



Research on Quality Assurance of Distance Education in China: Historical Evolution, System Construction, and Future Prospects

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Abstract. Distance education provides learners with a flexible, efficient, and high-quality lifelong learning pathway by optimizing resource allocation and enhancing interactivity, effectively promoting knowledge dissemination and skill improvement. Currently, distance education has encountered problems such as "inconsistent standards", "single evaluation system", and "imperfect organizational structure", which hinder the development of educational quality. This study summarizes the historical evolution of the quality of distance education into four stages: budding exploration, rapid development, stable development, and deepening development. The article divides the quality assurance system of distance education in China into five major systems: policy, organization, personnel, teaching services, and evaluation and assessment. And clarify the roles and inter-relationships of each system in ensuring the quality of education. Finally, the study proposes three suggestions aimed at providing reference for quality assurance in distance education, including emphasizing the importance of unified quality assurance standards, promoting a diversified quality evaluation system, and improving the organizational structure of quality assurance in the future development of distance education.

Keywords: Distance education, Educational quality, System construction

1 Introduction

The Decision of the Central Committee of the Communist Party of China on Further Comprehensively Deepening the Reform and Promoting Chinese, issued in July 2024, clearly proposes to promote the digitalization of education and enable the construction of a learning society in deepening the comprehensive reform of education [1]. Distance education, as a key practice of educational digitization, is an educational form that transcends the limitations of traditional campus time and space. It achieves teaching activities that are relatively separated in time and space between teachers and students through the application of media technology and educational resources. Since the pilot project of "Modern Distance Education Project" was launched in China in 1999, distance education has achieved teacher-student interaction and leveraged the advantages

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of educational resources. It provides support for improving the quality of education in various educational institutions and schools, and offers convenient, fast, and extensive educational services to learners with different needs, in order to enhance their knowledge and skills [2][3]. However, with the rapid expansion of distance education, some shortcomings have also been exposed, such as inconsistent standards for distance education, a single evaluation system, and an imperfect organizational structure. These deficiencies have infringed upon the legitimate rights and interests of consumers, and there is still a significant gap between achieving the goal of high-quality education. Quality is the foundation of education and the key to the healthy development of all types of education [4]. At the same time, it is also an eternal theme of education, especially distance education [5]. The quality assurance of distance education is crucial in several aspects, including ensuring that educational services continue to meet the needs of learners, improving educational outcomes, maintaining educational reputation, and promoting educational innovation. The Fifth Plenary Session of the 19th Central Committee of the Communist Party of China clearly put forward the theme of "promoting high-quality development". During this period, China's economy, society, culture, ecology and other fields must reflect the requirements of high-quality development. The Outline of the National Medium - and Long Term Education Reform and Development Plan (2010-2020) proposes to carry out high-quality and high-level distance education [6]. Understanding and exploring how to ensure the quality of distance education is a prerequisite for improving the quality of distance education.

In order to effectively address the above challenges, a comprehensive review of the historical development of quality assurance in distance education has been conducted. Identify that its evolution has gone through four stages: budding exploration, rapid development, stable development, and deepening development. Based on the comprehensive construction of the quality assurance system for distance education by Chinese researchers, the quality assurance system for distance education in China has been refined into five key components: policy system, organizational system, personnel system, teaching service system, and evaluation and assessment system. The respective roles and interconnections of these systems in ensuring education quality have been explained. Finally, a prospective analysis was conducted on the future development trends of quality assurance in distance education, with a particular emphasis on the core position of unified quality assurance standards, diversified quality evaluation systems, and improved quality assurance organizational structures in the future development of distance education. These prospects aim to provide theoretical guidance and practical strategies for the field of quality assurance in distance education, in order to promote the continuous optimization and innovative progress of the quality of distance education in China.

2 The Historical Evolution of Quality Assurance Research in Distance Education in China

This study used the CNKI database of China National Knowledge Infrastructure as the data source and conducted searches using "distance education", "online education" (As

shown in Figure 1), and "quality assurance" (As shown in Figure 2) as keywords. Looking at the historical evolution of distance education in China, it can be roughly divided into four stages: the budding exploration period (1951-1992), the initial preliminary development period (1993-1999), the rapid development period (2000-2010), and the deepening development period (2011-present).

