Blackboard-Based Online Physical Education Curriculum Design

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Abstract. Taking the constructivism and humanism as the theoretical guidance, adoption of Blackboard online curriculum tools to develop internet-based online physical education courses, completing the design, interaction and collaboration as well as learning assessments for the online physical education curriculum on the basis of teaching objectives analysis and environment creation.

Introduction

The 21st century is the Information Age. Increasing popularity of computer, Internet and multimedia technologies facilitates peoples' lives, emancipates their minds and transforms every aspects of the society. In recent years, the widely application of network teaching platform based on computer, Internet and multimedia technologies, not only changed the traditional teaching mode, teaching content, teaching methods, teaching methods, but also will eventually lead to the transformation of entire educational thinking and teaching philosophy.

In the field of physical education, the advantages of computer, networking and multimedia technologies have been fully reflected. As a useful supplement to physical education model, the internet-based online teaching has been widely used and greatly enriched the contents of the physical education, broadened the horizons of the students and comprehensively improved the teaching effect. It has been very popular among teachers and students. With the rapid development of computer software and network technology, such as "Blackboard," the online self-study and interactive learning become a reality. Therefore, taking the advantages of the network teaching platform to develop the network resources of physical education curriculums is of great significance to resource sharing among colleges and universities, enriching the teaching contents and forms, promoting the combination of curricular and extracurricular physical education, enhancing the integrity and continuity of physical education and developing students' independent learning and innovation.

Features of Blackboard

Internet based online curriculum design has evolved from the traditional inefficient independent design, writing code to the fast efficient adoption of online course development tools. Blackboard is one of the typical high efficiency internet program development tools. The online curriculum teaching platform based on Blackboard can support millions subscribers. Blackboard platform takes curriculum as its core, it has following four independent functions: (1) Content resource management capabilities. Through this feature, teachers can easily publish, manage and organize teaching content; use the tools provided in the control panel, students can obtain learning materials at any time and place. (2) Online communication features. It can simultaneously provide users with asynchronous (discussion boards) and synchronous (virtual classroom) and other communication tools to enhance learning. (3) Assessment management capabilities. (4) System management functions.

Blackboard-based online physical education curriculum design programs

Designing guide for online Physical Education curriculum

Theory of Constructivism. Constructivist theory advocated in teacher refers to learner-centered learning. Students are the main bodies of the information processing, the active components of the

cognitive structure, rather than passive recipient of the external stimuli and instill objects. Principles of constructivism curriculum design: (1) Emphasizing student as the center; (2) Putting questions as the core to driver learning; (3) Studying the problem in a real scenario, must be a real task; (4) Emphasizing the complexity of the learning task; (5) Stressing the importance of collaborative learning, requiring learning environment to support collaborative learning; (6) Emphasizing that the overall evaluation to be non-quantifiable, against over-refinement of the standard assessment; (7) Emphasizing design as the major task under expanded learning environment; (8) Stressing the design of a variety of independent learning strategies, and making student as the main bodies of the learning process.

Humanistic Learning Theory. Carl Rogers, as the representative of humanistic learning theory, considered the learning process not the mechanical coupling between the stimulant and the reactor, but the full development of personal potential. It is a self-development, meaningful psychological process. This active participation and involvement of individual's enthusiasm learning process is characterized by the tendency to self-realization kind of learning, learners are free to achieve their potential, and seek their own full development.

The curriculum design process

Analysis of teaching objectives. The analysis of teaching objectives is to identify student learning "theme", that is related to the basic concepts, basic principles, the basic approaches or knowledge concerning basic processes. Physical Education teaching objectives can be divided into three levels. They are knowledge and skills, processes and methods, attitudes and values. After the setting of teaching objectives, teaching organizations, scenarios and design of collaborative learning should focus on the teaching objectives.

