

Research on the Smart Education Model for the Elderly in Open Universities from a Digital Perspective

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ABSTRACT

Based on the analysis of the overall situation and practical difficulties of the smart education model for the elderly in open universities from the digital perspective, and the exploration of the connotation and methods of elderly smart education in open universities, the focus is on explaining the implementation of smart education methods such as digital empowerment for elderly learners' innovative learning, connected learning, cross-border interdisciplinary learning, and new independent learning. Finally, the problems that should be deepened, as well as the prospects, are pointed out.

Keywords: *Digital humanities era, Open universities, Smart education model for the elderly.*

1. INTRODUCTION

The "Opinions of the Central Committee of the Communist Party of China and the State Council on Strengthening the Work on Aging in the New Era" clearly proposes to incorporate elderly education into the lifelong education system, rely on the national open universities to establish a national university for the elderly, and build a national platform for sharing elderly education resources and public education. The "Modernization of Education in China 2035" proposes to build a digital learning ecosystem and a smart education network education platform. The "Education Digitalization 2.0 Action Plan" points out the need to actively promote "digital education", construct a digital, intelligent, personalized, and lifelong education system, and build a learning society where everyone can learn, everywhere can learn, and always can learn. The "Education Law of the People's Republic of China" and the "Law of the People's Republic of China on the Protection of the Rights and Interests of Elderly Learners" provide basic legal protection for elderly education, but there is no clear definition of smart education for the elderly. With the rapid development of "digitalization", smart education represents the direction of human education. Multiple new learning methods coexist, such as interdisciplinary

learning, new self-directed learning, and ubiquitous learning. The development of digitalization has pointed the way for open university elderly smart education.

2. ANALYSIS OF THE DYNAMIC STATUS OF RELATED RESEARCH

Exploring and implementing the "Opinions of the Central Committee of the Communist Party of China and the State Council on Strengthening the Work on Aging in the New Era" as a background to explore research related to education for the elderly in open universities has become a hot topic in the academic community. Representative papers are shown as following: Lv Weimei took the education reform of Maoming Open University for the elderly as an example to discuss the education and learning methods of the elderly in the context of "Internet plus" (2022); Shi Jun, Zhang Jinming, and Liang Biming analyzed the international experience, domestic practice, and future path of "smart pension" education in Jilin Province as an example (2022). The academic circle's research on elderly education in open universities has expanded the theoretical perspective of elderly education while also guiding relevant practices. Scholars such as Wang Zhuguo wrote an article exploring the

attractiveness of open education for the elderly in China based on the inspiration of Japanese universities for running open universities for the elderly (2020); Scholars Jiang Li and Zhu Tong analyzed the implementation path of elderly education in Anhui Open University as an example (2021); Scholar Xie Qian wrote an article to explore the formation mechanism and bridging strategies of the "digital divide" in elderly smart education from the perspective of filling gaps (2020). Multidimensional exploration of intelligent elderly education has been conducted, such as scholar Chen Xiujin's exploration of the construction of an open education model for the elderly from the perspective of intelligent education (2020); Sun Han and Yang Xiaoqin analyzed and explored the scenario of intelligent elderly education (2020); Liu Tong wrote an article exploring the innovative practice of intelligent education in elderly education (2021).

The research on smart education for the elderly is in the ascendant, and the insightful insights from previous studies in the academic community have provided many references for this study. This study will draw on the strengths of others and carry out the construction of an open university elderly smart education model from a digital perspective.

3. ANALYSIS OF VALUE IMPLICATION

The open university elderly wisdom education model in the digital perspective has the value of promoting lifelong learning for the elderly, breaking geographical limitations, providing personalized learning experiences, and facilitating social interaction. This model provides more learning opportunities and resources for the elderly, thereby enhancing their motivation for learning and quality of life.

3.1 Realizing the Same Frequency Resonance Between a Positive Outlook on Aging and Open University Elderly Wisdom Education

There will be a necessity to implement a positive outlook on aging throughout the entire process of intelligent education for the elderly in open universities, and incorporate the concept into planning and work related to the elderly, providing intellectual support for intelligent education for the elderly in open universities.

3.2 Implementing a New Model of Smart Education for the Elderly to Achieve Learning and Action for the Elderly

There is a necessity to build a personalized and digital education model with the goal of cultivating the intelligent abilities of elderly learners. Centered around elderly learners, intelligent environments, resource sharing, and personalized learning should be achieved. It is necessary to develop open university elderly smart education into a "refueling station" for elderly learners to integrate into the era and educational society.

This study will be based on the "Opinions of the Central Committee of the Communist Party of China and the State Council on Strengthening the Work on Aging in the New Era" to solve numerous urgent practical problems in the field of elderly education, provide practical reference for open university elderly smart education, and provide reference for local governments to make relevant decisions.

3.3 Providing Intellectual Support for Improving the Digital Literacy of the Elderly Group

Adapting to the characteristics of the digital humanities era, it is of great significance to continuously innovate the optimization model of elderly smart education for the elderly, disseminate data culture, and building the elderly smart education model into an essential education for adapting to the development strategy of digital China, establish a scientific data perspective, and subtly transform the elderly smart education model into the internal strength of the elderly group.