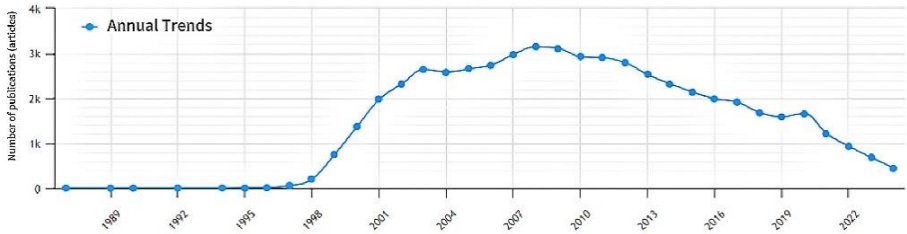


Fig. 1. Number of articles published on the theme of "distance education" or "online education".

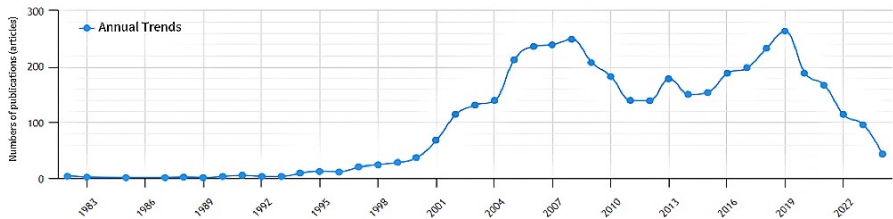


Fig. 2. Number of publications on the theme of "Quality Assurance".

2.1 Sprout Exploration Period (1951-1990)

In the 1950s, China was influenced by Western education and introduced "correspondence education" - the first generation of distance education. Multiple policies have been successively issued to develop distance education, laying the foundation for the budding research on the quality of distance education.

Firstly, distance education originated in the UK. In 1840, British missionary and stenographer Isaac Pitman sent shorthand tutorials to his students via postal service for self-study, which is widely recognized as the origin of distance education. Distance education, after being introduced to China, is called "correspondence education" and mainly relies on mailing letters for teaching communication [7].

Secondly, correspondence learning societies were an early form of distance education. In 1914, the Correspondence Education Society established by the Commercial Press was regarded as the earliest correspondence education institution in China, marking the initial formation of the domestic correspondence education system. As a standardized form of education within the higher education system, correspondence higher education in China gradually emerged and developed after the establishment of the People's Republic of China.

Thirdly, researchers have published articles to initiate research on distance education in China. In 1951, Zhou Zelan and Wu Tangdi published an article titled "Experience of Running Amateur Correspondence Normal Schools" in *People's Education*, marking the beginning of research on distance education in China. However, during the Cultural Revolution, correspondence education and research work were forced to be interrupted [8].

Fourthly, broadcasting, television, audio and video recording have become the mainstream in carrying out distance education. In 1978, Deng Xiaoping pointed out at the National Education Work Conference that "measures to accelerate the development of modern educational means such as television and radio should be formulated. They are important ways to develop the education industry and must be fully valued [9]. From then on, a new journey was opened for China's electronic education industry.

Fifthly, the establishment of electronic education centers has accelerated research on distance education. In 1978, the establishment of the Central Electronic Education Center provided a solid organizational foundation for the development of electronic education. In 1979, the Central Radio and Television University and various provincial-level radio and television universities were established. These institutions have constructed a nationwide, structured, and innovative broadcasting and television education network using media such as audio, video, radio, and television. This marks a new stage in China's distance education that combines radio and television education with correspondence education.

Sixth, researchers have discovered issues with teaching quality. Researchers have found that the scale of correspondence education has expanded, but it has not yielded good actual teaching quality. They believe that the lowering of enrollment thresholds has led to a significant increase in the number of students, but the quality does not match the teaching resources [10].

Overall, this stage focuses more on summarizing work experience in distance education and introducing Western distance education models. There are few literature and journals related to "distance education", and the quality is not high. Although research during this period did not directly involve quality assurance, the exploration of quality assurance in distance education provided valuable experience and inspiration, promoting the formation of quality awareness.

2.2 Initial Development Period (1991-1999)

China has released *the Outline of China's Education Reform and Development*. Distance education has been elevated to a national strategy, laying the foundation for building a national electronic education network and promoting modern teaching methods in China. The promulgation of policies in this stage has accelerated the research on distance education. From then on, research on quality assurance in distance education entered a period of initial development.

