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The analysis and application of computer video feedback in the physical education

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ABSTRACT

In a learning system, Feedback is information feedback refers to the learning results. The results will be provided to the learners' learning. In physical education, feedback learning as an effective learning method is used frequently. By showing the computer video feedback of education basic theories to understand and explore the computer video feedback has special advantage in the physical education, can improve the education environment, embody the features of visual and vivid, improve the analysis ability and learning interest of students understanding, reinforcement learning goals, greatly improve the education effect, is worthy of promotion. Information and communication technology which include radio and television, as well as newer digital technologies such as computers and the Internet-have was claimed to potentially powerful tools for educational change and reform. When used appropriately, different ICT are said to help expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by helping make teaching and learning into an engaging, active process connected to real life.

KEYWORDS

Video feedback methods; Physical education; Advantages.



INTRODUCTION

The general process of learning in motor skill has two types of feedback. One type is to make the movement naturally produced in the process of sensory information. It come from exogenous information in vitro, or in the body of proprioception, namely inherent feedback. The feedback is produced by the reaction of people, also is the human body movement performance a fundamental part of the cognitive model. People can directly obtain the inherent feedback, without external help. Another type is when people perform movement of sensory information (such as inherent feedback), sensory information provided by the external information source, namely external feedback, also known as an additional feedback. The use of feedback in teaching and training has extremely profound influence to the motor skill learning.

In the learning system, the information feedback of the learning activities is mean to provide the study results to learners, referred to as learning feedback. The so-called computer video feedback teaching, refers to the form of classroom teaching in class teaching, According to the mechanism for the formation of motor skills, Reasonable composition of inheriting the traditional teaching, Proper use computer audio and video function of modern media, And the organic combination of both, In full accord, Composition teaching information transmission and feedback to adjust the optimization of the teaching mode, To participate the whole process of classroom teaching, to achieve the teaching effect optimization of the teaching method.

This article takes the pedagogy and the sports study elementary theory as the basis, and the article gives a literature review of the Martial-art teaching method and the actualities of elective Courses. Based on this, the thesis applies such methods as literature data, mathematical statistics, expert advice, the survey method and teaching experiment. Through the analysis of students' elective course demand, we find what the students want. At the same time we study the martial-art teaching aim systems by the B.S.Bloom's theory. At last, we apply the video-feedback method to teaching. After the experiment, through the questionnaire of the aim students and the contrasting of the comparison group and experiment group, after analyzing the data, draw the following conclusion:

(1) Though the Experimental Research of "video-feedback method" in SanDa elective Courses, by the teaching process of observation and analysis of experimental results obtained to use video-feedback method in General university Martial-art elective Courses is feasible. Experimental group in the process of teaching, good use of video - Feedback teaching methods, and the teaching experiment form the process of using this method in the Martial Arts.

(2) By analysis of the Martial Arts course process and results of "video-feedback", teaching experiments we found that the new method to better meet the Martial Arts Education emotional goals and action goals, and make students better grasp of the motor skills more fun, it also better meet the official need of the university sport education.

(3) By systematic analysis of student teaching requirements and project teaching objectives, we can accurately locate the purpose and tasks of the courses, more targeted to improve teaching methods and found a key part of teaching.

(4) Sports capabilities not only decided by the teaching methods, their physical condition, hard exercise and other factors also determine the effect of learning on a large level. Access to the guidance of video-feedback methods, the students continue to practice motor skills can really get a true martial arts ability.

Some researchers studied video teaching; the two groups of students were rubbing assault teaching in different teaching methods, video teaching as the experimental group and the traditional teaching as the control group. The results show as the following table:

TABLE 1 : Analysis of two groups of performance assessment of contrast

| | Outstanding | Good | Fair | Poor |
|------------------|-------------|---------|---------|---------|
| Experience group | 5(37%) | 6 (42%) | 3 (21%) | 0(0%) |
| Control group | 3 (21%) | 5(37%) | 3 (21%) | 3 (21%) |

Analysis of the characteristics of the traditional teaching method

The sports teaching process is considered that the teaching effect on the practice, to overweight neglect, neglect will understand attention management of teachers instead of active learning teaching process. In sports technology teaching, emphasize the status of PE teachers, teacher lectures,

demonstrations, students imitate practice almost become the mind-set of sports classroom teaching and fixed mode. Students completely in a state of passive accepting learning, students only can accept passively, machinery, neglected the student individual need and autonomous learning, Teachers and students is in a relationship of unequal, student's positive initiative cannot get to play, At the same time, a lot of physical exercises make many students fear of technological learning, moreover, technological learning practice, the students' interest in learning is not high, active participation is not strong, the learning motivation. In learning technology, involved in the depth and breadth of cognitive thinking is not enough, cognitive thinking ability cannot get training, is unfavorable to the development of thinking ability and creative spirit.

