Competitive Product Behavior and Family Sports Multimedia Education Platform Based on Smart System

Qingying Zhu, Jinhai Sun*
College of Physical Education, Shandong University, China
*Corresponding author(Jinhai Sun, sunjinhai@126.com)

Abstract
With the development of cloud computing technology, the modern information platform provides the conditions for the innovation of physical education. In this paper, the authors analyze the cloud computing and multimedia platform applications in family sports learning and physical education. By practicing family sports, people can achieve the effect of relieving stress and strong physique. At the same time, the multimedia technology makes the form of knowledge presentation become rich and colorful. The display of multimedia platform can attract peoples' attention, which makes the people's memory of the basic knowledge and technical action more profound. Overall, the multimedia teaching can effectively improve the enthusiasm of people to participate in family sports learning.

Keywords: Cloud computing, Multimedia platform, Family sports, Physical education

1. INTRODUCTION
Relying on Web2.0 and cloud computing technology, to build a global platform for mutual integration of distance education for the purpose of the World University City, new changes for application oriented information age education provides the conditions and possibility. Cloud platform is the World University City as a new educational revolution of the weapon, it is the change of teaching and learning in the era of information carrier, tools, platforms, windows and links, the cloud is the premise of the construction of teaching teachers and people personal cloud space and continue to improve, full development and mining cloud space function. Physical education teaching "cloud space" is a powerful supplement to PE Teaching in the information age. At present, the fitness Family sports movement is more and more popular among all walks of life. Modern family sports from traditional sports development is derived, by the State Sports General Administration according to the original traditional Family sports as a blueprint, a combination of modern sports thought, idea and creation of modern medical care, in order to promote people's physical and mental health for the purpose.

At present, the exercise of family sports is more and more popular among all classes of society. To promote the people's physical and mental health is the core of modern fitness Family sports, through the practice of Family sports can relieve stress, strong physique, so as to achieve harmony of body and mind. Each method has its own characteristics, in addition to a higher fitness value and promote the value of mental health, cultivation of Family sports helps temperament, the pursuit of harmony between man and nature. Through the promotion and publicity of fitness Family sports, it is conducive to improve the enthusiasm of college people to participate in the development of their lifelong sports consciousness and promote their mental health has a positive significance. How to maximize the potential to develop the People Family sports effect, improve the people how to more effectively and actively participate in fitness Family sports learning, how to cultivate people' consciousness of fitness consciousness and lifelong physical exercise habit, it is important to solve these problems of the family sports curriculum development survey of investigation on the situation and development restriction factor, to summarize and analyze the existing problems, and formulate the corresponding countermeasures, in order to promote the development of family sports.

2. CLOUD COMPUTING AND MULTIMEDIA PHYSICAL EDUCATION

2.1. Cloud computing platform
"Cloud computing" is the increase in Internet related services, use and delivery mode based on, usually via the Internet provides dynamically scalable and often virtualized resources, a large-scale distributed dynamic group of virtual and abstract, scalable, manageable computational resources and storage ability, the platform and services for external users on the Internet, the calculation of polymer. Cloud computing technology has the advantages of high stability, rapid deployment of dynamic capacity expansion, on-demand services, etc.. Popular understanding, "server cloud computing" cloud "is exist in the Internet resources on the local computer, only need to send a demand information through the Internet, remote will provide the resources needed for tens of thousands of computer and you will return to this computer.
Cloud platform to provide cloud based services, this platform allows developers or to write a written procedure on the cloud, or the use of services provided in the cloud, or two are. Department of education occupation education in order to speed up the pace of informatization construction and strive to create a new "cloud platform, network communication platform is interactive learning based on cloud computing services to personal space based real name system, open. The cloud personal space personal homepage, is with the help of Web2.0 and cloud computing technology, relying on the cloud platform, according to personal identity information effectively distributed personal electronic identity card number, and in accordance with the electronic ID number allotted based on the real name of the personal learning space. The cloud with a strong resource reserve, based on personal space essence of cloud computing technology is a powerful, mass storage of information storage, it has broken the traditional paper media and individual information terminal on the limited information storage, personal information (resources) storage provides unlimited possibilities practical and convenient.