Firstly, the concept of "quality assurance" emerged. In 1991, Zheng Jianhui first proposed "quality assurance" in *The Openness and Quality Assurance System of Open University Education*. He divided the quality assurance system into three parts, including the establishment of the quality objective system, the means and process

management for achieving quality standards, and the evaluation and inspection system for quality [11].

Secondly, the promulgation of policies clarifies the goals of distance education. In 1993, the *Outline of China's Education Reform and Development* was released, outlining a grand blueprint for education reform and development from the 1990s to the beginning of the new century. It clearly proposes the grand goal of building a national electronic education network, promoting modern teaching methods, and advocating the establishment of an open university with Chinese characteristics [12].

Thirdly, the establishment of a networked education model has expanded the scope of distance education services in China. In 1996, the establishment of China's first online platform for distance education in primary and secondary schools, 101 Distance Education Network, marked the formal establishment of the networked education model in China. 101 Distance Education Network focuses on students and provides renowned courses, educational resources, and educational management platforms for primary, middle, and high school students. It helps teachers develop and provides educational guidance for parents.

Fourthly, the concept of "distance education" is explicitly proposed at the legal level, and the quality assurance of distance education is protected by law. In 1998, the *Higher Education Law of the People's Republic of China* first explicitly proposed the concept of "distance education" at the legal level. It establishes the policy of national support and provides legal protection for the implementation of higher education through radio, television, correspondence, and other distance education methods.

Fifthly, the self-study examination system should be improved. In 1999, the *Decision on Deepening Education Reform and Comprehensively Promoting Quality Education* further emphasized the improvement of the self-study examination system. It points out the need to improve the self-study examination system, form a socialized and open education network, and gradually improve the lifelong learning system.

Sixth, researchers explore the influencing factors of education quality from multiple perspectives. Most researchers believe that teaching objectives, teaching processes, teaching outcomes, teaching conditions, and teaching staff are essential elements for ensuring educational quality. Some researchers divide the quality assurance system into four parts: target system, operating system, control system, and inspection system. Some researchers divide the quality assurance system into four aspects: teaching process, teaching management, teaching effectiveness, and teaching conditions.

Seventh, the quality assurance system was first divided into an external quality assurance system and an internal quality assurance system. Some researchers believe that the external quality assurance system is led by the education administrative department, responsible for leading and supervising the quality of education in open universities. The internal system is constructed internally by the Open University, ensuring the quality of education through clear responsibilities, decomposition of quality factors, and implementation of monitoring [13].

In summary, with the successive introduction of policies and laws, the goals and models of distance education have been clarified and expanded, and the self-study examination system has been improved. The multi-faceted exploration of factors influencing educational quality by researchers provides a theoretical basis and practical

guidance for the construction of a quality assurance system for distance education. Scholars have further studied the quality assurance of distance education, providing a more systematic framework for the quality assurance of distance education.

2.3 Rapid Development Period (2000-2009)

In the 21st century, in order to ensure the quality of distance education in China, the Ministry of Education and the State Council have successively issued a series of policy documents to promote the rapid development of quality assurance in distance education.

Firstly, policies regulate the management, teaching activities, and direction of distance education. In 2000, *the Interim Management Measures for Education Websites and Online Schools* were released to standardize the management and teaching activities of distance education. In the same year, *the Several Opinions on Supporting Several Higher Education Institutions to Build Online Education Colleges and Carry out Modern Distance Education Pilot Work* clarified the direction and quality assurance mechanism of the pilot schools.

Secondly, the quality monitoring system for distance education teaching is highly valued. In 2002, the *Several Opinions on Strengthening the Management of Online Education Colleges in Universities and Improving Teaching Quality* emphasized the importance of a teaching quality monitoring system. In 2003, the Ministry of Education implemented an annual report and inspection system to enhance the standardization and quality of distance education.

Thirdly, standardize the requirements for distance education teachers. In 2006, the release of *the Modern Distance Education Teacher Standards* further standardized the requirements for teacher qualifications and teaching behavior.

Fourthly, strictly manage distance education exams. In 2004, the State Council and the Ministry of Education successively issued policy documents *Order No. 412 of the State Council of the People's Republic of China* and *Notice on Doing a Good Job in the National Unified Examination of Public Basic Courses in Network Education of Modern Distance Education Pilot Universities*, which strengthened the institutional construction and standard formulation of distance education through administrative approval and national unified examination. In 2007, *the Notice on Further Strengthening the Standardized Management of Academic Certificates and Degree Certificates for Online Higher Education in Pilot Universities of Modern Distance Education* required strict management of academic certificates to ensure the quality of education.

