, plays a pivotal role in shaping their educational competence and proficiency. A comprehensive understanding and command of modern educational technology profoundly influence their capacity for applying, integrating, and innovating in the context of educational informatization. To optimize the efficacy of modern educational technology instruction, educators must embrace scientific and rational teaching methods, evolve beyond conventional practices, and emphasize task-driven pedagogy. Fostering collaborative inquiry among students serves as a key strategy to facilitate their grasp of contemporary educational theories and models. This approach equips students with a robust foundation of both theoretical knowledge and practical skills, fortifying their readiness for future professional roles. It is imperative for university educators to recognize the paramount value of task-driven and collaborative inquiry methodologies in modern educational technology instruction, coupling them harmoniously with specific course content to elevate the overall quality of pedagogy.

1. Introduction

Regarding the offering of the modern educational technology course, it is mainly targeted at teacher training students. The teaching quality directly affects the comprehensive qualities of teacher training students, and their understanding and mastery of modern educational technology will have a significant impact on their application abilities, integration abilities, innovation abilities, and more in the comprehensive implementation of educational informatization. In modern educational technology instruction, teachers should adopt more scientific and reasonable teaching methods, gradually adjust and optimize the teaching methods used in the past, strengthen the use of task-driven teaching methods, and guide students to use collaborative inquiry to understand and master modern educational theories and models. This approach helps students continuously improve their mastery of theoretical knowledge and practical skills, laying a solid foundation for their future employment. Therefore, university teachers should recognize the application value of task-driven and collaborative inquiry in modern educational technology instruction and deeply integrate specific course content with this teaching method to enhance the quality of instruction.

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2. An Overview of Task-Driven Teaching Method

The task-driven teaching method is characterized by its practicality and interesting nature, as it can be integrated with teaching content to enhance the classroom's appeal, capture students' attention, and stimulate their proactive and enthusiastic learning[2].Through this method, students can acquire the relevant knowledge and skills through collaborative inquiry while completing tasks [3]. This method is rooted in constructivist theory, which treats various tasks as the explicit line and uses the learning engagement in the classroom as the implicit line to form a teacher-guided, student-centered teaching approach. Constructivist theory revolves around problem-solving, with students as the center and teachers as guides, which is the desired outcome of implementing the task-driven method [4]. By using this method, students can complete tasks in an engaging classroom setting, leading to the mastery of knowledge. As the modern educational technology course itself involves various practical contents, it inherently shares the same emphasis on practicality as the task-driven method. In the specific implementation process, the task-driven method has shown positive effects in modern educational technology instruction, motivating both students and teachers and gradually transforming traditional teaching methods, thus achieving better teaching outcomes.

Currently various universities in China have established corresponding information technology systems, and information technology has become a foundational course for all majors. Specifically, in teacher training universities, the modern educational technology course is compulsory for teacher training students. Typically, this course consists of components such as information technology, integrating images, videos, and other content, making the course content rich and the teaching process engaging [5]. However, it has been observed that there are several issues in the actual teaching of modern educational technology that directly affect students' grasp of course knowledge and even have significant implications for their future employment.

A comprehensive analysis reveals that these issues can be categorized into three main aspects. Firstly, many teachers do not have a correct understanding of modern educational technology, resulting in misconceptions that prevent the integration of course content with modern teaching equipment in the classroom. Secondly, there is a lack of correct utilization of educational resources, leading to low overall efficiency and limited effectiveness [6]. Thirdly, some teachers heavily rely on information devices for instruction, resulting in poor teaching quality. In specific teaching scenarios, some teachers solely rely on playing courseware during class, turning the teaching process into a mere slideshow activity. Although this teaching method may generate student interest, it hinders the development of critical thinking. Additionally, there is a homogenization phenomenon among courseware. The quality of courseware directly impacts teaching efficiency and quality. However, many teachers use similar courseware that lacks customization based on specific circumstances, making it less effective as a teaching aid.

