

PROCEEDINGS ARTICLE

Research on the Learning Adaptability and Educational Countermeasures of the Elderly in the Post-Epidemic Era

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ABSTRACT

In the post-epidemic era, the learning problem of the elderly faces both opportunities and challenges. This study re-examines the learning adaptability of the elderly in the post-epidemic era, constructs a contingency theoretical structure for the learning adaptability of the elderly in the post-epidemic era, and explores a blended teaching strategy that awakens life-learning adaptability, a family learning community strategy that achieves win-win results, and a happy elderly-care strategy that promotes the self-organization of a learning society, in order to comprehensively promote the development of the learning adaptability of the elderly in the post-epidemic era.

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1. INTRODUCTION

In the post-epidemic era, interdependence, rapid change, and intricacy have become the three mainstream features that shape today's world [1]. The "Implementation Plan on Effectively Solving the Difficulties of the Elderly Using Intelligent Technology" issued in November 2020 also clearly listed strengthening the ability of the elderly to use intelligent technology as the key content of elderly education. How to enable many elderly learners to quickly adapt to changes in the post-epidemic era, integrate into the new blended teaching environment, improve the quality of life for the elderly, and achieve learning and enjoyment in old age is an educational problem that needs to be solved urgently.

2. A REVIEW OF THE LEARNING ADAPTABILITY OF THE ELDERLY IN THE POST-EPIDEMIC ERA

The learning adaptability of the elderly is a psychological tendency of the elderly to actively achieve the purpose of learning in the process of

active adaptation and it is a manifestation of comprehensive ability. The research team has found in educational observations and interviews that there are still many problems in the learning adaptability of the elderly in the post-epidemic era.

2.1. Urgent Learning Motivation With Weak Initiative

During the comprehensive prevention and control period of the COVID-19 epidemic and the partial epidemic prevention and control period after the epidemic, many elderly people stay at home for epidemic prevention, their outings are greatly restricted, and elderly care institutions also restrict family visits and other activities to varying degrees. Factors such as limited space, monotonous life, and worries about the outside world can easily lead to varying degrees of anxiety and mental emptiness among the elderly. In the interviews, most of the elderly express their willingness to accept elderly education through virtual networks to combat the real social vacancy and spiritual emptiness in the state of public health emergencies. However, many elderly people still show passive learning and weak initiative,

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and it is difficult for them to adhere to the elderly education with weak organization, strong virtuality and large time flexibility. However, taking the initiative to grasp the spiritual direction of the individual and play a dynamic role still relies on active learning with direction and goals.

2.2. Enhanced Learning Ability With Obvious Differences

During the epidemic and in the post-epidemic era, the elderly have gradually mastered and been proficient in browsing the internet, learning from WeChat videos, and reposting and sharing. In a sense, the general information technology capabilities of the elderly have been improved to varying degrees through the test of the epidemic. However, there is a state of great individual variation. Among the interviewed elderly people, some have mastered anti-epidemic knowledge and skills, mastered the ability to interact with grandchildren and children, and met their own development needs through learning. However, some have been caught in the quagmire of various "health" knowledge and "hearsay", which further enlarge their anxiety and worry.

2.3. Diverse Learning Strategies With Strong Family Dependence

Before the epidemic, elderly education was mainly based on individual learning and classroom learning. During the epidemic and in the post-epidemic era, the learning strategies of elderly have been continuously enriched, and the forms of family combined learning and intergenerational learning are generally present. However, the formation of a positive interaction between the elderly and their children and grandchildren to learn and communicate together is affected by the psychological relationship of family members, learning paradigms, communication patterns, and family power and potentials.

2.4. Blended Learning Environment With Solidified Study Habits

Due to the impact of the epidemic, elderly education in many regions has launched "cloud" classrooms, gradually forming an online and offline blended learning environment. However, it has been observed that although gatherings of relatives and friends and community cultural and sports gatherings have been transformed into communication via telephone,

smartphone, and computer video, a large part of the elderly are accustomed to the way of learning by teaching by words and deeds and communicating offline, showing dependence on the original learning habits and fear of new virtual learning software. The survey shows that the elderly population in the post-epidemic era has a tendency of not adapting to information-based learning.

3. CONTINGENCY STRUCTURE OF THE LEARNING ADAPTABILITY OF ELDERLY IN THE POST-EPIDEMIC ERA

Combining the learning adaptability theory of Professor Huang Ailing, the elderly learning adaptability theory of Professor Gao Wenjun and the elderly adaptability model of scholars Wahl & Gerstorf [2], after research, the research group has found that the learning adaptability of the elderly presents a systematic and dynamic organizational contingency structure restricted by multiple internal and external factors (Fig. 1).