4. THE DILEMMA OF IMPROVING THE DIGITAL LITERACY OF THE ELDERLY IN THE DIGITAL HUMANITIES ERA

With the development of networked data transmission, shared digital utilization, and digital information resources, the promotion of digital humanities technology has brought about a series of significant changes in the traditional elderly education of open universities, especially in terms of role positioning, educational trends, educational methods, educational concepts, etc. Although digital humanities technology is widely used, there are still certain limitations in improving the digital literacy and skills education of the elderly

population in open universities. There is still a long way to go, and traditional methods face new challenges. The main difficulties in the current work of the elderly smart education model in open universities are as follows:

Firstly, the digital literacy of the elderly population is generally low. That is to say, the majority of elderly people have weak digital awareness, lack of digital knowledge, lack of digital skills, and vague digital ethics.

Secondly, the effectiveness of the elderly smart education model is insufficient. The lack of effective mechanisms is mainly due to a single form of education, most of which are lectures, lack of supporting special training, thematic discussions, role model selection and other activities, and a utilitarian education tendency. Some open universities do not have a reasonable grasp of the elderly wisdom education model for the elderly group, and there are many problems, such as formalization, superficialization, and performance-based, lacking an interactive win-win situation.

Finally, there is insufficient investment in the elderly smart education model. There is still a problem of insufficient investment in funds and manpower, weak construction of digital technology software and hardware facilities in open universities, a shortage of digital humanities and technology professionals, and a long way to go for the elderly smart education model.

5. THE INNOVATIVE PATH OF OPEN UNIVERSITY SMART EDUCATION MODEL FOR THE ELDERLY AGAINST THE BACKGROUND OF DIGITAL HUMANITIES

Multiple measures should be taken to help open universities promote the development of elderly smart education in the context of digital humanities. These measures aim to provide more personalized, flexible, and efficient learning methods, meet the needs of elderly learners, and promote their comprehensive development and social participation.

5.1 Optimizing the Top-level Design of Smart Education for the Elderly

It is a must to incorporate the digital construction of elderly education into the unified planning of educational development, ensuring the

sustainable development of digital elderly education. It is also necessary to establish a mechanism led by the government, with enterprises and individuals raising funds from multiple sources, reconstruct the modern educational concept of technology integration, human-machine integration, resource integration, and co construction and sharing, and implement precise policies to achieve the operation mode of "platform on the cloud, resources on the cloud, classroom on the cloud, interaction on the cloud, experience on the cloud, and data on the cloud".

5.2 Building a Public Education System for Smart Education for the Elderly

There is a necessity to establish a teaching resource library based on smart education, so that high-quality resources can be shared by more elderly learners at a lower cost and on a wider scale. In terms of construction mode, operation mechanism, resource integration, and sharing mechanism, it is necessary to build a digital education system platform and education system that integrates multiple networks, comprehensively utilize modern information technologies such as artificial intelligence, online education, and big data analysis, and proactively send learning resources to elderly learners as education. Open universities can collaborate with other institutions, communities, and organizations across disciplines to provide richer and more diverse learning opportunities for the elderly. This can include collaborating with art institutions to organize art courses, collaborating with fitness centers to provide health and sports courses, or collaborating with community organizations to carry out volunteer activities. These are some ideas for the path of intelligent education for the elderly in open universities from a digital perspective, which can be adjusted and expanded according to specific circumstances.

5.3 Creating a Smart Education Ecosystem Network Education Platform for the Elderly

Open universities can establish social learning networks, allowing elderly people to exchange and share learning experiences with each other. Such a network can be achieved through online forums, social media platforms, or specialized learning communities. Elderly people can meet like-minded learners in these networks to learn and solve problems together. There is a necessity to promote the interconnection of high-quality elderly

education resources, increase the supply of learning resources, and provide open university elderly smart education support education for various elderly populations. It is also necessary to build an interactive platform and vigorously promote renowned teacher classrooms, virtual simulation teaching, and teaching under 5G conditions.

5.4 Building an Evaluation and Application Management Platform for Smart Education for the Elderly

It is necessary to establish a digital elderly smart education management platform should be established based on big data analysis for quality monitoring, tracking, feedback, and external release, and utilize an intelligent digital resource sharing platform, hierarchical classification, differentiated education, and precise evaluation. There is a must to build a new model of elderly smart education based on the smart education network, which integrates people with the internet and human-machine integration, enables accurate recognition and evaluation of the learning process, learning ability, learning effectiveness, and learning level of elderly learners. Open universities can utilize virtual reality (VR) and augmented reality (AR) technologies to provide more immersive and interactive learning experiences for the elderly. Through virtual reality, elderly people can visit virtual museums, historical scenes, or remote locations to enhance their learning interest and experience.

