Research on the Reform of Modern Distance Education Teaching Model from the Perspective of Digital Economy

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Abstract: In today's era, with the rapid development of science and technology, people's demand for distance education is becoming increasingly prominent. The rapid development of science and technology requires people to move from a single school education to lifelong learning, on-the-job learning, and on-the-job learning. People's demand for modern distance education is no longer just focused on regional flexibility, but more on having more flexibility and autonomy in learning time, content, and process. In the context of the development of the digital economy, distance education should comprehensively consider people's new needs in personalized learning during the implementation process of teaching, and establish a new educational model that can adapt to anyone choosing any content for learning at any time and place. The development of the digital economy has provided favourable conditions for creating new teaching models. From the development history of distance education, we can see that the continuous deepening of modern learning theory and the continuous development of educational technology have made distance education a source of sustainable development, and always reflects the progressiveness nature of education and the characteristics of the times. Compared with traditional teaching models, China's distance education teaching model has undergone profound changes in educational concepts, teaching management, and educational forms. Based on the characteristics of flexibility, development, and expansion, distance education teaching mode has become a more easily accepted and efficient learning mode for young students in a fast-paced environment.

1. Overview of Relevant Theories

1.1 Humanistic Learning Theory

The humanistic psychology school represented by Carl Rogers emphasizes the development of students' personalities in teaching, fully mobilizing their intrinsic motivation [1-2], and requiring the creation of harmonious and harmonious interpersonal relationships. This has a certain enlightening and positive significance for overcoming the sense of loneliness among students in open education. Emphasize the subject status of students in learning, and teachers are facilitators of student learning [3-4].

1.2 Constructivist Learning Theory

Constructivism originally originated from the theory of cognitive development in children. Due to the close relationship between individual cognitive development and learning process, constructivism can be used to better illustrate the cognitive laws of human learning process. Constructivist learning theory and constructivist learning environment emphasize student-centered learning [5], which not only requires students to transform from passive recipients of external stimuli and objects of knowledge infusion to active constructors and facilitators of information processing, knowledge meaning, and so on. Teachers are the organizers and guides of the teaching process, so the role of teachers should not be ignored at all, as shown in Figure 1 [6].
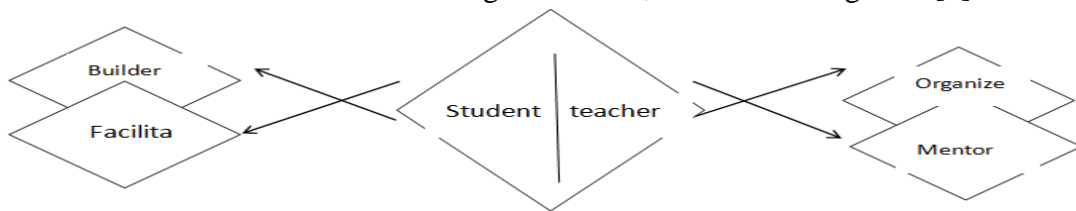

Figure 1: Constructivist Learning Theory

2. Principles to be Followed in the Construction of Distance Education Teaching Models

2.1 Principles of Deep Fusion

The integration of information technology and distance education is not just the transformation of formal education learning environment from actual to virtual, but the full application of network technology in the field of distance education on the basis of in-depth understanding of the inherent nature of the Internet, so that network technology and education goals can achieve deep integration [7-8].

2.2 Principles of Open Interconnection

Before the concept of "Internet plus" was introduced into the education industry, the information island phenomenon in the latter was very prominent. This type of information blockage problem is widely present between educational institutions, between students, and between institutions and students. In addition, there are information barriers between distance education itself and other industries. However, building a distance education model in the context of the digital economy can effectively solve the aforementioned two problems. From both the internal perspective of distance education and its relationship with other industries, it can achieve openness and interconnection [9].

2.3 Principle of Putting People First

The most direct target of distance education is students, and a fundamental principle followed in the construction of distance education models is people-oriented. The specific manifestation of this principle is to fully value the user experience of students and use their sense of experience as an important way to discover problems [10].

2.4 The Principle of Unity of Timeliness and Development

From the perspective of the basic structure of teaching modes, due to the different requirements of different eras or regional cultures for teaching and the quality of the objects they cultivate, the

teaching objectives they set are also different, and the teaching methods, means, and strategies used are naturally different. Therefore, in special times, the structure and function of teaching modes should also have corresponding specificity. This forms the foundation for the timeliness of teaching models, as shown in Table 1.