Physical education is the national pastime of China, and the biggest amateur recreational sport in China. However, physical education is a difficult motor skill. The spin in physical education is extreme, and all actions happen very quickly. In physical education, there are many basic and advanced skills. At the same time, the development of learners' positive attitudes, interest and motivation is not easy. It is hard for learners to persist in playing physical education. Thus, ICT should be used to supplement traditional physical education learning. Specifically, ICT should be applied to affect physical education learners' psychology and increase their physical education skills.

The present disadvantages in sports technique teaching can be summarized as follows: value scores, ignoring the ability. The learning and understanding to learn, ignoring will learn, training students' comprehensive ability and pioneering spirit. Too much emphasis on imparting knowledge and skills will be moving to the students, too much emphasis on follow me to do and follow me to practice, ignore students' cognitive ability, knowledge and experience of individual differences of learners. Heavy Athletics, light exercise. Emphasis on the technology of moving practice and master the teaching and practice of means, despise technical teaching methods and training methods and judgment methods ignore students' initiative, ignoring the adaptation ability students society. Heavy Athletics, light exercise. Pay attention to the pure athletics project learning, teaching and innovative means of mass fitness and method of neglect. the main steps of video feedback acquisition as follows:

THE TEACHING ADVANTAGE OF COMPUTER VIDEO FEEDBACK

(1) The advantages of improving the students' ability to observe and analyze problems

The teaching feedback, through Computer video, is conscious and purposeful, targeted feedback control, and the feedback as an organic part of a complete control, make the control of teaching efficiency greatly increased. Students watch his complete techniques, and pointed out the mistake in time, at the same time, the standard of video technology were compared, Also can be suspended, slow play or replay technology, outstanding technical point and the key, Through self-feedback, students can analysis to find the best way to solve the problem, thus the students' ability of observation, analysis the problem is greatly improved.

We can see the process of computer video feedback on the graph below:

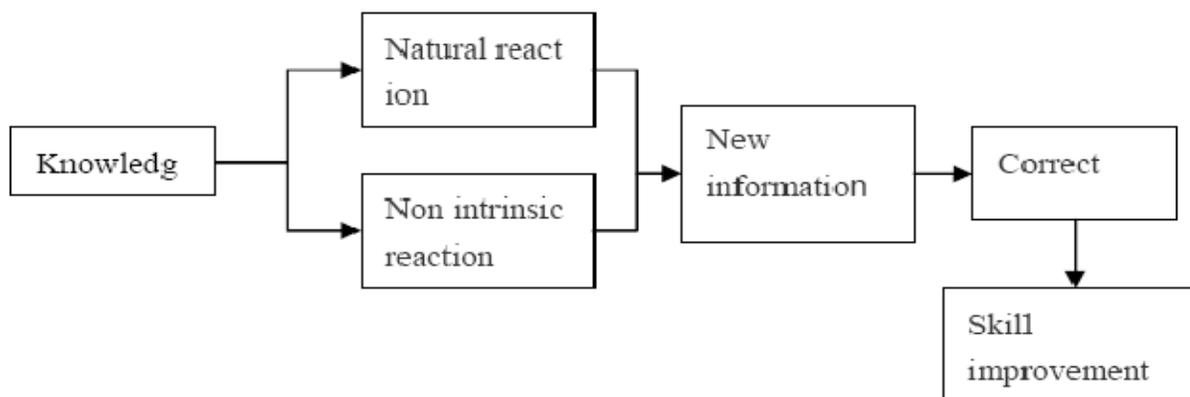


Figure 1 : The process of Computer video feedback

(2) The advantage of providing a good learning environment

The stimulation can promote the development of students' intelligence under good environmental factors. In a good teaching environment, abundant information can be select control, conducive to transmit the development of intelligence information. In this sense, a good teaching environment is an ideal information stimulating environment, it can provide a rich intellectual development good stimulation, thus promotes the formation of students' good mental quality. Psychology studies have shown that students are learning easier under the atmosphere with no learning pressure and acceptable than the atmosphere with hostility and fear. Active classroom atmosphere make For emotional communication and information exchange between teachers and students, help teachers grasp the learning situation of students in a timely manner, and get the teaching feedback, so as to constantly adjust the teaching contents according to the specific teaching circumstances and policies, this helps students to mastery of knowledge and understanding, make the whole classroom teaching process is always to keep dynamic balance. Good use of teaching environment in teaching, to improve the efficiency of learning, developing students' intelligence undoubtedly has important significance.