3. Implementation Process of Task-Driven Collaborative Inquiry Teaching Method

3.1 Situation Creation Phase

The entire implementation of this method consists of several parts, among which the establishment of a problem situation forms the foundation of the teaching method. By utilizing this method, an efficient classroom can be quickly formed. In specific teaching scenarios, teachers should make adequate preparations according to the teaching plan of the course, allowing students to immerse themselves in the situation and explore and analyze the assigned problems [7]. The creation of a problem situation usually consists of stimulating students' interest in inquiry, clarifying the inquiry questions, establishing cooperative groups, and designing learning plans. During instruction, teachers should make rational use of various online resources and information devices in conjunction with the teaching content to create a well-designed problem situation, stimulating students' interest in learning and generating strong learning motivation.

3.2 Task Determination Phase

In the task-driven collaborative inquiry teaching method, task design plays a crucial role and directly influences the process of students' inquiry. This requires teachers to comprehensively analyze the course content, clarify the teaching objectives, decompose the objectives into different tasks, and reduce the difficulty of knowledge learning and understanding [8]. It is important to note that task design should align with the teaching objectives. During the design process, the small objectives should be purposeful and practical, and there should be a certain relationship

between tasks. This relationship can be explicit or implicit. Through the completion of various tasks, students can achieve the learning objectives.

3.3 Experimental Inquiry Phase

This phase is the most important part of the collaborative inquiry process, as it involves practical exploration by students. Teachers should make scientific and reasonable use of support tools, prepare question clues for students, and stimulate students' thinking abilities. This allows students to express their ideas, engage in discussions with different students, analyze problems in-depth, and ultimately achieve a comprehensive understanding of the knowledge.

3.4 Communication and Evaluation Phase

To ensure that students meet the standards of knowledge mastery, teachers should recognize the importance of the communication and evaluation phase when using this method. During the teaching process, all cooperative groups need to present their inquiry results and engage in exchanges with other groups to share their findings. This not only allows for a deeper understanding of the problem through the contributions of other groups but also enables the expression of different opinions, leading to a comprehensive understanding of the problem. During this phase, teachers should not only actively participate but also identify and correct any mistakes made by students, understand the reasons behind these errors, and rectify them at the root level to ensure students develop a correct understanding of the knowledge. Furthermore, through the group exchanges, the effectiveness of using this method can be assessed, and adjustments and optimizations can be made for future implementations, ensuring the achievement of teaching objectives.

4. Implementation Strategies of Task-Driven Collaborative Inquiry Teaching Method in Higher Education Modern Educational Technology Instruction

4.1 Designing Clear Learning Objectives to Stimulate Students' Interest in Learning

Firstly, design inquiry tasks based on the course content. In the implementation of any task-driven collaborative inquiry teaching method, teachers should comprehensively analyze the learning objectives of modern educational technology and present them directly to students to help them grasp the learning objectives of the course. Based on this, teachers should clarify the learning tasks related to the course content and guide students' participation in the inquiry process.

For example, in the initial teaching of the course, teachers need to provide a comprehensive explanation of the meaning and origin of modern educational technology to ensure students have a correct understanding and generate interest in learning. To enhance students' engagement in the course, teachers should design thought-provoking questions that motivate students to actively participate in the inquiry activities. Firstly, teachers should clearly define the teaching objectives, establish the direction for students' inquiry activities, and guide them to use the course materials to carry out the inquiry. Once students have a grasp of the course content, understanding the learning objectives and tasks, teachers should design questions that are relevant to the course content. For example, questions such as: How did modern educational technology develop? How is modern educational technology used in teaching? What roles does modern educational technology play in teaching? Through these questions, students can conduct cooperative inquiry and find the corresponding answers by conducting in-depth analysis based on the course materials. Therefore, in this teaching method, students can transition from passive learners to active explorers, enabling them to proactively explore the knowledge covered in the course.

Secondly, allowing students to complete tasks independently to generate a strong interest in learning. In the classroom teaching, teachers should fully grasp the requirements of the tasks and encourage students to complete the tasks in various ways. Through independent completion, students can gain a deeper understanding and consolidation of the knowledge. Teachers should also adhere to a student-centered approach, recognizing the individual differences among students and using a reasonable teaching pace to guide students to imitate examples and gradually develop their creativity.