Analysis of Learners' Characteristics. To analyze the learners' characteristics is to determine students initial ability and teaching starting point (i.e. to determine the students' zone of proximal development), to provide a basis for the curriculum design (design of learning environment, learning activities and learning strategies). From the physical education point of view, this is the learning of sport-specific course content with the specific knowledge and skills, as well as the attitude towards physical education learning.

Analysis of the learning content. The learning content is the knowledge of the teaching objectives. Teaching objectives can be reflected through a series of learning contents. Learning content analysis is a process of investigating the requirements of transforming the learners' learning capabilities to their ultimate learned knowledge, which including their awareness, skills, attitudes, etc.

Teaching Environment Creation. The creation of online physical education curriculum is according to the characteristics of physical education. Due to the special characteristic of physical education, the creation of physical education teaching environment emphasizes on the processing ability, hands-on ability. Thus, the creation of the teaching environment is mainly the creation of courses relevant to the subject, relevant to the real situation, as much as possible, especially from the sports games. This close to real teaching environment is important to the cultivation of students' ability and literacy development.

The design of online physical education curriculum learning resources

Online curriculum learning resources refers to the courses provide the knowledge related to information resources (including text, graphics, sound, video and animation, etc.) as well as access to various resources from the Internet. It is easier for college students to accept visual characteristics of the media and conduct visual thinking. The design of online physical education curriculum learning resources has been focused on the diversification of learning media and learning navigation.

Design of diversified learning media

Large amount of information is the basis for autonomous learning and meaning construction. The wealth of learning resources and the diversity of learning media is essential condition for

constructivist learning. It must be embedded in the learning context with a lot of media diversity information to help students receive and understand the course contents. Under online physical education curriculum, the Blackboard “Content resource management function" in the “course menu management”, “curriculum design” tools to design learning courseware, operating video, managing material resources. In order to diversify the learning media, all learning resources are manifested by corresponding media contents, such as text, graphics, sound, video, animation and various other media formants.

The learning courseware includes the learning objectives and requirements, focus of learning, difficulty points of learning, teaching equipments and methods. It especially presents the design of a personalized learning content and process to guide students learning. The courseware is converted from PowerPoint format to web page html file format. It can be opened in real-time, can also be downloaded for later viewing. Learning courseware uses a variety of media forms such as text, graphics, sound, video and animation.

Operating video refers to the process of recording the video editing procedures into video files, and coupling them with narration to explain the operation process. In the course of this online teaching, arrange video clips in accordance with the work of video editing and production process, such as "Timeline Window" “three-point or four-point editing”. In this way, students can play the video as they wish to learn.

Material resources refer to the classroom learning material available in the online courses. It includes the material needed by the video editing such as video, audio, subtitles, planning books and shooting scripts etc. These resources are edited and sorted according to the Blackboard platform content modules, folders, subfolders, independent pages. They are presented to students by diversified formats such as video, audio, subtitles, texts and other forms of media.

Design of learning navigation

Online curriculum is rich in resources and contains a large variety of media. How students can pinpoint major theme-related learning information is an essential question. Therefore, it is the key to establish an information database, design a convenient learning navigation system to guide students find useful learning resources.

The design of online physical education curriculum navigation utilizes Blackboard content resource management capabilities. It designs pull down menu for online course diagram, the diagram can be unfolded or folded fully or partially to facilitate students learning in the virtual classroom. It encourages independent study, collaborative learning to retrieve learning resources to complete the learning process.

As mentioned above, using a variety of resources to design diversified media and convenient navigation system enhances students learning intuitive, stimulates students' interest. These effective learning resources are all designed to make students focus on the online courses.

Interactive and collaborative design of online Physical Education curriculum

Interactive and collaborative design is an important part of the online curriculum design. Interaction and collaboration is a form of online discussion, communication between teachers and students and among students for collaborative learning. The physical education online courses use the Blackboard online communication capabilities to complete the virtual classroom design, project-oriented task-driven, autonomous learning and collaborative learning design.