As the main body of learning, according to different learning adaptability degrees, the elderly can be divided into individuals with complete learning adaptability and individuals with incomplete learning adaptability [3]. According to the related theory of adaptability, the learning adaptability of the elderly is a gradual and developmental process. The first stage is mechanical adaptability in the biological sense. At this stage, the elderly are mainly obedient on the surface. They are both curious and unaccustomed, and are often accompanied by emotional experiences of resistance, alienation and even contradiction. The second stage is active adaptability in the psychological sense. This stage belongs to the adaptability in the psychological sense and presents two specific levels and development periods of "adaptability of self-integration function" and "adaptability of self-regulation", which are respectively reflected in the continuous integration of the elderly learners' original cognitive, emotional, will, and individual psychological characteristics, and the integration and assimilation of the senior psychological functions of the elderly learners. The third stage is the integrated adaptability in the sense of sociology. At this stage, the elderly mainly focus on individual internalization and integration with the outside world. They often experience happy and positive emotions, obey learning norms in behavior, and gradually increase their internal drive and meta-ability to learn.

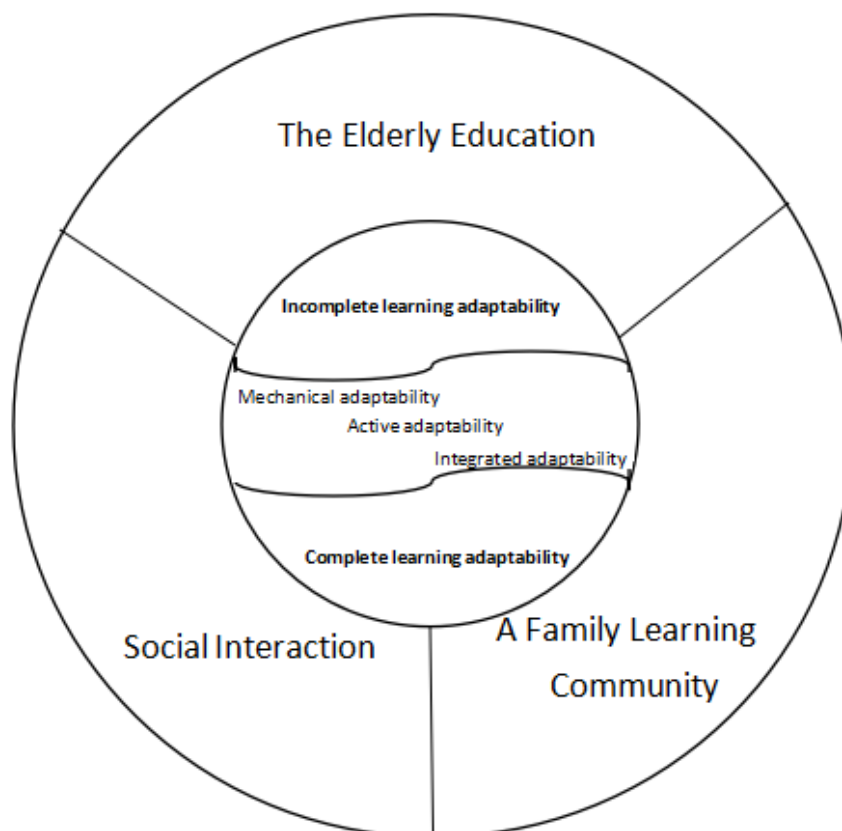


Figure 1. The contingency structure of the learning adaptability of the elderly in the post-epidemic era.

The learning adaptability of the elderly in the post-epidemic era is affected by many subjective and objective factors. Objective factors include society, elderly education (school), community, family, peer, culture, system, regulations, etc.; subjective factors include: the ability of the elderly, learning motivation, self-efficacy, subjective well-being, mental toughness, gender, age level, etc. In the post-epidemic era, the learning adaptability of the elderly can be improved from three forms of education: school education, family education and social education, and can be matched with corresponding education strategies.

4. STRATEGIES TO IMPROVE LEARNING ADAPTABILITY OF THE ELDERLY IN THE POST-EPIDEMIC ERA

The "interdependence" in the post-epidemic era calls for the elderly's "systematic" learning adaptability, the "uncertainty" calls for the elderly's "strategic" learning adaptability, and the "information technicalization" calls for the elderly's "digital" learning adaptability. In the post-epidemic era, the problem of elderly learning adaptability urgently requires the collaboration of elderly education at all levels of elderly schools or teaching schools, socialized

elderly learning and interaction activities, and the construction of family learning communities. The specific strategies are as follows.