Fifth, the research articles on ensuring the quality of distance education are of high quality. During this period, some authoritative domestic journals, such as *China Educational Technology*, *Modern Distance Education Research*, *Open Education Research*, etc., have published opinions on the quality assurance research of distance education, providing strong theoretical and data support.

Sixth, "teaching process" is the research focus and dimension of quality assurance in distance education. Central Radio and Television University places special emphasis on the teaching process during this stage. It regards the teaching process as a whole closely linked by teaching and teaching management. By strengthening design,

organization, management, monitoring, and evaluation, and conducting in-depth research on their characteristics and patterns, the aim is to establish standardized teaching process norms.

In summary, during this stage, the introduction of a large number of policy documents provided guidance and legal basis for several aspects, including standardized management, quality assurance, resource integration, teacher construction, and academic certification of distance education. These policies provide solid support for cultivating high-quality talents who can adapt to social development.

2.4 Deepening Development Period (2010-present)

The National Medium - and Long Term Education Reform and Development Plan (2010-2020) proposes to vigorously develop modern distance education to meet the diverse learning needs of different individuals [14]. During this period, China deepened the innovative development of research on quality assurance in distance education.

Firstly, emphasize strict control over the entrance, process, and exit. The Notice of the General Office of the Ministry of Education on Serving the Whole People's Lifelong Learning and Promoting the High Quality Development of Online Education in Pilot Universities of Modern Distance Education emphasizes the need to strengthen enrollment management, standardize talent training processes, and do a good job in graduation management. It requires universities to implement the main responsibility of running and managing schools, increase investment in education, strengthen the construction of teaching staff, enhance quality assurance measures, and strictly implement the responsibility system.

Secondly, strengthen the construction and application of distance education teaching resources. In 2021, the Opinions of the Ministry of Education and Five Other Departments on Strengthening the Construction and Application of Online Education and Teaching Resources in Primary and Secondary Schools put forward a series of suggestions, including strengthening the platform system construction, improving the policy guarantee system for high-quality resource development, etc. The purpose is to fully utilize platform resources, improve the application abilities of teachers and students, and promote the integrated development of online and offline education.

Thirdly, innovation in the credit recognition and management system for distance education. In 2015, the Ministry of Education issued *the Opinions on Strengthening the Construction, Application, and Management of Online Open Courses in Higher Education Institutions*, recognizing and constructing a number of national level high-quality online open courses, and establishing corresponding public service platforms [15]. It regulates the international exchange and cooperation of courses, promotes innovation in credit recognition and management systems.

Fourthly, improve the implementation mechanism. The document "Modernization of Education in China 2035" proposes the establishment of a collaborative planning mechanism, the improvement of cross departmental coordination mechanisms, the establishment of a monitoring and evaluation mechanism for educational development, and a supervisory accountability mechanism.

Fifthly, scholars conduct comprehensive research on the quality assurance system of distance education. Researchers have synthesized evaluation indicators for online courses both domestically and internationally, and proposed a quality evaluation system that covers three dimensions: technology, content, and management [16]. Some other researchers have established targeted quality indicators based on key elements such as teachers, students, platform resources, teacher-student interaction, and learning support services [17]. Other researchers have established detailed evaluation criteria for hardware facilities, human resources, and research support in distance open education [18].

In summary, the coherent policy measures during this stage have jointly promoted the transformation and upgrading of open distance education, providing a solid policy foundation and practical path for building a flexible, open, and efficient learning environment. Researchers are focusing on the construction of a quality assurance system for distance education, especially the establishment of quality standards and evaluation indicators. The research on quality assurance in distance education has gone through a process of development from scratch, with the establishment of a quality assurance system for distance education and a trend towards diverse perspectives in quality assurance research [19]. The development of this stage has deepened the understanding of the quality assurance system for distance education and provided theoretical basis and practical guidance for the reform and development of distance education in China.

3 Construction of Quality Assurance System for Modern Distance Education in China

The Quality Assurance Analysis Framework for Distance Education is a comprehensive analytical tool aimed at ensuring that educational services meet established standards. The research divides the quality assurance analysis system of distance education into five parts: policy system, organizational system, personnel system, teaching service system, and evaluation and assessment system (As shown in Figure 3). It has initially established an analytical framework for quality assurance in distance education and continues to improve it.