Table 1: Principles followed by Distance Education Teaching Mode

Number	specific content
1	Deep integration principle
2	The principle of unifying modernity and development
3	Open Internet Principle
4	The principle of putting people first

3. The Main Problems of Distance Education Teaching Models in the Digital Economy Era

3.1 Content Issues in Distance Education

3.1.1 Educational Content Differs Less from Traditional Education

The rapidly developing computer network model in recent years has given learners more autonomy in learning methods, but lacks innovation in educational content. From the first batch of colleges and universities approved by the Ministry of Education to dozens of other ordinary colleges and universities later carrying out distance education, without exception, no one has designed a variety of teaching plans for different learners in terms of teaching plans and curriculum content. Therefore, the highly unified education content makes modern distance education like a copy of traditional education.

3.1.2 Emphasize Intellectual Education over Moral Education

In traditional education, teachers and students generally focus on the development of intellectual education, and evaluations are mostly focused on intellectual education, with little involvement in moral education. The modern distance education teaching model follows the traditional teaching model and makes unremitting efforts in improving the cognitive ability of learners and meeting their needs for theoretical knowledge and skills. However, there is a common phenomenon of neglecting the ideological and moral cultivation of learners.

3.2 Challenges Faced by the Construction of Teaching Resources in the Digital Era

3.2.1 Teaching Resources Need to Achieve Unprecedented Sharing

Resource sharing is a typical feature of the digital age, which not only requires extensive collection, profound analysis, and effective storage of information, but more importantly, it is necessary to comprehensively enhance the liquidity of information itself. In the context of this era, resource sharing has become an important pursuit of digital resource construction, which clearly poses serious challenges to digital resource construction at the technical level.

3.2.2 Maximizing the Value of Teaching Resources

The maximization of value is the ultimate goal of various activities, and it is no exception in the construction of teaching resources in the context of the digital age. However, from the design and development of teaching resources to the stage of processing and even cleaning up teaching

resources, it is necessary to deeply explore the inherent value of teaching resources, which undoubtedly poses serious challenges to the construction of teaching resources.

3.2.3 The Richness of Resources should always be maintained

The richness of resources is an important measure to ensure the complementary advantages of teaching resources, and it is also an important factor in comprehensively improving the efficiency of teaching resource utilization. In the context of the digital age, the construction of teaching resources has an extremely ideal platform. However, how to ensure the continuous improvement of the richness of teaching resources still requires continuous in-depth thinking, and the thinking process will also accompany the entire process of teaching resource construction.

3.3 Efficiency Issues in Online Learning

3.3.1 Low Learning Effectiveness

Many students only participate in remote academic education to easily obtain a diploma, resulting in low learning goals and lack of motivation. They will not actively utilize rich learning resources to study seriously and systematically, but only care about online final exam review questions or mock questions.

3.3.2 Low self-evaluation

On the job students who participate in distance education generally do not have a high evaluation of their learning. They are not satisfied with their current learning methods, environment, and current learning situation, and believe that this choice is a last resort; they have never had high expectations for their learning progress and quality.

3.4 Problems with Teaching Evaluation Methods

From the current situation, the examination methods of distance education are still the same as traditional examination methods. The test papers are printed and distributed uniformly, and the exams are held at the same location and time. Exams are mainly written exams, similar to traditional exams, which mainly test students' level of memory of knowledge, but lack understanding and application of knowledge, as well as assessment of various practical abilities and qualities of students.

This unified approach of setting questions, organizing and grading papers for the same course has led to a convergence between the teaching evaluation methods of distance education and traditional evaluation methods. This evaluation method for teaching effectiveness and student performance completely ignores individual differences among students, making it difficult to meet the requirements of individualized and autonomous learning.

3.5 Integration of Information Technology and Curriculum

The purpose of integrating information technology and curriculum is to fully utilize various resources through information technology, implement high-quality and efficient teaching, cultivate students' information literacy, promote effective teaching by teachers, and promote the comprehensive development of education. However, many teachers mistakenly believe that "as long as computer and network technology are used in the classroom, it is equivalent to completing teaching integration." In fact, using information technology blindly does not mean integration.

Blindly using information technology not only wastes teaching time and resources, but also reduces teaching efficiency and learning level. Although the academic community has conducted extensive research on the purpose, approach, significance, and mode of integration, it has never fundamentally solved the problem of teachers' low level of information technology and curriculum integration.

3.6 Ideological Issues in Distance Education

With the arrival of the digital economy era and its application in the field of education, modern distance education will completely change the traditional situation of teacher centered and passive knowledge reception by students. Instead, there is a new type of educational philosophy that is completely different from traditional educational methods and educational ideas, that is, student-centered and meets the personalized learning requirements of more learners, as shown in Table 2.