4.1. Awakening Life — A Blended Teaching Strategy for Learning Adaptability

4.1.1. Online and Offline Blended Teaching Strategies in Elderly Schools

In the post-epidemic era, the online and offline blended teaching strategy of elderly schools needs to reshape the future life and interest-oriented teaching content of the elderly, enrich course categories, improve content quality, and enhance value pursuit; they also need to change the educational organization form of elderly education, try the online and offline blended learning method, provide elderly learners with online courses, MOOCs or micro-courses with diverse choices, good experience and high participation through lifelong education teaching cloud platform and network platform, use cloud technology to carry out progress management and quality inspection of the learning platform, and realize visual management, in order to meet the growing lifelong learning needs of the elderly population with high quality. At the same time, based on the concept of

educational Metaverse and related technologies, elderly schools should also actively participate in immersive, embodied, and knowledge distributed educational Metaverse courses or other educational products. In this way, elderly learners can participate in the learning and life in the digital world of education as a digital identity in the future.

4.1.2. Metacognitive Strategies of Life Adaptability in the Elderly Population

Elderly learning has the characteristics of multiple standards, independent learning and flexible means. Elderly schools and other educational institutions should combine epidemic prevention and control, try to explore the education mechanism of the vitality-learning ability of the elderly, stimulate the individual endogenous power of the elderly through courses, life experience, physical exercise and health maintenance, temper meta-learning ability and promote advanced learning adaptability of the elderly by correcting learning motivation, learning psychology, and learning habits, thereby improving learning efficiency.

4.2. A Win-Win Family Learning Community Strategy

4.2.1. Positioning the Role of Grandparents in the Family Learning Community

The elderly should re-examine and correctly position themselves, change the original roles such as "family dictator", "family nanny" and "family marginalized person", and clarify their own role as equal learning subject in a lifelong learning community, namely, they are not the "masters" or "vassals" of their children and grandchildren, but learners who can think independently and have learning needs. Especially in the context of "The Law of the People's Republic of China on Family Education Promotion", the life wisdom and social experience of the elderly and some elderly people's wealth of professional knowledge in different fields, etc. are of great benefit in facilitating the socialization and personalization process of children and increasing specific professional learning and career choices for adolescents.

4.2.2. Building the Interdependence Mechanism of the Family Learning Community

As the smallest unit of a learning society, a good family learning structure should be to build a family learning community. As a microscopic and specific organizational unit, the family learning community should build an "interactive and interdependent" learning organizational structure [4]. This requires close ties among family members, autonomous

learning and development of group members, strong organizational arrangements and institutional design, and an equal and harmonious organizational atmosphere. Among them, autonomous learning emphasizes members' independent value judgment, problem-solving ability, self-learning persistence, and life cooperation ability to complete autonomous learning, etc., and this kind of autonomy is the good quality required for lifelong learning and learning organization construction of individual family members [5]. The apparent autonomous learning ability of grandparents and fathers can provide an example for the son generation (teenagers and children) and play the radiating role of "examples around you", in order to gradually form the cohesive force of a learning organization, promote the formation of a family learning community synergy mechanism, and truly achieve "never too late to learn", and build a learning family.

4.3. A Happy Elderly-Care Strategy to Promote the Self-Organization of a Learning Society

4.3.1. Improving the Learning Government Public Services for the Elderly

In order to meet the learning and living needs of the elderly, on the basis of ensuring the basic public services for the elderly that combine medical treatment and endowment, the government should further improve the learning government public services for the elderly, increase relevant government investment, build a "smart" platform for learning government public services [6]. The government also should set up knowledge management institutions or knowledge groups to go to grassroots units, in order to meet the living and learning needs of the elderly at different levels and let the elderly absorb scientific multi-field knowledge in the self-organization of different knowledge topics.

4.3.2. Building an Elderly-Friendly Digital Ecology

In addition to the fully built internet infrastructure, all sectors of society should improve digital hardware and software equipment, design targeted learning products for the elderly, and improve the network security environment, to more effectively motivate the elderly to participate in cloud platform learning, digital communication, internet transactions, and digital content creation and input. They also need to create elderly-friendly digital culture, and build digital-friendly mechanisms for elderly, such as the withdrawal mechanism of internet digital platforms, the learning adaptability mechanism for the elderly in

the community or family, and the self-protection mechanism for the elderly, in order to provide "trial and error" and "error-tolerant" space for the elderly's learning and life adaptability, and standardize, normalize and culturalize it, to gradually form a "friendly" digital ecology that cares for the elderly and builds the elderly's learning and life adaptability.

5. CONCLUSION

In the post-epidemic era, the habitual psychology and learning styles of elderly have been broken, causing them to show insufficient learning adaptability in terms of learning motivation, learning ability, learning strategies and learning environment. The concepts of smart education, remote network technology, cloud technology, and educational Metaverse not only empower the elderly education technology, but also pose huge challenges to the learning adaptability of the elderly. To this end, elderly education institutions, families and all sectors of society represented by elderly colleges should form a joint force, to promote the elderly who are not fully adapted to learning and living in the post-epidemic era from the stage of "inadaptability" to "active adaptability", and finally to achieve the goal of "integrated adaptability".

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