Development of the Animated Learning System in Network Multimedia Environment

Wan Fangfang

Shijiazhuang University of Applied Technology; Shijiazhuang 050081 China

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Abstract: At present, the Ministry of Education vigorously promotes “quality engineering”, which means that the quality curriculum should be constructed in the process of education reform, so as to promote the teaching efficiency of teachers and the learning quality of students. However, due to various factors, it is difficult to achieve the teaching objectives of teachers in the process of teaching. At this point, animation technology can be used to closely combine 2D graphics with 3D graphics to promote the full and effective application of teaching resources. In the information age today, information technology has been widely used in various industries, and therefore, it is needed to develop an animated learning system in the network multimedia environment.

1. Introduction

With the development of the times and the advancement of science and technology, more and more attention have been given to education, and promoting the reform of teaching mode and improving the quality of teaching have gradually become hot issues. With the support of modern technology, more and more ways can be used to promote the achievement of teaching objectives, such as the application of the planning learning system in the process of teaching. As a result, the development of the animated learning system has become key content. The development of the animated learning system is an important professional technology and plays an important role in the cultivation of professional talents; and the main purpose of its development and application is to promote the better use of high-quality teaching resources and improve students' interest in learning [1].

2. Problems in the traditional learning system

The development of an animated learning system has the characteristics of large amount of information and strong practicality. When it is applied in teaching, the teachers have more tasks to do and students are expected to have certain ability of space imagination and imagery thinking. Therefore, the traditional application of animated learning system is mainly to cultivate students' ability in these two aspects; this kind of teaching methods can ensure teachers to master the students' learning situation in time, which is beneficial to the them to effectively adjust the teaching plan, but the traditional methods still have certain limitations [2].

2.1 Small amount of teaching information and low teaching efficiency

In the traditional teaching, teachers mainly explain to students by board writing, and thus the knowledge that can be transmitted in the classroom is relatively limited because of the slow speed. In addition, teachers can only teach some abstract concepts in the teaching content by presentation, which is not conducive to improve students' interest in learning and also difficult to stimulate their imagination of abstract concepts. That the students digest knowledge at a low speed leads to poor teaching efficiency.

2.2 Backward teaching methods and weak teaching performance

The traditional teaching mode is a little formalistic in the aspect of teaching content expression, that is, it cannot adjust the teaching mode flexibly according to the teaching content. The use of the

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animated learning system can help teachers present the teaching content vividly and objectively, which is not only beneficial to the students' understanding and acceptance of the teaching content, but also can cultivate the their ability of space imagination [3].

2.3 Not conducive to students' individualized learning and lack of flexibility in teaching

In the traditional teaching mode, the teacher is the subject of teaching, while students can only accept the knowledge instilled by the teacher and thus they lack the initiative in learning to a certain extent. This results in the fact that “teaching” and “learning” cannot combine with each other very well. Besides, the traditional teaching mode is partly random in management. Teachers are slow to update knowledge and are not able to apply and change the teaching mode flexibly. In this sense, the adoption of the traditional education mode is not innovative and scientific to some extent, which has certain impacts on students' independent learning and continuous learning, thereby hindering the overall development of the curriculum.

3. The significance of the application of animated learning system in the network multimedia environment

The application of the animated learning system requires a variety of technologies as its important basis, so that it can better develop and utilize teaching resources. It can break the shackles of the traditional teaching mode and show unparalleled advantages. In this sense, the application of the animated learning system is of great significance.

3.1 Resource sharing

The application of the animated learning system needs to be based on the network. Therefore, it enables the storage and dissemination of online teaching resources, which is conducive to teachers' in-depth exploration and full use of teaching resources to achieve good resource sharing [4].

3.2 Timeliness of information

Because the network and multimedia technology are fully applied, the animated learning system has a teaching mode more flexible. Teachers can adjust their teaching plan according to specific situations, such as the content of the teaching, the knowledge structure of the students and their ability to understand and accept the target knowledge, so as to ensure that these students can truly understand and accept what the teachers teach.

3.3 Diversity of the media

The animated learning system contains a variety of text and video images and models, featured by rich resources and intuitive images. Therefore, the application of the animated learning system is more conducive to students' understanding of the abstract concepts in the teaching content. At the same time, teachers are able to produce images and graphics more conveniently and quickly, which can improve the efficiency and effectiveness of teaching and then promote them to achieve teaching goals more smoothly [5].

3.4 Humanization

In the application of the animated learning system, teachers can rationally apply the animated teaching mode based on the teaching content, teaching objectives, the knowledge structure of the students and their ability to accept knowledge, thereby establishing the corresponding logic relationship and knowledge structure of teaching. It can help teachers to teach in the most reasonable schedule and in the most scientific way, and thus it can reflect the humanization in the animated learning system and is also conducive to teachers to realize “teaching students according to their aptitude”.

3.5 Virtuality of the classroom

Animated learning system can create a variety of virtual environments, thus establishing a good

learning atmosphere and increasing the direct experience of teachers and students on teaching content. The situation created by the data of the animated learning system can cultivate the students' knowledge, skills and hands-on ability, thus improving their application ability.

