

# Research on College Tennis Intensive Courses Online Teaching Design\*

Taking Jiangxi Normal University as an Example

Kaiqiang Guo, Juan Pu, Zhidao Chen

Physical Education Institute of Jiangxi Normal University, Nanchang, Jiangxi, China  
Email: guokaiqiang2008@yeah.net

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Physical intensive course construction is an important component of the teaching quality and teaching reform in colleges and universities. In this study, after reviewing literature and applying computer network technology, PPT, Authorware, Flash, Windows movie maker, dartfish, super king and other educational softwares, taking Jiangxi Normal University college tennis intensive courses as an example, we research on how to design an online platform for the college tennis intensive course in a university. In tennis professional intensive courses online teaching design, we must first recognize that tennis is a sports skills curriculum based on body movements as the carrier, commonly known as "technology class". Secondly, teachers should effectively use information equipment and information resources, so that they can have the abilities to process information, create new information, and do research. They should also focus on teaching objectives. Network instructional design requires students to actively participate in the interaction and form their own characteristics and style. Thirdly, making an interactive platform of the students' skill level evaluation and diagnosis can avoid students' cognitive performance remaining at an only digital cinema demo viewing stage, thus achieving scientificity, consistency, and effectiveness in the tennis teaching evaluation. In the future, the construction of the university physical intensive courses, applications and practice of online teaching design requires constantly integration and innovation from teaching concepts, theoretical models and change in methods.

*Keywords:* Tennis; Intensive Courses; Instructional Design

## Research Purposes

Physical intensive course construction is an important component of the teaching quality and teaching reform in colleges and universities. In China, the college tennis program is the main course of the physical discipline and a core curriculum and also the main content of personnel training in Higher Normal Institute of Physical Education, Department of Physical Education, Physical Education and Training.

Research on theory and practice effects of tennis intensive course construction, it requires constantly integration and innovation from teaching concepts, models and methods. The main significance is to improve the theoretical level and practical skills of PE students, and to promote the development of the construction discipline of the physical intensive courses. The expected value of this study will be a breakthrough in the following aspects:

1) It can promote the improvement of theoretical and practical level of instructional design of college physical education technical intensive courses. It has strong practicability and guidance, and also has certain use of reference to all levels of the affiliated secondary disciplines of physical education.

2) It can improve the educational informationization abilities, and form good teaching and scientific research capacities of PE teachers.

3) It can help shaping PE students' tennis skills, enhance students' capacities in problem analysing and solving skills.

4) It can continuously improve the PE students' capacities in cooperative learning and autonomous learning in the educational informationization.

In China, the academic research of teaching design and application effect on PE skills courses is at the stage of the development and innovation, the main representatives are:

The effectiveness of the network information platform in sports technology teaching. (Dong, C. H., Zhang, M. L., 2011) By use of questionnaires and other research methods, it investigated and analyzed the current status of network information platform in sports technology teaching. The results showed the good use of network information platform in the sports technology teaching. Core research index of network information platform in the sports technology teaching are used for the technical action learning, extracurricular learning and the use of information platform. It is a linear relationship between the two dimensions of technical action learning and extracurricular learning with effectiveness of the use of information platform. It suggests that the traditional sports technology teaching methods should combine with modern technology teaching methods, to achieve rational organization of sports technology teaching information resources.

Research of the current situation of national, provincial and city sports intensive courses network construction (A, Y. G., Sun, Y. L., 2009). In this paper, the current situation of national, provincial and city sports intensive courses network construction

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were analyzed. It was found that most of our existing websites of national, provincial and city sports intensive courses are running well. It had made certain progress in teaching sources networked. The problem is that the vast majority of websites' contents presentation does not have the guiding functions for the learners, and not able to meet the needs of learners' research learning and autonomous learning. Networking of feedback approach of teaching and learning activities needs to be further enhanced. It is mainly manifested in two aspects: First, there is few website provide online communication for teachers and students. Second, in all of the intensive courses, evaluation of teaching results is not able to be completed online. Overall, the networking of sports intensive courses has not yet reached the required level of network teaching. Networking of teaching resources and evaluation is still in the stage of assistant teaching.

Innovation and practice of basketball network tutorial (Wang, S. H. etc. 2009) in this paper, supported by the methods of computer and multi-disciplinary theories, using information network as a platform, adopting the comprehensive research methods, it made an overall design and planning of basketball network courses. It also proceeded various forms of network coursework producing and developing and built a more comprehensive database, provided a good reference for the teaching reform in the age of information.

The above studies indicate that the networking instructional design of physical education skills intensive courses lack interactive communication of teachers and students, also pointing out the single teaching evaluation and other deficiencies. However, we need to do further exploration on how to improve, design and use it.