The outline of the national medium and long term educational reform and development plan points out that the information technology has a revolutionary influence on the development of education, which must be attached great importance to. The educational information is incorporated into the overall strategy of the development of national information technology, advance deployment of education information network. By 2020, the basic completion of the urban and rural areas of urban and rural areas of education information system, to promote the modernization of educational content, teaching methods and methods. Make full use of high-quality resources and advanced technology, innovation and operation mechanism and management mode, the integration of existing resources, build advanced, efficient and practical digital education infrastructure. Accelerate the popularization of terminal facilities, promote the construction of digital campus, to achieve a variety of ways to access the internet. The introduction of international high-quality digital teaching resources. Developing web based learning courses. Establishment of Digital Library and virtual laboratory. Establish an open and flexible public service platform for educational resources, and promote the sharing of quality
education resources. Innovative network teaching mode, to carry out high quality and high level distance education.

Figure 3. Cloud computing data system

Platform to integrate the modern information technology online service system, has been the technology as a service, the degree of integration of resources will gradually expand to the whole country. The emergence of information technology such as network and multimedia communication technology and database application provides a scientific and technological basis for the reform of education mode. The new line of vocational education has put forward a new subject for the education research and development in the information age. It brings a new learning idea and effective learning effect.

First of all, the use of space teaching, effectively promote the innovation of classroom teaching methods. One is to promote the interaction between teachers and people; the two is to promote the innovation of teaching organization.

Secondly, the use of space to carry out teaching, greatly enriched the content of the teaching of physical education. One is to greatly enrich the movement of technical cases, teaching material; two is to achieve the movement of technical process scenario reproduction;

Third, the use of space to carry out teaching, effective extension of the teaching space between teachers and people. To carry out space teaching breaks through the physical education teaching and learning the limitations of time and space, sports teaching extending from the extra-curricular teaching and learning exchanges, expanded from wall to wall, has begun to arouse people’ learning revolution.

Fourth, the use of space to carry out teaching, effectively promote the reform of the teaching evaluation method of physical education. In the development of space teaching, the transition from the end evaluation to the whole process evaluation is realized, and the change from the single evaluation of PE teachers to the teachers and people is realized.

Figure 4. Cloud computing education platform

2.2. Multimedia teaching
At present, developing multimedia teaching and network teaching, but it is undeniable that there are some problems and shortcomings, mainly in the following two aspects: (1) the role of multimedia teaching in the teaching of physical education is not prominent. Teaching teachers on the multimedia teaching and network technology awareness, multimedia teaching and network technology is not fully understood, the use of computer production of electronic lectures and courseware fear, lack of confidence. In addition to the production of lecture notes and courseware due to the lack of knowledge related to the content of a single courseware. (2) the primitive and network technology of multimedia equipment in Colleges and universities is backward. Although the university leadership has recognized the importance of multimedia, but because the school enrollment expansion, taking up a lot of liquidity, even increase the input of teaching, teaching funds relative investment is inadequate; on the other hand, multimedia and network technology required for investment in large volume, resulting in serious shortage of investment in terms of multimedia teaching in Colleges and universities.

The introduction of multimedia technology in the teaching of physical education makes the form of knowledge become rich and colorful. Sound, animation, and strongly stimulate the people' visual sense, to attract people' attention, so that the people' knowledge of the basic knowledge of the technical action of the memory by the instantaneous memory quickly into the short-term memory.

1) Provide intuitive information: The biggest advantage of multimedia teaching is to through pictures, pictures, sound and comprehensive multimedia technology, give the people a vivid and true image, and guide and help the people to break through the key and difficult points, improve the quality of teaching. But the previous form of writing on the blackboard, dictation is not up to this effect. For example, the use of multimedia teaching can be a lesson to the technical movement with the software, the screen display prerecorded demonstration action

2) Arouse people' interest: In the multimedia teaching can make the teaching content lively and interesting, let the people learn the knowledge in the good classroom atmosphere. As the martial arts class, the people can practise martial arts of a video, and then cut to courseware, people watch the screen while listening to the teacher's explanation, see which people have the best grasp action, both standard and in place. After comparison, the results are clear at a glance. Such teaching courseware with the appropriate music to show in front of people, it is very attractive, so that people have a strong interest in learning, learning efficiency will be greatly improved.