For example, in teaching "Digital Imaging Technology," teachers need to ensure teaching efficiency and quality improvement by creating an efficient classroom and dividing students into different learning groups. In the specific implementation, students often have limited understanding of the task-driven method, which may lead to confusion during the cooperative inquiry process [9]. To address this, teachers should assign a student with strong

comprehensive abilities as the group leader and present questions such as: What is micro-lesson technology? When was micro-lesson technology developed? What is the role of micro-lesson technology in classroom teaching? By designing these questions, students can engage in the inquiry activities. During the inquiry process, each group leader needs to fully decompose the questions, assign appropriate tasks based on the group members' abilities, and efficiently complete tasks such as searching for information, recording, and creating presentation documents. In this process, students can download knowledge related to the course content from the internet, which lays a solid foundation for their inquiry activities. Each group member should complete their respective tasks, search for information using textbooks and online resources, summarize the valuable parts of the collected information, and analyze the information comprehensively. Finally, each group presents their inquiry results, which not only enhances students' understanding but also creates a complementary effect among groups, thus improving learning effectiveness.

4.2 Clarifying Learning Groups to Enhance Learning Effectiveness

Firstly, divide students into learning groups and ensure the accomplishment of collaborative inquiry objectives. The achievement of collaborative inquiry objectives is closely related to the rationality of learning group division. Therefore, it is crucial to implement group division based on principles such as scientific rationality and effectiveness. During the grouping process, teachers need to understand students' learning situations, individual characteristics, and consider factors such as interests, hobbies, and gender ratio to ensure balanced groups at different levels. By combining students with different abilities, mutual promotion and progress can be achieved.

For example, in teaching "Micro-course Technology," teachers need to create an efficient classroom and divide students into different learning groups to improve teaching efficiency and quality. In this case, students may have limited understanding of the task-driven method, and issues may arise during the cooperative inquiry process. Therefore, teachers should assign a student with comprehensive abilities as the group leader in each group and propose questions such as: Do we need to master PS technology and re-calculation in skill application? This enables students to conduct in-depth exploration. Generally, there are clear learning objectives and tasks in this type of inquiry process. Students can engage in independent inquiry and share their insights, thereby finding correct solutions. However, if some issues cannot be resolved effectively during the inquiry, teachers should provide guidance to ensure the achievement of teaching objectives.

Secondly, pay attention to students' inquiry and provide appropriate guidance. In classroom teaching, time is limited for each lesson. If students have difficulty understanding the role of collaborative inquiry, the process may become chaotic. Therefore, even though students may actively participate in the inquiry activities, their understanding may not reach a deep level, and the teaching effectiveness may be compromised. To ensure the efficiency and effectiveness of collaborative inquiry activities, teachers should observe the progress of students' inquiry activities comprehensively and provide appropriate guidance to ensure that students can develop their thinking skills and complete various inquiry tasks within a limited time.

For example, in teaching "Creating Electronic Presentations," teachers need to ensure students' learning efficiency by helping them understand the practical value of the skills and providing appropriate guidance. Teachers should have a comprehensive understanding of the distribution of knowledge points in the course materials, design inquiry tasks, and guide students' inquiry activities within their respective learning groups. During these activities, teachers should observe the progress of each group's inquiry process, identify any issues or difficulties encountered by students, and provide timely guidance to ensure that students can conduct inquiry activities in the right direction. To ensure the value of inquiry activities, teachers can propose questions such as: Do we need to master PS technology and re-calculation in skill application? This allows students to conduct further exploration. In this process, students have clear learning objectives and tasks, and they can engage in independent inquiry, share their insights, and find correct solutions. However, if some issues cannot be effectively addressed during the inquiry, teachers should intervene to help students achieve the teaching objectives.

Please note that the translation provided here is a general interpretation of the content you provided. Some phrases or concepts may be subject to different interpretations, so it's always advisable to consult with a subject matter expert for precise translations in specific contexts.

5. Conclusion

In current teacher education institutions, the modern educational technology course is a compulsory subject for all teacher education students. It enables students to acquire relevant teaching skills and apply information technology in actual classroom teaching. However, the previous teaching methods have not yielded satisfactory teaching outcomes and often fail to engage students effectively in classroom activities. In light of this situation, teachers should recognize the value of task-driven collaborative inquiry teaching methods and integrate them into the modern educational technology curriculum. This integration can enhance students' interest in learning and facilitate the achievement of teaching objectives.

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