## Research Methods

**Literature:** 11 relevant literature.

Designed and produced the network platform of tennis intensive courses of Jiangxi normal university adopting intensive courses learning platform V2.0 software developed by China Hubei Hua Qin Educational Software Technology Co., Ltd.

V2.0 software can achieve the centralize management and publishing of website teaching resources and can fully reflect the strength and characteristics of various courses. Meanwhile, V2.0 software system provides enormous autonomy to columns and function settings of course website. The comprehensive management of the columns, templates, and functions of course website are with the following process:

A: Enter course website management

B: Course website columns settings: add, delete or edit the columns of the course website

C: Course template comprehensive settings: select and set the course website templates and home page module.

D: Curriculum links management: add, delete or edit the course website pointing to an external site link

Design and product courseware by application of PPT, Authorware, flash, Windows movie maker, dartfish, super king and other educational softwares and import it to network platform of the tennis intensive curriculum.

## Research Results and Analysis

Since the release of Notice on the start of the Course Construction in Colleges and universities Teaching Quality and Teaching Reform Project by Ministry of Education, the construction of PE intensive courses is developing comprehen-

sively in wide field and multi-level. Through browsing 36 national PE Department and College Course Websites, the research team has found that PE technical intensive course construction includes 11 national level curriculums, 47 provincial level curriculums, 48 university level curriculums. The main projects are most traditional projects, like track and field, gymnastics, martial arts, aerobics, basketball, volleyball, and football. These are all the main courses and core courses of the discipline of PE.

Through browsing 36 national PE Department and College Course Websites, it is found there are many inadequacies in the network instructional design of college PE technical intensive courses.

1) PE teachers lack the concepts of positioning. They just simply imitate instead of thinking it over and be more creative during the implementation process.

2) It is Lack of "technique course" professional teaching characteristics. It is specifically performed in the curriculum book imprinting, imitation of teaching design and simple demonstration of digital cinema. It is ornamental, but lacks teacher-student interaction platform. It does not integrate with the teaching objectives using body movement as the carrier, and students' participation is rarely seen. Students' cognitive performance remains at an only digital cinema demo viewing stage. How to improve the level of students' skill levels does not reflect. No innovation in the teaching level of professional features has shown.

3) It is difficult to achieve the "three bases" teaching objectives. It is lack of network interactions explore teaching. Interactive use of multimedia networks is not enough. It is difficult for teachers and students to have further and more effective communication outside the classroom. It did not show the effective extension of physical professional technique courses.

4) Physical "technology class" with modern educational technology as counseling tools enables students to have the opportunities to access to excellent software. It has a positive meaning in counseling type teaching and personalized learning. Meanwhile, teachers can use the network platform of intensive courses as a way to pay constant attention to students' learning progress, their skill learning difficulties, and provide them timely counseling and correction. However, researchers learned that there is only few college has physical professional technique intensive courses which are designed to improve sports skills level.

### Concepts of instructional design of tennis intensive courses:

In this design, we must first recognize that tennis is a sports skill curriculum based on body movements as the carrier, commonly known as "technology class" and must focus on the integration of the teaching objectives. It requires students to actively participate in the interaction and form their own characteristics and style. IT literacy and ability of PE teachers are basis and necessary conditions in curriculum integration and design. Secondly, the network teaching design of tennis intensive course including the interaction platform for students' skill level evaluation and diagnosis should be built. It is the main solution to solve the differences between the instructional design theory and practical teaching of PE majors. It is one of the key elements to improve teaching effectiveness. It is the main way of the bottlenecks to address the effect of teaching and learning. Thirdly, through innovation in network instructional design of tennis professional skills intensive courses, it can enhance students' collaborative learning; promote advanced

cognitive development of the students, help to culture PE students' sense of exploration, skill proficiency, teaching practice and other abilities.

