

Instructional Design and Application of Command Course based on Intelligent Classroom

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Abstract: In view of the main problems faced by the command course teaching, this paper makes an in-depth investigation and analysis of the current situation of command military course teaching, and the research shows that the key reasons for the current problems of command military theory teaching are that the teaching of military theory is not standardized, the students' subjectivity is ignored, and the teaching design method is single. Aiming at the current problems, a task-based intelligent classroom of military theory curriculum is designed, which can integrate teaching resources and carry out systematic and small-class teaching according to teaching characteristics and learning conditions. Practice shows that intelligent classroom can significantly improve the teaching quality of command military courses.

1. Introduction

In recent years, with the development of actual combat teaching in colleges and universities, the investment in the construction of teaching conditions, such as laboratories and experimental equipment for various disciplines and majors, has been continuously increased. At the same time, students have been sent to the army for actual combat teaching, which strengthens the professional practice of teaching and greatly improves the teaching quality and level. However, the teaching and research of command courses are different from other courses. The teaching contents are characterized by dynamic development of weapons and equipment, antagonism of combat training and complex and changeable strategic situation. This requires the course team to closely follow the trend of international current events, master the information dynamics of tactical development and conduct targeted teaching in combination with the methods of combat training. However, there is no escaping the fact that many graduates report that they lack the ability to deal with the situation in a timely manner in the work of the armed forces, even though they know the development trend of combat ideology, national defense system and weapons and equipment after learning the command courses. The main reason is that command teaching focuses on the indoctrination of teaching contents in traditional teaching methods, and the teaching methods are monotonous, ignoring the students' subjectivity in learning. How to make the design of command courses novel and interesting, so that the students to take the initiative to think about learning is the main problem to be solved^[1].

Intelligent education is based on cloud computing and Internet of things technology, which is an application of the interaction between the life and learning of learners, teachers' teaching resources and educational institution management system. By means of computer information management, the educational resources of educational institutions can be scientifically allocated and the interaction between teachers and learners can be strengthened. With the support of Internet of things technology, personnel deployment becomes more flexible and interactive response speed is improved, thus making the management of educational institutions more intelligent. The combination of intelligent education and Internet of things can not only make the informatization construction of educational institutions develop to a higher level, but also find problems in time so as to analyze and solve problems in time and improve the adaptability and emergency handling mechanism of educational institutions.

2. Design Method of Intelligent Classroom in Command Courses

Smart classroom teaching system is based on the construction of smart classroom as the technical support, the key is to unify and centralized management of the complex equipment system in the smart classroom, so as to build a good connection with the teaching business process of equipment network management. Its hardware platform is built with the optical wireless switch and its distributed wireless system as the center. It is mainly composed of a wireless LAN access teaching system consisting of the device system in the smart classroom loaded with WiFi module and the optical wireless switch. In addition, the wisdom of the classroom in view of the inconvenience in wireless access equipment system adopts intelligent access gateway and distributed cable system layout, form a wired LAN access teaching system, the design to ensure that in the Internet of things applications built on the basis of a fully functional integrated application of the wisdom of the classroom teaching system platform.

2.1 Major Functional Requirements.

According to the main characteristics of the business process of teaching activities and the main characteristics of the structure of the smart classroom, the main functional requirements of the smart classroom teaching system can be divided into seven aspects: equipment list/knowledge/learning/examination/query statistics management, student center and safety management^[2].

The main functional requirements of the intelligent classroom teaching system are shown in figure 1:

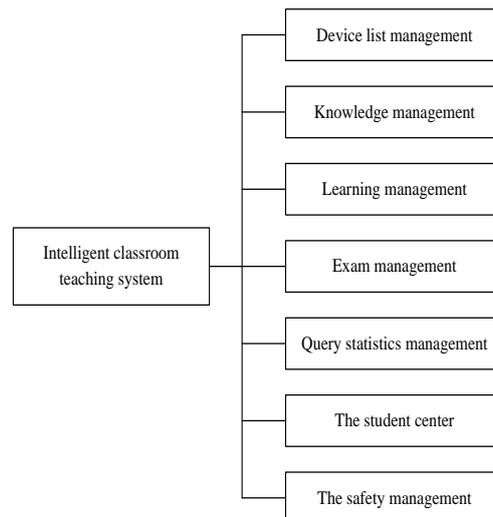


Figure 1. teaching process of smart classroom guided by mixed learning strategies

2.2 Overall Design of the Teaching System.

Overall function design of the system

After logging into the integrated platform of the intelligent classroom teaching system, the name of the platform software, system time, current login user and exit system button are displayed at the top of the menu bar. System users must log in to the system each time they want to carry out various operations of the system. When users have no other operations, they can choose to click the exit system button to exit the system.