5.5 Utilizing Digitalization to Build an Open University Smart Education Resource Library for the Elderly

Open universities can provide personalized learning paths and suggestions based on the interests, learning styles, and ability levels of the elderly. Through learning analysis and artificial intelligence technology, open universities can understand the learning needs of elderly people and recommend suitable courses and learning resources for them. Open universities can establish online learning platforms that provide courses and learning resources that elderly people can access anytime and anywhere. These platforms can include video courses, online discussion forums, quizzes, and assignments. Elderly people can choose courses that suit their interests and needs, and interact and communicate with other learners through online learning. There is a necessity to create a personalized education resource platform, and

design teaching plans tailored to individual needs and cognitive levels for elderly learners. Based on the learning data left by elderly learners during intelligent terminal learning, through big data intelligent analysis, the learning ability of elderly learners should be intelligently perceived, and the learning content materials required by elderly learners should be intelligently pushed. The system environment needs to be utilized to carry out intelligent, personalized, and diversified learning education for elderly learners.

5.6 Utilizing Digitalization to Form an Open University Smart Education Ecological Chain for the Elderly

Based on the dynamic model of the development of smart education for the elderly, it is necessary to construct an ecological relationship model between educators and elderly learners, from the individual needs of elderly learners, professional teaching teams, learning resources that match teaching and learning, to educational technology education platforms and mobile communication devices that meet the needs of smart education for the elderly.

From the perspective of national strategy, there is a necessity to advocate a lifelong learning model, adopt a full online teaching mode or a blended online and offline learning mode, open up intelligent elective and intelligent education models, break down barriers that may affect the social participation of elderly learners, and support and motivate elderly learners to participate in voluntary education, as well as allowing relatively young groups of the elderly to teach older groups to use digital products. There is also a necessity to activate the dividend of the younger elderly population, integrate and utilize the education resources of the whole society, improve the construction of the public education system, and carry out digital skill training activities that meet the needs of the elderly. It is necessary to innovate the open university elderly smart education model, emphasize the interdependence and integration between elderly learners and smart education, and vigorously promote the modernization of elderly education. It is also necessary to expand the learning resources required by elderly learners to various aspects of learning, health preservation, and entertainment, and extend and open the open university classroom infinitely, achieving interaction between elderly learners, elderly learners and educators, and human-machine interaction.

6. PROSPECTS

Open university elderly smart education has a broad prospect in the context of digital humanities. By adopting innovative educational models and technological means, it can meet the needs of elderly learners, promote their comprehensive development and social participation, and make significant contributions to building an inclusive, intelligent, and sustainable society.

6.1 *Providing Flexible Learning Methods*

Elderly people can learn anytime and anywhere through digital platforms, whether at home or on the go. They can arrange their learning according to their own pace and time, no longer limited by the time and location limitations of traditional classrooms.

6.2 *Personalized Learning Experience*

Digital technology can provide personalized learning paths and resource recommendations based on the interests, learning styles, and ability levels of elderly people. This personalized learning experience can help elderly people better understand and master knowledge, and improve learning outcomes.

6.3 *Interactive and Collaborative Learning*

Digital platforms can promote interaction and collaborative learning among elderly people. The elderly can communicate and share experiences with other learners through online discussions, collaborative projects, and learning communities. This kind of interaction and cooperative learning can enhance the learning motivation and social connections of elderly people.

6.4 *Cross Disciplinary Learning Opportunities*

Open universities from a digital perspective can collaborate with other fields and industries to provide more cross-border learning opportunities for the elderly. For example, collaborating with art institutions to offer art courses, and collaborating with technology companies to launch digital technology training. Such cooperation can enrich the learning content of elderly people and broaden their knowledge fields.

6.5 *Intelligent Assisted Learning*

Artificial intelligence technology can provide intelligent assistance in the learning process of the elderly. For example, intelligent navigation systems can provide learning routes and suggestions for elderly people, and intelligent assessment systems can help them understand their learning progress and weaknesses. Such intelligent assistance can improve the learning efficiency and outcomes of the elderly. In summary, open university smart education for the elderly in the digital perspective has many prospects, which can provide more flexible, personalized, and diverse learning opportunities for the elderly.

7. CONCLUSION

By empowering intelligent education for the elderly through digitization, it is necessary to combine learning and action for the elderly, promote the integration of innovative thinking and personalized learning abilities for elderly learners, highlight personalized models of self, autonomy, and freedom, highlight thinking, creation, and action, and create an intelligent environment and innovative learning atmosphere for intelligent education. Drawing on the advanced experience of developed countries, it is also necessary to promote practical and theoretical innovation in digital literacy and skills education for the elderly population. Combining learning and action for the elderly, there is a must to give full play to the positive demonstration effect of elderly internet celebrities, stimulate the integration of innovative thinking ability and personalized learning ability of the elderly, highlight the personalized mode of self, autonomy, and freedom, pay attention to thinking, creation, and action, and create an innovative mode of intelligent environment and smart pension.

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Research achievements of famous teaching teachers at Dalian Vocational and Technical College (Dalian Open University).

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