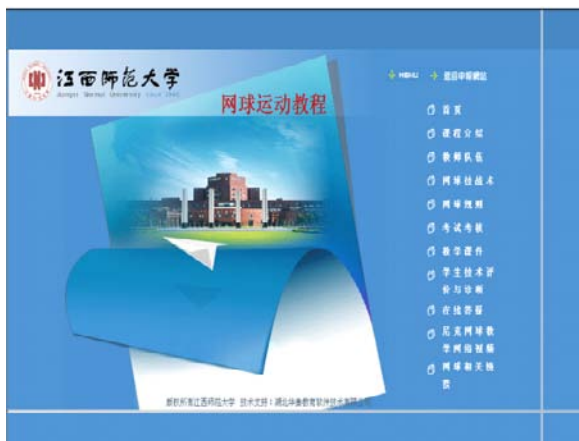
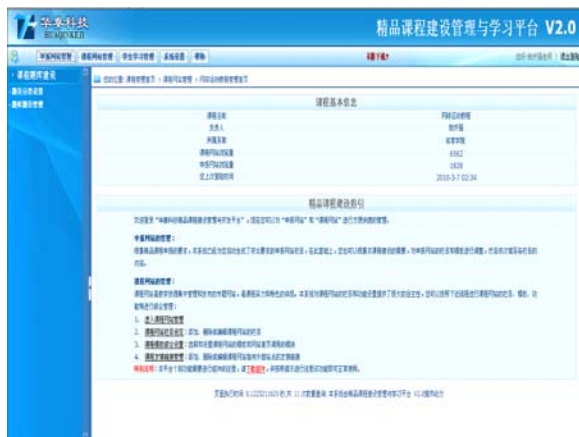
**Intensive courses of Jiangxi Normal University, network instructional design of tennis tutorial**

When processing the intensive courses of Jiangxi Normal University, we made network instructional design of tennis tutorial by use of Huatai intensive courses learning platform V2.0 software.

In **Figures 1** framework diagram, it includes introduction of the curriculums, teachers, tennis techniques, tactics of CAI, tennis rules, examination and assessment, assessment and diagnosis of students' skills, Nick tennis online teaching video, online Q & A, and other related Tennis Links. It meets the network design requirements and standards of national intensive courses.

Introduction of the curriculums and teachers. It makes brief introductions on tennis curriculums, including tennis teaching objectives, syllabus, examination methods, teaching results, etc. From this introduction, the students get to know about tennis teaching contents and requirements first in order to help them learn and proficient tennis technology extracurricular.

Tennis techniques, tactics of CAI: Make CAI courseware to import the intensive courses like making action video of elite athletes by use of PPT, Authorware, flash, the Windows movie maker, dartfish, super king and other educational softwares. So we can perform interactive teaching and learning. See **Figures 2**.



**Figure 1.** Framework diagram of tennis intensive courses instructional design.

**Figures 3** This courseware mainly uses computer technology, Authorware, Flash and other softwares to integrate and produce tennis serve technical analysis and teaching courseware, we try to find out the main feature of outstanding tennis athletes and analyze the rationality and effectiveness of the advantages from the theory and practice aspects.



**Figure 2.** Demonstration courseware of technical movements by elite athletes.



2、抛球离手瞬间,持拍臂在肩关节处约与身体垂直方向成60-80度,与肩轴延长线成45度左右,肘关节屈成150度,握拍手心、拍面向下,拍指尖向地面。

**Figure 3.** Tennis serve technical analysis and courseware.

Tennis rules, contents' teaching of examinations and assessments. With main application of computer technology, we achieved two effects of network instructional design. The first is paperless assessment, online learning and answers. Second is making CAI Courseware to resolve the key points and difficult points in the teaching of tennis rules, such as CAI teaching design and development of tennis match referee scorecard. As shown in **Figures 4**, the interaction of teaching and learning is demonstrated in the CAI courseware.

Setting the instructional design of students' technology assessment and diagnosis is the core content of network teaching design in tennis intensive course. Modern educational technology theory has proved that network courses instructional design should focus on integration of teaching content and teaching methods. It should follow three principles: achieve mutual interaction of teachers and students; provide students operational interactive services; content designed for serving students interactive thinking. In making students' technology assessment and diagnosis platform of tennis intensive courses network instructional design, the major design implementation process is:

1) Teachers should make multimedia courseware to assist teaching by using elite athletes' technology as materials. It can facilitate students' understanding and perception of the technology and promote their learning effects.



**Figure 4.** CAI instructional design demonstration of tennis match referee scorecard.

2) Record the students' technical action video regularly based on the teaching programs and learning progresses.

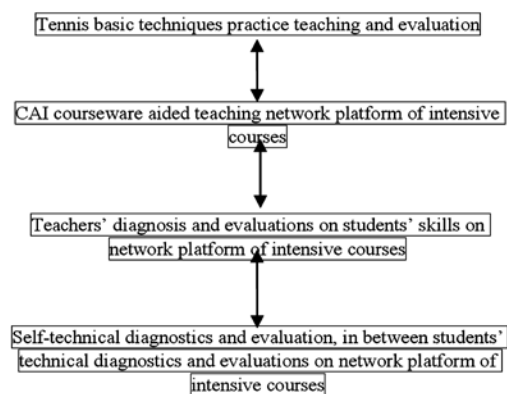
3) Making diagnosis and evaluations of the physical skills of students by use of computer software and modern educational technology, and make a PPT demonstration courseware. Upload it to the students' evaluation and diagnostic platform of intensive courses. Achieve online self-assessment, evaluation in between students, and inspection of teaching effectiveness.