Table 2: Ideological Issues in Distance Education Limitations of the problem

problem	Limitations
Emphasizing teaching and neglecting communication	rarely extends beyond the classroom
Emphasizing theory over ability	neglecting the cultivation of students' practical abilities

3.6.1 Emphasize Teaching over Communication

In traditional face-to-face education, there is a large amount of two-way communication between teachers and students. Teachers give lectures in the classroom and answer difficult questions during learning; Teachers ask questions in class and students raise their hands to answer questions, all of which are two-way communication. However, this kind of interaction and communication between teachers and students is mostly limited to the classroom and rarely extends to other times and places outside the classroom. At present, the current remote education teaching model does not fully utilize modern network technology to achieve timely interaction and communication between teachers and students.

3.6.2 Emphasize Theory over Capability

The practical part of teaching is an important teaching process that encourages students to combine theory with practice and helps learners' master knowledge, as shown in Figure 2. Especially in today's world where emphasis is placed on quality education and the cultivation of learners' innovative abilities, the cultivation of practical abilities is increasingly valued.
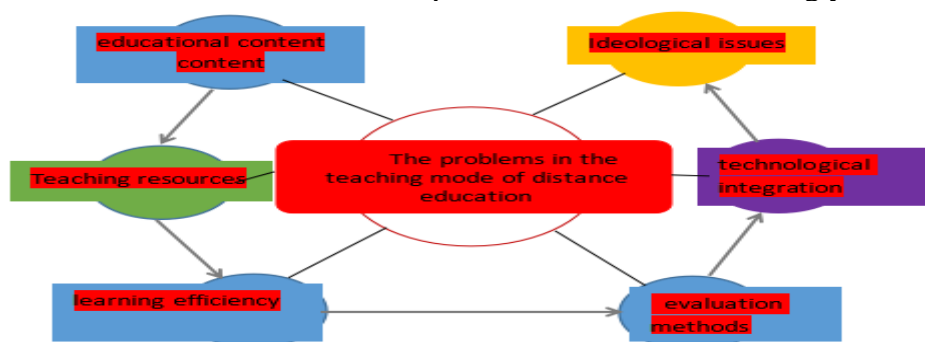

Figure 2: Problems in the Teaching Mode of Distance Education

4. Innovation of Distance Education Teaching Models in the Digital Economy Era

4.1 "Training and Coaching - Autonomous" Teaching Mode

This model provides guidance and assistance to learners through enrollment education and various skill training, striving to promote personalized and autonomous learning. Among them, "training" is the teaching mode, and "training" refers to the unified admission guide education and modern educational technology training provided by the school to new students at the beginning of the school year, allowing them to master learning skills and methods, and adapt to modern distance education teaching methods as soon as possible; "Guidance" is until the teacher provides "guidance" to the learner; "Autonomy" refers to the correspondence between the learning mode of learners and the teaching mode, which is the abbreviation of "individualized" autonomous learning. It is a learning paradigm in which learners control their own learning and correspond to "other dominated" learning. This model is based on learner centered learning, and the purpose of "training" is to enable mentors to better and more conveniently "guide", solve learners' learning concepts, and help learners establish awareness of self-directed learning; The purpose of "guidance" is to enable learners to learn autonomously better and more flexibly, and to help learners gradually achieve autonomous learning.

4.2 "Guidance Learning" Collaborative Teaching Model

The collaborative teaching model of "guidance learning" refers to the program and strategy system that fully utilizes the learning environment created by modern information technology, expands the time, space, and ability of teachers and students to "guide" and "learn", and enables the collaborative activities of mentors and learners. Therefore, the process of "guidance learning" is a joint activity of the mentor's "guidance" and the learner's "learning".

The main characteristic of the "guidance learning" collaborative teaching model is to emphasize the construction of an information-based learning environment and the all-round guidance role of mentors in talent cultivation. The guidance of mentors is no longer simply limited to providing learners with prescribed courses as traditional teachers. The learning of learners is no longer simply limited to the study of textbook knowledge. The multimedia world and networked learning environment leave a huge space for mentors and learners to guide and learn.