3) Rich learning resources, strong interaction: Compared with the traditional teaching, teachers can present the content is no longer limited to the text itself, but also significantly improve the speed of interaction between teachers and people. The time to exercise and teach knowledge is shortened, and the time for the people to answer questions is shortened, so that the exchange time between teachers and people is increased. Especially in the network class, different levels of people, according to their own needs, choose exercise exercise, to check the answer, the feedback efficiency is the traditional classroom can not match.

Figure 5. Multimedia teaching

3. Multimedia physical education and family sports

3.1. The influence of multimedia on sports teaching

The formation of student movement skills, can not be separated from the teacher to explain the exact words and action demonstration. This requires teachers to be able to skillfully master the multimedia technology, combined with advanced teaching equipment for different teaching content to provide the appropriate media
forms. The classroom equipment with ease, lively classroom atmosphere, a large amount of information, high quality, the teaching effect will be very good. Specifically, the role of the multimedia teaching of "teaching" and "learning" is mainly in the following three points:

1. Reduced the teacher's knowledge

The use of multimedia courseware, so that people can quickly understand what the teacher says to the people; Internet access to information, some teachers to prepare material rich illustrations, animation and sound. Wonderful courseware to attract the attention of people, distance learning to broaden the field of vision, intuitive expression so that people can understand the knowledge of the study; multimedia teaching class dialogue, the people more active.

2. Added learning resources

The speed and amount of knowledge and exercise in the multimedia classroom are far more than the traditional classroom. Cyber source make the classroom more open, people have more cooperative learning opportunities, free thinking and common research opportunities to increase benefit by mutual discussion, learn from each other to increase the chance of. The combination of modern media and traditional media, to provide people with intuitive context, to help people to recall the knowledge has been learned. Abstract knowledge becomes easier through the presentation of multimedia.

3. Strong interaction and rapid feedback of information exchange

Makes the communication between teachers and people convenient, the opportunity to self evaluation of people increased. People in the classroom of multimedia teaching, can be independent of the knowledge of the study, and answer questions, check the answers, to conduct self evaluation. In addition, the sensory stimulation of a variety of channels, strengthen the people’ memory. In this way, it also urges teachers to change from the concept of "teaching" as the core to the concept of "learning" as the center.

![Figure 6. Multimedia classroom](image)

3.2. The necessity of family sports

Since the current situation of Family sports courses some experts and scholars have carried out a series of research, the study found that the development of Family sports courses, has the good momentum, but the positive aspects of construction, teachers in the family sports course carry out the required equipment and the protection of people' participation in learning problems still exist. The implementation of Family sports courses situation, some community have made some achievements in the development of Family sports courses, but also accumulated a lot of valuable experience, but many community for family sports course development is not formed a fixed teaching mode, have summed up a set of relatively mature practices.

Previous studies have shown that results in the investigation, to learn Family sports course people questionnaire situation of Family sports cognition, only 12.6% of the people surveyed to promote family sports. Survey of people in 81.4% of the fitness Family sports exercise effect of recognition. This result is beneficial to the development and popularization of Family sports, because these people will be the potential power to spread the Family sports society in the future. But in the understanding of the fitness Family sports, the general understanding of the people only 15.2%, and the survey of people in 67.5% of the fitness Family sports do not understand. This shows that the current understanding of college people on fitness family sports is very superficial. Therefore, we not only need to strengthen the propaganda of family sports, but also need to strengthen the people' learning of Family sports theory knowledge.
4. INVESTIGATION AND ANALYSIS OF FAMILY SPORTS LEARNING

4.1. The questionnaire design

In the study, through interviews with relevant inspection before the research results were analyzed for the assembly, really guarantee the validity of this questionnaire, in this paper the beginning of this thesis involves the questionnaire content validity, construct validity and criterion validity the strict definition, and according to the requirements, after setting the questionnaire, invited 10 traditional sports experts, Professor of validity of the questionnaire was tested. In order to ensure the reliability of the questionnaire, using “the method” to “repeat test” of the questionnaire, to test the reliability of the questionnaire. Selected 5 teachers, 20 people to fill in the questionnaire, and after two weeks of the same object was repeated two times to fill in, through the results of SPSS17.0 analysis showed that the questionnaire of college people as the R=0.872 correlation coefficient, P<0.05 correlation coefficient; questionnaire of physical education teachers for the R=0.883, P<0.01, two the questionnaire is highly correlated with its credibility as the basic reliability.