3.6 Collaboration and interactivity

The animated learning system is conducive to making the classroom atmosphere livelier. It can shorten the distance between teachers and students, and thus it can promote the communication between a teacher and his students and among students and students, so that the thoughts of both students and the teacher can get timely feedback; this method not only strengthens the work and learning collaboration between the teacher and students and between students, but can also transform students' passive learning into active learning, which improves their enthusiasm and initiative for learning [6].

3.7 Content update

The animated learning system can make full use of the teaching resources in the network. Due to the high speed of resource update in the network, the teaching content can also be updated in time to ensure that the learning content for students is practical.

4. The development of an animated learning system

4.1 The objective of developing an animated learning system

First of all, there is a need to adapt to the development direction of modern teaching to cultivate talents that meet the needs of social development. On the basis of updating the teaching concept, the full use of Internet technology will further improve the teaching system to promote students' interest in learning.

Secondly, it is necessary to strengthen the dual-track teaching. The organic combination of classroom teaching and after-school tutoring will play a role in consolidating the knowledge that student have learn and ensure that they can understand and digest the received knowledge.

Thirdly, it is needed to take the network technology, multimedia technology and computer graphics technology as the important foundation to strengthen the informationization of teaching resources. This will help the online teaching resources get more in-depth development and more extensive dissemination, so as to promote the effective reform of contemporary teaching methods and thereby cultivate the talents needed by the society [7].

Finally, it is necessary to adapt to the characteristics of the teaching content. If the teaching content is very abstract, it is also important to strengthen the application of after-school review and examination to increase the teacher-student communication and student-student communication, so as to strengthen the learning atmosphere for students and further improve their enthusiasm and initiative.

4.2 Innovations in the development of an animated learning system

Firstly, it is helpful to design the teaching strategy according to the characteristics of the users, which mainly includes stimulating their interest in learning and clarifying the knowledge structure; and thus it can improve their acceptance and mastery of knowledge, thereby enhancing their enthusiasm for learning and interest in application of the animated learning system [8].

Secondly, the animated learning system can fully apply network technology, multimedia technology and virtual reality technology. Therefore, users can establish a good learning atmosphere in the process of practical application, and fully display the teaching content and teaching links, thereby strengthening students' practical ability and professional technical ability.

Finally, it is able to connect theoretical knowledge with practical application very well. In the process of applying the animated learning system, as long as the text and the picture in the teaching content are marked and inserted into the hyperlink in a corresponding manner, the user can be prompted with a more prominent identifier. Therefore, the teaching content can be more rich and comprehensive, which can enhance the fun of the classroom to a certain extent.

4.3 Principles of developing an animated learning system

4.3.1 The principle of purpose

To develop an animated learning system, it is necessary to take innovative education as an important goal to strengthen the quality education for students and enhance the training of practical skills for them. It is also significant to design teaching plans scientifically and rationally on this basis, with the purpose to ensure that the students' theoretical knowledge and practical ability can meet the requirements of professional development.

4.3.2 The principle of “student-centered”

The animated learning system must be student-centered because it is mainly used for teaching. The teachers should fully consider the knowledge structure and learning characteristics of the students. On the basis of the chapters and content of teaching materials, the teachers must adhere to the practicality, operability and study-assistant function of the animated learning system to meet the learning needs of students at different levels.

4.3.3 The principle of optimization

In the process of developing an animated learning system, it is necessary to design the teaching activities, that is, to optimize the teaching process. In the process of optimizing the system, the knowledge base as well as acceptability and practical experience of students should be fully taken into account; teachers should refine the essence of the teaching content on this basis, actively emphasize the teaching objectives and the logic of the teaching content and strengthen the operability and practicality of the skills training, so as to ensure that the teaching process can be fully regulated [9].

4.3.4 The principle of efficiency

The development of an animated learning system in the network multimedia environment can fully rely on network multimedia, and the advantages of network technology and multimedia technology can be fully utilized. This can make the teaching materials and teaching resources more multimedia and diversified and speed up the students' access to knowledge, thereby accelerating the spread of learning content.

4.3.5 The principle of openness

The development of an animated learning system should fully reference relevant information and websites to ensure that the openness of knowledge structure in this system can be improved. At the same time, it is also necessary to guarantee the compatibility of the media format of the system, thereby realizing the perfection and modifiability of a large amount of media data.

4.3.6 The principle of synergy

There is a need for communication between the teachers and students and among students in the process of learning. Therefore, the teaching content should be adjusted flexibly in the animated learning system to ensure that the classroom teaching and after-school tutoring can be organically combined. In other words, the principle of synergy needs to be followed.

4.4 Function positioning of the development of animated learning system

4.4.1 The function of network teaching

The animated learning system must have the function of online teaching to ensure that students can find relevant links according to the navigation of the page and acquire the knowledge, so as to meet their needs for learning.

4.4.2 The function of answering questions

Students will inevitably encounter various problems in the process of learning. The animated learning system should have a function of answering questions, so that students can get

corresponding answers and guidance in time.

4.4.3 The function of course training and self-test

In the animated learning system, the content of each chapter should be combined with the corresponding exercises to ensure that students can consolidate and test what they have learnt.

5. Conclusion

In the network multimedia environment today, there are more and more ways for students to learn and animated learning system has received more and more attention. In this context, it is needed to conduct in-depth research on the development of an animated learning system to promote its practicality.

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