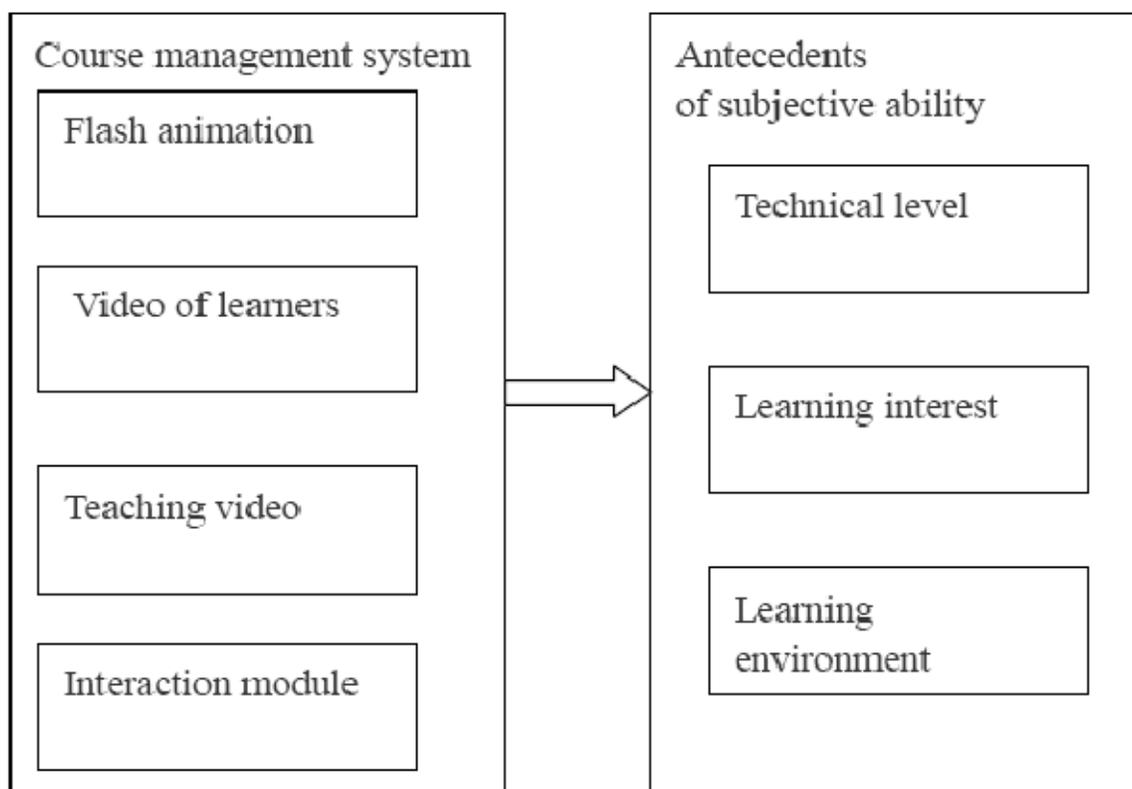


Figure 2 : Course management system and subjective factors relationship

The advantage of embodying the features of visual and vivid

Books, documents, videos are cultural information, but no matter what kind of information is just a part of the teaching materials. However, The teaching feedback through computer video make full use of teaching media technology complete collection of all elements, strong appeal, so that the students of the brain in a positive work state, can accelerate and strengthen the action logic of brain, in the brain area leave deep image, make the teaching get twice the result with half the effort effect. Teaching information integration on the basis of modern teaching theory, teaching information centered, collaborative support teachers and students interactive teaching environment, teaching goal, content, methods, and teaching evaluation optimization combination of various factors. Computer graphic, sound and video teaching, color changes, novel and interesting graphics and animation, plug the audio and video materials to the point, it undoubtedly has great attraction for students. By means of video teaching will be outstanding techniques, show the students in class, not only vivid, intuitive, clear impression, but

also can highlight key, seize the key link. In the process of learning technical movements, if you want to in mind left deep traces action representation, a perception is not enough, must give the appearance of repeated many times to strengthen, to gradually expand, its deep movement trace effect of representation in the cortex. Take the replay, fast and slow frames, etc. The technique of expression, is beneficial to students mastering key technology, promote the formation of sports skills, at the same time, is advantageous to the technical analysis and error correcting, causes the student to vision, combined action, hearing, thinking, establish correct technical movement to finalize the design.

The advantages of improving the learning initiative

Traditional teaching patterns take teachers as the center, and computer video feedback teaching will take teachers as the center to the learners as the center, learn from an individual to collaborative, from passive to active, at the same time, computer video teaching method provides students with good conditions and situations of creative learning, students' active learning got a little time, and can not only to think independently and practice, but also positive discussions with other students, also can actively with teachers to learn, to carry out the creative learning. In the interactive teaching, classroom demonstration teaching also has its advanced nature, thus effectively improve the teaching effect.

