

Study on Multi-learning Methods of Lifelong Education based on Virtual Reality and UAV Innovation Application

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Abstract

Lifelong education urgently needs to strengthen the service function of social training so that more people can enjoy more educational opportunities and better serve the society. We can broaden the path of lifelong education with innovative thinking, expand the learning form and connotation of lifelong education with virtual reality technology as the carrier, and consolidate the diversified learning mode of lifelong education with the innovative application of UAV as the connotation.

Keywords

Lifelong Education; Multiple Learning Style; Virtual Reality; Unmanned Aerial Vehicle.

1. Introduction

With the continuous advancement of social informatization and the continuous transformation and upgrading of economic structure, the society has higher and higher requirements on the innovation quality of applied talents, which further highlights the disconnection between lifelong education and social needs. Especially with the development of the Internet and new information technology, innovative application has become a catalyst for accelerating social change. In the context of the reform of teaching concept and the development of information technology, the development trend of "Internet + education" has emerged in the field of education, which has promoted the reform of teaching methods and injected positive force into the improvement of teaching quality and effect. Virtual reality technology will provide more abundant learning resources, teaching methods and learning methods, driving the new reform of education form and content. Therefore, it is necessary to integrate these educational concepts and modern information technology for innovation, deepen the research on lifelong education reform based on virtual reality, dig into the resource potential of lifelong education virtual reality and innovative application, and promote the long-term and high-speed development of lifelong education.

2. The Learning Style based on Innovative Application is Conducive to the Development of Lifelong Education

2.1. Broaden the Path of Lifelong Education with Innovative Thinking

Researchers at home and abroad believe that lifelong education has a great sense of historical mission and is the characteristic of modern education. Especially with the advent of information society, lifelong education has brought a new educational concept. Lifelong education research some focus on learning community, learning motivation, learning interest, learning methods and learning demand tendency, also has the teaching content, teaching time and teaching effect, and the lifelong education of learning situations, the learning process (mobile learning and

fragmented learning), the construction of practical knowledge, learning and working life of relevance and so on.

Traditional teaching requires unified training plan, unified teaching mode and unified teaching content, and requires students to learn the same content in the same process, resulting in the lack of personalized learning, which will lead to the narrowing of lifelong education, which needs to broaden the road of lifelong education with innovative thinking.[1] The talent cultivation mode of realizing unified quality standards in accordance with the unified mode obviously hinders the display of individual endowments and the play of individual potential. The learning mode based on innovative application has more market and development space for non-exam-oriented education, and is more attractive and easier to attract the interest of the audience when applied to lifelong education.

2.2. The Combination with Information Literacy and Information Application Accords with the Long-term Development Direction of Lifelong Education

Information security literacy education will be an important content and inevitable need of lifelong education. With the proposal of the overall national security concept, cyberspace security and non-traditional security have been attached great importance, and the popularization of information security literacy education has also risen to the height of national security, which makes it necessary to include information security literacy education in national education and lifelong education. Lifelong education needs to rely on the network learning form of "Internet +" to comprehensively improve the information security literacy of network learners, which is conducive to exercise and cultivate good learning habits, and is conducive to the sustainable development of lifelong education.

With information security literacy education as the starting point, it emphasizes the practical application value of theoretical learning in lifelong education, advances with The Times, emphasizes the timeliness and life-style of lifelong learning content, and promotes lifelong education to contribute to the society. For example, the safety problems of UAV application can be further combined with virtual reality to realize flight control and application from the first perspective, develop virtual reality application teaching scenarios of UAV security control problems in different fields, and innovate diversified learning methods of lifelong education in both content and form.

3. Using Virtual Reality as the Carrier to Broaden the Learning Form and Connotation of Lifelong Education

Virtual Reality (VR) is a comprehensive simulation of the real world by using 3d graphics generation, multi-sensor interaction, multimedia, artificial intelligence, human-machine interface, high-resolution display and other high-tech technologies. Virtual reality simulates people's visual, auditory, tactile and other sensory functions to immerse people in the virtual realm generated by simulation. It can also interact in real time through actions, gestures and other human behaviors, so people can play a leading role in the virtual system. Here, we should emphasize its interactivity, which is very important for us to integrate VR into the teaching content and methods of lifelong education. What we hope to build are interactive, operable and fault-tolerant courses, rather than plain VR cartoons, so as to enrich the way of lifelong education and learning, improve people's interest and improve the extensibility of the courses.