4.3 Three Dimensional Interactive Teaching Mode of "Guidance Self-Learning Assistance"

Table 3: Achievements of the Three Dimensional Interactive Teaching Model of "Guidance Self-study Assistance"

Dimensional	achievement of goals
Guided learning	helps students identify learning paths
Self-study	helps students form learning habits
Assisting students	complete learning tasks more smoothly

The three-dimensional interactive teaching model of "guidance self-learning assistance" is abbreviated as the "guidance self-learning assistance" teaching model. Since learning guidance, self-study and learning aid are all centered around the core of "learning", this model can be referred to as "3L teaching model" or "three learning model" for short. In the "3L" teaching model, L is the core. "L" is both learner centered and learning, reflecting the activities of "guiding and assisting" around the core of learning. "Guidance" refers to educators being guides and guides for learners to learn independently, helping learners establish learning goals, and identifying and selecting the best

learning strategies and approaches to achieve these goals; "Guidance" refers to the ability of learners to develop good learning habits, master learning strategies, and enhance cognition; "Tutoring" refers to tutoring learners to use various convenient means to obtain the necessary information and use this information to complete learning tasks, as shown in Table 3.

4.4 Multimedia Network Interactive Education and Teaching Mode

The multimedia network interactive education teaching mode is a digital teaching environment based on computer, multimedia, network, hypertext, and hypermedia technology. Teachers store, transmit, manage, and update teaching information, students collect, select, process, and obtain learning information, and it is a remote teaching organization mode for synchronous and asynchronous communication between teachers and students.

This model creates a superior environment for students to learn, breaks through traditional face-to-face teaching methods, expands the dimensions of teaching time and space, and can meet the needs of different students at any time. In this mode, teachers are navigators, organizers, regulators, and designers, helping students learn through homework evaluation and online discussions.

The internet provides students with sufficient information and a free environment for learning. Students are not limited by time and space, and can filter online information according to their own time, needs, and interests. They can then establish connections with their previous cognitive structures, process, encode, store, output, and use new information. Due to technical limitations, the application of this teaching mode is not yet widespread enough. But this model has a very broad application prospect, and combining artificial intelligence with online multimedia teaching is its future development direction.

4.5 Multimedia Optimization Combination Classroom Education and Teaching Mode

This method is a theory that applies systems theory to solve teaching problems. The teaching system, like any other system, includes two basic elements: teaching and learning. Teaching is a subsystem composed of elements such as teachers, textbooks, media, teaching content, teaching methods, and teaching environment. Learning is a subsystem composed of elements such as students, learning attitudes, learning behaviors, and cognitive levels. The two subsystems are interconnected and organically combined to have a certain teaching function.

The multimedia optimization combination classroom education teaching mode is to use system design ideas, reasonably select and use various modern teaching media, and form an optimized teaching media group for teaching information transmission, feedback, and regulation, based on the needs of teaching objectives and content in classroom teaching. It acts on students, enabling them to learn under the best conditions and achieve the optimal teaching effect.

5. Conclusion

This mode creates a vivid and interesting learning environment for learners that combine images, text, and sound, as shown in Figure 3. Through the multiple stimuli of multimedia, it mobilizes multiple senses to receive information, thereby stimulating students' interest in learning and strengthening their understanding and memory of the knowledge they have learned. Multimedia teaching provides technical optimization, extraction, and processing of subject content, which is beneficial for highlighting teaching priorities, solving teaching difficulties, and improving teaching quality; On the other hand, it is conducive to enhancing teaching effectiveness, mobilizing the enthusiasm, initiative, and creativity of both teachers and students.
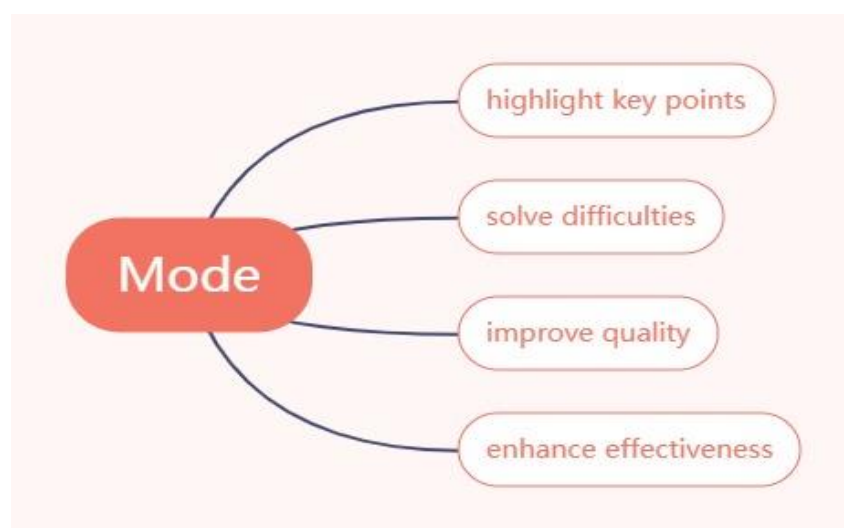
Figure 3: Advantages of Multimedia Optimization Combination Classroom Education and Teaching Mode

Acknowledgement

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