4) Guide students to make self-diagnosis. Through video playback software, show students their own technical actions, so they can format their initial self-diagnosis in conjunction with their action experience. From cognition of the teacher's diagnosis, students can improve the abilities of problem analysis and problem-solving.

Two aspects of teaching effectiveness have been achieved by the application of network instructional design. The first is that the visualization and graphical of the evaluation of the students' tennis technical movements is fully achieved, thus getting a more objective and accurate evaluation of teaching effectiveness. Second is the successful use of the double subject education design principle. It resolved the difficult and key issues in the tennis teaching. Thirdly, it avoided the teachers' unscientific subjective and experienced evaluations on tennis actions.

Design advantages of students' technology learning effects' diagnosis and evaluations: In the multimedia computer assisted teaching, the problem design is essential to diagnostic evaluation of teaching practice. This is also the core content of using network and CAI assisted teaching in PE technical class. Through teaching practice, one can find out students' technical problems. (Wrong technical actions of individuals and all) Record technical problems as digital movies and put them into courseware. Make it as problem materials for students. Meanwhile, make analysis and comparison by application of CAI software and sports analysis software. This kind of timely feedback by application of media can help students to knowledge and correct their technical movements in the course of practice. Whether it is remedial feedback or encouraging feedback, each of them can help students' to have further understandings and disciplinary memories of the correct sports skills formation. These theories are compatible with sports skills formation principles. This innovative method optimizes teaching link. (**Figure 5**)

1) It can solve some differences between the instructional design theory and professional teaching practice. It can continuously improve the students' abilities of cooperative learning and



**Figure 5.** Design flow chart of student technology assessment and diagnostic teaching.

independent study in the age of educational informationization.

2) It can increase PE students' interests in learning sports skills. PE students can improve their sports skills after master the aided way. It meets the needs of PE students' research study and independent study. Learning can be more effective.

3) It can enhance students' collaborative learning, promote higher cognitive abilities' development of the students, help to culture PE students' sense of exploration, skill proficiency, teaching practice and other abilities.

Utilization and integration of online learning resources. Tennis intensive courses had established the instructional design and application with Nick tennis online teaching video, online Q & A and other related links. It expands the online teaching resources of tennis intensive courses and promotes the improvement of teaching quality.

The function of network teaching platform of tennis intensive course of Jiangxi Normal University achieved fully affirmation of PE major students after 4 years teaching practices. In 2011, Jiangxi Normal University performed a competition of curriculum reform evaluation in the whole university and in this competition tennis intensive course was rated as three-star course. (Files of Jiangxi Normal University, school published 2011, 166)

1) Network teaching platform of tennis intensive course made a good integration of teaching resources. Teaching design meets the characteristics of the physical technology professional courses. It achieved online communication and interaction of teachers and students. It can provide students with operational interactive services. In addition, students can download most of the teaching resources for self-learning.

2) Made an objective, fair and equitable reform in the methods and means of technology evaluation on students' level. It made innovation and change in teaching evaluation methods. It can timely and effectively solve the teaching key and difficult issues and promote the formation of motor skills. It also achieved a multidimensional and scientific evaluation on students' assessments.

3) It is able to meet the need of dual and interactive nature of teaching and learning so that each student can learn by analogy. It can improve students' independent thinking and problem-solving skills.

4) In the future, in order to promote and intensify the work of the tennis intensive teaching reform and construction, and to improve the standard and quality of teaching of the tennis professional courses comprehensively, we should make reform and innovation in evaluation of teaching effectiveness, network instructional design and integration of teaching resources.

## Main Conclusions

In tennis professional intensive courses online teaching design,

we must first recognize that tennis is a sports skills curriculum based on body movements as the carrier, commonly known as "technology class". Secondly, teachers should effectively use information equipment, and have the abilities of processing information resources, create new information, do scientific researches, and must focus on the integration of the courses' teaching objectives. In network instructional design, it requires students to actively participate in the interaction and form their own characteristics and style. Thirdly, making the teaching design of an interactive platform of the students' skill level evaluation and diagnosis can avoid students' cognitive performance remaining at an only digital cinema demo viewing stage, thus achieving scientific, consistency, effectiveness in the tennis teaching evaluation. In the future, the construction of the university physical intensive courses, applications and practice of online teaching design requires constantly integration and innovation from teaching concepts, theoretical models and change in methods.

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