On the right side of the main interface of the system is the alarm real-time statistics area, which is used to monitor the real-time data transmitted from the smart classroom. Once the alarm is generated, the data will be updated on the corresponding entry. When the alarm is generated, the display number will turn red, and the corresponding icon or number can be clicked to navigate to the relevant equipment system.

On the left side of the main interface of the system, there is a drop-down list, in which users can operate the functions of the smart classroom teaching system. The drop-down list includes 7

operation options, including equipment list, knowledge management, learning management, examination management, query statistics, student center and safety management. Video monitoring, access control and attendance, environment system, security system, control system and audio system are included in the device list. Knowledge management includes knowledge map, knowledge content management and knowledge recommendation, among which knowledge content management includes knowledge directory management, knowledge label management and knowledge import. Learning management includes course management, test management, course selection management, learning process monitoring and learning outcome evaluation. The examination management includes the question bank management, the examination paper management, the examination management and the examination result 4 sub-options; Query statistics includes individual learning analysis, course learning analysis and test results query statistics 3 sub-options; The student center contains four sub-options: personal profile, learning center, test center and knowledge center. Security management includes six sub-options: department management, position management, role management, user management, log management and system maintenance.

2.3 System Software Composition.

The system software of the integrated platform of the intelligent classroom teaching system is constructed by means of the platform supporting software. Whether it is a smart classroom teaching system or other third-party management information system, etc., it is achieved by calling the functions provided by the system platform and adding the application program for specific application purposes, just like any computer application is built on the platform of the operating system and development tools. The application function module of the integrated platform realizes the distributed deployment of the application through the software supporting platform.

2.3.1 Operating system

The operating system platform used in the server and workstation of the integrated platform of the intelligent classroom teaching system can be used in any of the operating systems of Microsoft Windows, Linux and Unix, and the products with openness, high reliability, safety, universality and maturity can be selected. The intelligent classroom teaching system can be converted freely on a variety of operating system platforms and ensure stable operation.

2.3.2 Data acquisition software

In order to ensure the normal operation of the teaching activities in the smart classroom, it is the primary task of the management personnel of the integrated platform of the smart classroom teaching system to collect the information data of the equipment system running on the site of the smart classroom and obtain accurate information reflecting the operation status of the equipment system on the site. The support provided in this section includes:

- Support access of various standard protocol devices/subsystems;

- Data communication with each smart classroom station, the communication mode can be selected according to the actual situation of the smart classroom site;

- With the computer system's internal clock or data external standard clock (such as GPS clock, etc.) according to the unified computer system and the wisdom of the classroom scene clock signal.

2.3.3 Maintenance management software

The integrated platform of the intelligent classroom teaching system USES maintenance and management software tools to manage all kinds of databases, including the following:

- Establish a database, with the function of adding, deleting, input data;

- Provide the backup function of the historical database, can save the historical data for a long time in the case of insufficient computer storage capacity dump to CD and other media external storage, so there is no need to limit the historical data storage time length;

- In order to facilitate information sharing and secondary development, the database services provided in addition to the system, but also to the outside world open standard database query

interface.

3. The Application of Instructional Design of Command Courses in Smart Classroom

Based on the advanced constructivism theory, the open digital learning environment creates a broad space for the application of task-driven teaching. Under the background of advocating research-based learning, smart classroom is more and more favored by educators and becomes the most important teaching method in the learning-centered teaching mode. In the smart classroom learning, make full use of various digital resources, maximize the initiative of learners, so that learners can truly become the master of their own learning.