4.2. Teaching organization form of family sports in colleges

600 people participated in the survey, Family sports study for a total of 512 people participated in the survey; boys for a total of 278 people, to participate in fitness Family sports people in the number of boys is 209 people, 74.6% were involved in the study of Family sports, the total number of people participating in the survey of 331 people, the number of girls participate in fitness Family sports people in 303 people, 90.4% participated in the study of family sports. Chi square test was carried out with the people’ gender and the learning situation of the body building Family sports. The results were shown in table 1. Chi square test showed that there was a significant difference between different genders in Family sports learning (x²=12.65, P=0.000). According to their men and women to participate in the proportion of Family sports learning, we can find that girls to participate in the proportion of Family sports family sports (90.4%) is significantly higher than boys (74%).

Table 1 Situation of participation in Family sports learning

<table>
<thead>
<tr>
<th>Option</th>
<th>Schoolboy</th>
<th>Girl student</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participants in the survey</td>
<td>278</td>
<td>331</td>
<td>600</td>
</tr>
<tr>
<td>Number of Family sports learning</td>
<td>209</td>
<td>303</td>
<td>512</td>
</tr>
<tr>
<td>Proportion</td>
<td>74.6%</td>
<td>90.4%</td>
<td>82%</td>
</tr>
</tbody>
</table>

People who participated in the study of Family sports participated in the study of 219 people, accounting for 42.3%, and 325 of them were in the form of elective courses, accounting for 60.1%. Thus, we can see that most of the people in learning Family sports course is in the form of elective courses involved, it explains, family sports course development, to adapt to the needs of the development of physical and mental health a lot of people, this is worthy of recognition. Elective Family sports course people for whatever purpose of learning, but it is certain that they are on the fitness Family sports have this or that interest will be the elective course, the interest is the best motivation for success, these people have great potential to learn Family sports.

Table 2 Teaching form of Family sports

<table>
<thead>
<tr>
<th>Option</th>
<th>self-study</th>
<th>Online learning</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>219</td>
<td>325</td>
<td>512</td>
</tr>
<tr>
<td>Proportion</td>
<td>42.3%</td>
<td>60.1%</td>
<td>100%</td>
</tr>
</tbody>
</table>
4.3. The purpose of family sports practice

In the Family sports, selection of physical fitness accounted for 44.2% for the purpose of build up a good physique and improve one's health; to choose with family for the purpose of accounting for 35.6%; choice of personal interests for the purpose of accounting for 27.3%. From this we can see that most of the people chose to family sports, because exercise can keep fit, to see the effect of physical fitness. But we need to see, there are many people because the passive learning, according to the author in the investigation and people talk.

<table>
<thead>
<tr>
<th>Option</th>
<th>Build up a good physique and improve one's health</th>
<th>With family</th>
<th>Personal interest</th>
<th>Passive learning</th>
<th>Reduce weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>251</td>
<td>193</td>
<td>158</td>
<td>102</td>
<td>56</td>
</tr>
<tr>
<td>Proportion</td>
<td>44.2%</td>
<td>35.6%</td>
<td>27.3%</td>
<td>20.5%</td>
<td>9.8%</td>
</tr>
</tbody>
</table>

5. CONCLUSION

Multimedia technology has solved the difficult problems in teaching, and enriched the content of classroom teaching, but there are many problems in physical education teaching. The teaching of physical education has a reasonable orientation. Equipped with the necessary teaching facilities is to guarantee and improve the teaching quality, is the completion of physical education and the important conditions for the reform, to the rational use of modern teaching aids to promote the teaching reform of physical education. Because of the complex nature of Family sports, a lot of people can only make a scattered action, which affects the quality of family sports, and the enthusiasm of further study. Family sports theory teaching to a certain extent, restricts the development of the project, performance for the teachers' theoretical level is not very high, the theory course is too simple, in the setting of teaching contents on the theoretical aspects of teaching not enough attention. As a result, people can not understand the Family sports from a deeper level. Through the application of multimedia technology, teaching content of Family sports for deepening the reform of the reasonable, the Family sports is easy to learn, improve Family sports teaching interest, to improve people' interest in learning.

REFERENCES