3.1. The Introduction of Novel Virtual Reality Technology into Lifelong Education has a Huge Space for New Innovation and Development

The introduction of novel virtual reality technology in lifelong education and the development of new teaching methods and methods play a crucial role for learners to master various skills and knowledge more efficiently and actively. Brand new technology brings brand new

educational thinking. The unique charm of VR teaching resources that are real, interactive and episodic, combined with many special VR technologies such as puzzle games, situational learning, collaborative learning and distance education, can solve many educational problems that could not be solved before. Therefore, VR will play an important role in lifelong education with its own strong teaching advantages and potential, which is beyond doubt. [2]

Virtual reality application technology and lifelong education both have the characteristics of universality and extracurricular learning, and there are many similarities and convergences. Virtual reality application technology will be an important learning content and an important auxiliary means of lifelong education. We should integrate the application technology of virtual reality with lifelong education, so that universal education and lifelong education must include the application technology of virtual reality; Virtual reality application technology is beneficial to improve lifelong education learning interest and extensibility, improve learning efficiency; Virtual reality application technology is used to cultivate the ability to understand and master scientific knowledge from real problems in life, to form the time-oriented and life-oriented content of lifelong education, and to promote the innovation and development of lifelong education and contribute to the society.

3.2. The Integration of Virtual Reality and Lifelong Education Realizes the Innovation of Multiple Learning

We need to study the common characteristics of virtual reality application technology and lifelong education under the background of information technology, how to integrate virtual reality application technology and lifelong education, and carry out innovation of teaching content and learning mode. This paper analyzes the common characteristics of virtual reality application technology and lifelong education from the aspects of time and space of learning, ways and carriers of communication, evaluation tools and learning effects.[3] Based on virtual reality application technology and "Internet +" as the basic carrier, it brings new changes to lifelong education and forms a new innovative direction of multiple learning.

Apply virtual reality technology fusion with life-long education, teaching and learning in the form of innovation, informatization and enterprise cooperation, with virtual reality application technology as the theme in sporting competitions, design, development, case analysis, offensive and defensive training, entrepreneurship education website, promotion, innovation and other forms of lifelong education and promote learning, promoting the lifelong education information-based teaching mode innovation.

Through field investigation and case study, the innovation of lifelong education informatization teaching mode can be promoted in the research of virtual reality application technology.

3.3. Virtual Reality and Lifelong Education Integration Innovation Teaching Content

The latest demand and application development direction in the field of social security can be tracked in time. Combined with these data resources and information, the teaching content suitable for lifelong education of the whole society can be extracted. The basic framework and content system of virtual reality application technology can be studied for lifelong education, which is a non-professional education. In this way, we can better build and improve the network learning platform, enrich learning forms and personalized content to meet diversified needs, and improve learning support services, so that lifelong education can better adapt to the changes of The Times and achieve sustainable development.

Virtual reality can simulate various dangerous and difficult to reproduce complex environment, which is conducive to the integration of safety awareness education and lifelong education, and then the integration of social security and emergency response ability education and lifelong education based on virtual reality.

Social security emergency drill and training based on virtual reality are combined with lifelong education, and virtual reality application technology is integrated with lifelong education to realize the innovation of informatization teaching and learning form. To strengthen the integration of virtual reality application technology and lifelong education and innovate teaching content from the integration of social security emergency response ability education and lifelong education based on virtual reality, as well as the integration of social security emergency training and lifelong education based on virtual reality. Form the basic framework and content system of lifelong education integrating virtual reality application technology.

4. The Connotation of the Innovative Application of UAV is to Consolidate the Diversified Learning Mode of Lifelong Education

The innovative application of UAV flight is mainly divided into basic flight, aerial photography training and practical application. Basic and aerial photography application mainly includes basic theory learning of photography and basic flight control training.