Virtual classroom design

Virtual Classroom is an Internet video conference system. The Blackboard implemented virtual classroom is a very powerful system and rich in features, except it does not have interactive video, audio features. It enables browsing the online course content, accessing to Internet resources, launching the discussion (group discussions), raising interactive questions, writing on the blackboard, communicating in private and other forms of classroom teaching and learning. Therefore, it is also a kind of collaboration tool. The “whiteboard”, "chart", “recording tool”,

"group browser", “question tool”, "problem collection boxes" and other tools in the online physical education virtual classroom designed by the Blackboard virtual classroom accomplish the function of a traditional classroom such as "blackboard", “teaching show”, "teaching the process of recording", “Network Explorer", " questions"," question collection ". The functions that virtual classroom can achieve and the corresponding tools used from Blackboard are shown in Table 1.

Table 1 the functions that virtual classroom can achieve and the corresponding tools used from Blackboard

Functions	Blackboard Tools
Writing on the blackboard	Whiteboard
Teaching content	display chart
Recording the teaching process	Recording tools
Browsing internet resources	Group browser
Raising questions	Question tools
Collecting questions	Question collection tools

The self-learning design

The online physical education curriculum is project-oriented task-driven self-learning mode. This mode of learning is the field application of the constructivist learning theory, school-based instructional design in a network environment. It combines the characteristics of project-based learning and the advantages of the internet learning in education. It enables students to improve problem-solving skills in the mode of self-promoted learning in addition to the study of knowledge. It develops the students' ability in a practical manner.

The self-learning mode in physical education online curriculum designs the process of objective presentation, project scenarios presentation, student self-learning design, problem solving, personalized guidance of teachers, students completing the task, students demonstrating their achievements, learning assessment, students reflect on and improve their skills and processes , the corresponding relationship is shown in Table 2.

Table 2 the functions that self-learning achieves and the use of Blackboard

Functions	Blackboard tools
Learning procedure	Course content creation
Reference model	Links
Links to resources	Links
Teacher student communication	Discussion board
Homework submission	Digital mailbox
Score feedback	Score mailbox

Collaborative Learning

The main task of collaborative learning is that learners display and discuss the questions, confusions and gains to other team members so that they are able to rethink their own learning process and outcome; observe the partners’ learning progress, achievements and study methods; enhance their learning motivation and promote the awareness and skills of independent and collaborative learning. In Internet curriculum, collaborative learning is to promote and sublimate self-learning. The Internet curriculum is a project-oriented and task-driven collaborative learning

model. This model is the specific application of the constructivist learning theory in the Internet environment.

Compared to independent learning design, the collaborative learning design of the physical education Internet curriculum adds two steps: students working in groups and students working together which replace design and task completion in independent learning, respectively.

Learning evaluation design in physical education Internet curriculum

Learning evaluation design is an important part of the Internet curriculum. A reasonable evaluation program can play the role of promoting and navigation for students in online curriculum. When students get feedback for the learning task they completed, they can adjust their own learning direction and progress to improve their ability of rethinking and self-learning.

Test evaluation design for basic skills

The test evaluation design for basic skills can be completed by "test" tool in Blackboard. "Test" carries out the function of online and automatic scoring, and designs all kinds of tests for the physical education curriculum based on the created exam databases.

For the learning performance of the process evaluation design

The evaluation of the performance-oriented learning process can be achieved through Blackboard learning performance statistics tool. This tool is used for observation of students' learning progress, showing whether students view specific content. Teachers make the evaluation of the performance-oriented learning process for the students based on their learning performance statistics provided by the reference data.

The outcome evaluation design for the projects

The outcome evaluation for the projects can be achieved by the "homework" tool in Blackboard. Teachers create projects according to the homework students submitted. Teachers can evaluate the outcome of the students' homework by tracking the status of their progress, marking homework and providing online feedback individually to each student.

Comprehensive evaluation results given by the above three ways will be stored in the student's grade book and the results issued through the platform scores will be automatically stored in the scorebook. Students can view their results under the teachers' permit.

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