Blended learning strategies advocated the advantages of traditional teaching and combine the advantages of digital learning or e-learning, either is the combination of multiple techniques, also can be a combination of a variety of teaching methods, also can be any form of teaching technology and based on the combination of mode of face-to-face teacher training or teaching technology and the combination of specific tasks. Therefore, in the teaching of wisdom classroom, we should not only pay attention to give full play to the autonomy of students, but also pay attention to the role of teachers in the management and control of teaching activities. We should not only pay attention to the elaborate design of the open task, but also take the closed task as the foreseeing appropriately. Basic knowledge and skills play a key and leading role in the process of students' knowledge construction. The mastery of basic knowledge and skills should be designed as a closed task and taught and transmitted directly by teachers in the wisdom classroom. This will not only ensure the mastery effect of basic knowledge and skills, but also avoid wasting time on students' blind "construction" of basic knowledge and skills, so as to improve the efficiency of smart classroom. Therefore, to apply the basic idea of mixed learning strategy to the teaching of smart classroom, we should flexibly use the advantages of traditional teaching and digital environment, in order to get the optimal teaching effect. Figure 2 illustrates the supplement to the teaching process of smart classroom under the guidance of mixed learning strategy^[3].

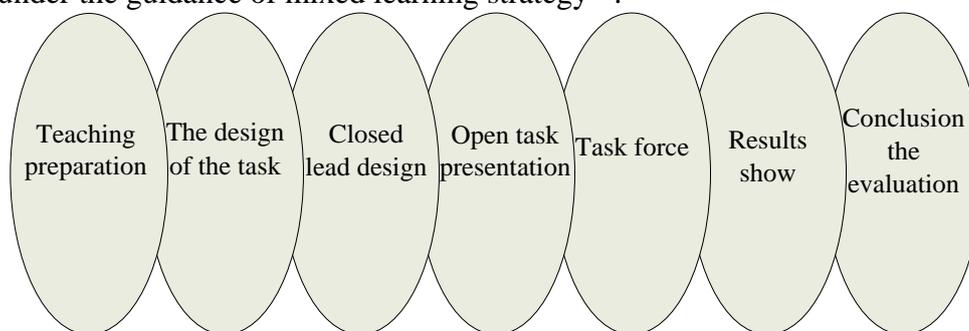


Figure 2. teaching process of smart classroom guided by mixed learning strategies

By above knowable, compared with the traditional teaching process, the hybrid learning strategy instruction in fully embodies the wisdom of the classroom teaching students autonomy, on the basis of further focus on the faculty of management and control of teaching process, increase the faculty of classroom learning teaching preparation and wisdom of design and application of the enclosed task in classroom. Teachers analyze and define the teaching objectives in the teaching preparation stage, classify the tasks according to the teaching objectives and learning contents, and make full use of the different functions of closed tasks and open tasks for knowledge learning. In the existing wisdom classroom, before students carry out independent learning around open tasks, necessary closed tasks will be arranged as foreshadowing and leading, which will be directly taught and transferred by the teacher, or independently completed by the students on the basis of the teacher's explanation. On the basis of the completion of closed tasks, carefully designed open tasks as learning promotion, by the students to complete the autonomy or collaboration. In essence, the wisdom of the hybrid learning strategy instruction in the classroom teaching, teaching preparation and enclosed is the task of leading design and complete the traditional teaching centered teaching design process, and the design of the open tasks, rendering, implementation and results show it

embodies the constructivist learning centered teaching design thought.

In this way, the intelligent classroom teaching guided by the mixed learning strategy not only gives full play to the advantages of the traditional teaching in the management and control of teaching activities of the teachers, but also creates a relaxed learning environment for students, so that students can give full play to their autonomy in the open digital environment. It not only combines a variety of teaching methods and teaching techniques, but also combines various forms of teaching techniques and face-to-face teaching; It not only combines structured learning and unstructured learning, but also combines independent learning and collaborative learning. In addition, there is the combination of teaching and task. These not only conform to the essential idea of smart classroom learning, but also integrate the advanced teaching concept of mixed learning strategies to enrich and improve the learning theory of smart classroom.

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