A theoretical framework of CMS affecting learner's perceived competence was created by analyzing the source of perceived competence and the relationship of CMS and the source of perceived competence. In this framework, CMS can affect table tennis learners' perceived competence through skill, attitude and environment. The methods of developing experimental platform were introduced. The experimental platform was based on Moodle. The effects of the course on students' knowledge, perceived competence and interest were evaluated through quantitative methods. The result showed that Moodle course significantly enhanced learners' perceived competence.

The advantages of improving self-learning ability, cultivate the self-confidence

Through the media of voice, image such as auditory and visual stimuli and its effect on the extension of human organs, at the same time of accepting external conditions to stimulate, fully mobilize internal factors of learners' internal factors such as emotion, attitude, motivation, self-confidence. confidence fully mobilize, change from passive learning to active learning, learning interest more enthusiasm, confidence, higher, stronger, self-study ability gradually increase in learning. Besides, when they see a new teaching method with computers, will feel that you are in class with a new flavor of the times in the environment, and this new stimulus can arouse students' directional reflection.

Research on the impacts of a online learning platform on table tennis learners' motivation. A theoretical framework of online learning platform influencing learner's motivation was developed by analyzing the factors of motivation and the relationship of online learning platform and the factors of motivation. In this framework, online learning platform can affect table tennis learners' motivation through situational factors, contextual factors and global factors. The methods of developing experimental platform based on self-determination theory were introduced. This platform can suit table tennis learners' needs of autonomy, competence and relatedness. The effects of the online Teaming platform on learners' intrinsic motivation, extrinsic motivation and motivation were evaluated through quantitative methods. The result showed that online learning platform significantly influenced learners' intrinsic motivation, extrinsic motivation and motivation.

The advantages of improving the learning interest

Computer video feedback teaching improve the students' interest in learning, to increase the students' learning satisfaction, enrich the students' perceptual knowledge and direct experience, and develop the students' ability to analyze and solve problems. After each record, students with great enthusiasm to cooperate actively, every student are more willing to do it again, in order to improve action as soon as possible after teacher evaluation, analysis. Students are willing to know the level of improvement. In the traditional teaching, this kind of emotional experience cannot feel, Increasing the student to make action to internal power perfect, strengthen the temporary connection of various nervous system, improve the enthusiasm of teaching quality and student learning.

The advantage of reinforcement learning goals

By watching elite athletes' action video technology, Combined with teachers explanation, we can establish the reference model of learning goals. First class, in the learning goals of classroom environment, students can observe, analyze and determine their learning results and learning objective comparison, get the right instructions in every step of the practice. Through feedback, so that students independent practice in learning, and learning consciousness also increase accordingly, make the students' learning initiative. The Feedback of teaching, the students' learning activity controlled by teachers, the information sources of Students' self-control obviously increase, information form a virtuous cycle, and is conducive to the implementation of the students' self-evaluation feedback. On the one hand, teachers and students, students and students to form a wide range of multichannel information exchange and evaluation, strengthen the teaching information communication, on the other hand, promotes the student to observe, thinking, judgment and analysis ability of development and the improvement of inspection, the ability to correct mistakes.

A theoretical framework of expert animation modeling and video feedback affecting learner's performance was created by analyzing the factors of table tennis performance and the relationship of expert animation modeling and video feedback and the factors of table tennis performance. In this framework, expert animation modeling and video feedback can affect table tennis performance through internal conditions and external conditions. The methods of developing experimental platform were introduced. In the experimental platform, the technique animations which include skill decomposition animation, slow motion animation and frame-by-frame animation were developed by Flash ActionScript 3.0, and video feedback was realized by FLU teaming media format technology and media player plugin. The effects of expert animation modeling and video feedback on table tennis performance were evaluated through quantitative methods. The results showed that expert animation modeling and video feedback significantly increased students' forehand drive skill.

CONCLUSION

Computer video feedback teaching is a new teaching theory and technology, can be widely used in many teaching process, the use of computer video teaching in physical education teaching can fully improve their observation and analysis ability; to provide a good learning environment; embody vivid, intuitive, image features, improve the learning initiative; improve the self-learning ability, self-confidence; improve student interest in learning; reinforcement learning goals and negative advantage. Computer video feedback on training students' teaching skills of teaching is different from the traditional teaching, it makes use of the modern educational technology can greatly improve the students to understand the teaching process and teaching skills can promote efficiency of computer video feedback teaching in Physical Education Teaching.

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