4.1. With UAV Basic Flight and Innovative Application Synthesis of Lifelong Education Content Popular with the Masses

Combined with basic UAV flight and innovative application, lifelong education can promote relevant training and online learning courses, and can also carry out simulation teaching practice with the help of simulated aircraft. In this way, we can broaden the diversified learning content of real lifelong education and improve the interest in learning.[4] It can carry out customized cruise with the help of over-the-horizon remote control devices such as UAVs and unmanned ships, collect and sort out the data of monitoring river channels by UAVs, monitor and protect urban inland rivers, and carry out relevant training and application promotion combined with lifelong education.

There are still many training contents suitable for lifelong education of UAV basic flight and innovative application. For example: training and promotion of the use of UAV user manual, operation shall be carried out in strict accordance with the product operation and maintenance instructions, and the principles of pre-use inspection, in-use observation and post-use verification and cleaning shall be adhered to; Can also carry out lifelong education, the content of the flight safety management must strictly abide by the "on strengthening the unmanned aerial vehicle (UAV)" low, small, slow "aircraft safety management notice" and other relevant regulations, laws and regulations request flight should avoid landing civilian and military equipment, ban near the airport, the airport, high-speed rail, rail use drones, avoid to cause delays, Railway power grid, communication interruption and other serious consequences.[5]

4.2. The Combination with UAV Practical and Innovative Application Forms Rich and Practical Lifelong Education Resources

At present, the application of UAV in agriculture, logistics, electricity and other industries is mature, daily inspection, transportation and other businesses are more heavy, closely combined with the reality, the use of UAV is high frequency. Lifelong education can also innovate and develop the application of UAV in traffic assistance, emergency rescue, emergency search and rescue, epidemic control and other tasks to serve people's livelihood and maintain public security. Taking the application of this aspect as the entry point, we should expand the training and teaching content of lifelong education and put what we learn into practice. On the one hand, we can better improve the safety literacy and safety awareness of ordinary people, and on the other hand, we can make preparations for dealing with various safety accidents.

For example, in the rescue process, the scene situation is changing rapidly, and there is uncertainty about what means and measures to adopt in each stage of the disposal operation. In different disposal operations and stages, the choice of UAV and the use of technical warfare

methods are also different. The study of the disposal plan of UAV in the disposal of different types of emergencies can provide theoretical guidance for the disposal of the same type of emergencies, give better play to the role of UAV, and improve the feasibility, safety and work efficiency of disposal actions.

Lifelong education should also pay special attention to training and education on the application of drones in epidemic prevention and control. UAVs can be used to patrol at high altitude and urge people to wear masks and reduce the number of people gathering. Precise spraying of disinfectant can also be carried out on epidemic sites. Emergency supplies and temperature measurement can also be carried out in closed and controlled communities.

4.3. The Depth of Lifelong Education is Explored in Terms of UAV Innovation Application Standardization and System Standardization

Currently, China's UAV law enforcement laws and regulations mainly include normative documents formulated by the Civil Aviation Administration of China and departmental regulations issued by the Ministry of Public Security, which have weak legal effect, vague provisions and weak pertinence. Unmanned aerial vehicle (UAV) operation is not standardized, unified management standards are lacking, management mechanism and safety measures are not sound, and there are many disputes over UAV law enforcement. Lifelong education can be combined to strengthen the construction of UAV standardized operation process and system standardization research. [6]

5. Summary

Lifelong education urgently needs to strengthen the social training service function so that more people can enjoy more educational opportunities. In the context of lifelong learning, we in the update education concept and teaching model, we combine based on virtual reality and UAVs innovative applications, greatly expand the lifelong education connotation of multiple learning styles and learning, for carrying out education and be perpetrators to provide an open, diverse, lifelong teaching resources and learning communication space. It is beneficial to provide the beneficiaries of lifelong education with richer learning forms and space, stimulate their active learning ability, cultivate their personalized development, and adapt to the various needs of learners for lifelong learning. Such lifelong education can be put into practice. Combined with the learning scenes constructed by VR, negative learning emotions can be better eliminated, and an immersive situational learning atmosphere with strong interest can be formed, so that lifelong education can be on the path of benign and sustainable development.

Acknowledgments

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