Fig. 3. Quality Assurance System for Distance Education.

3.1 Policy System

The policy system for ensuring the quality of distance education is a set of normative documents formulated and published by the education management department, which is the cornerstone of ensuring the quality of distance education. The policy system

provides clear quality assurance basis, standards, and implementation details for distance education institutions, ensuring the standardization and effectiveness of educational services. Its core content includes guidance on quality assurance, work procedures, assessment standards, and auxiliary policy clusters such as financial support, which together form a comprehensive guarantee network. The policy system not only stipulates the quality management and supervision mechanism of distance education, but also guides and supports the continuous improvement and innovation of distance education through financial and other policy means. On the basis of following national education policies, local educational institutions formulate corresponding implementation rules based on local conditions. The purpose is to meet the local education needs and further enrich and improve the policy system for ensuring the quality of distance education.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) has identified the right to quality education as one of its fundamental principles in its report *Rethinking Our Future Together: A New Social Contract for Education* [20]. The Central Committee of the Communist Party of China has put forward strategic requirements for "leveraging the advantages of online education" and "building a high-quality education system" in the *Proposal on Formulating the 14th Five Year Plan for National Economic and Social Development and the Long Range Objectives for 2035* [21]. The strict implementation of these policies plays a crucial role in improving the overall quality of distance education, promoting educational equity and efficiency, and advancing educational modernization.

3.2 Organizational System

The organizational system for quality assurance in distance education is a multidimensional and multi institutional network structure. It consists of four parts: educational management institutions, evaluation institutions, distance education implementation institutions, and social supervision institutions. Each institution plays a different but complementary role in ensuring the quality of education, to ensure continuous supervision and improvement of the quality and standards of distance education, and to enhance the transparency and social trust of educational services.

Education management institutions play the role of policy makers and regulators in the organizational system, using administrative power and financial means to comprehensively plan and supervise the quality of distance education. In China, the Ministry of Education and related functional departments, the Open University system, and the online colleges of pilot universities are key implementers responsible for formulating and implementing policies and standards for distance education. Evaluation agencies, such as Council for Higher Education Accreditation (CHEA), Quality Assurance Agency for Higher Education (QAA), etc., are professional entities responsible for external quality assurance. It provides authoritative evaluations with its professionalism and independence, ensuring that the quality of education meets social expectations and international standards. Evaluation agencies can carry out authorized tasks of educational management agencies, or act as third parties to accept professional certification commissioned by universities, providing objective quality evaluation for distance

education. Distance education implementation agencies, also known as educational institutions, are directly responsible for providing and implementing distance education, and bear the responsibility of accepting quality supervision and assessment. They continuously improve and enhance the quality based on evaluation feedback, adhere to quality first, and achieve learners' "broad entry and strict exit" [22]. Social supervision agencies play a supervisory and feedback role, collecting and reflecting the opinions and needs of learners and the general public through various channels, providing a social perspective for the continuous improvement of the quality of distance education. The coordination and cooperation among these institutions within the organizational system form a dynamic quality assurance mechanism. The purpose is to ensure the continuous optimization of the quality of distance education and the achievement of educational goals, promoting the healthy and orderly development of distance education.

3.3 Personnel System

In the quality assurance system of distance education in our country, the personnel system plays a core role, which includes teachers, students, and teaching service personnel, and is the foundation for the smooth progress of teaching activities. As disseminators of knowledge, teachers' professional qualities have a decisive impact on the quality of teaching. Their professional knowledge level, professional ability, professional qualifications, teaching experience, academic level, and information technology application ability are key indicators for evaluating teaching quality [23]. In order to improve the quality of teaching, teachers need to receive systematic training and participate in scientific research work. And through in-depth communication, quickly adapt to the remote teaching environment, ensuring the timeliness of teaching methods and content. As the service objects of distance education, students should have a say in the quality issues of distance education. It is necessary to include learners in the development process of quality assurance indicators and standards. As recipients of educational activities, students' learning outcomes directly reflect the quality of teaching. Students need to have the ability to learn independently and demonstrate a self-driven learning attitude through entrance exams. They need to develop and implement learning plans, actively participate in online interactive activities, and improve learning efficiency during the learning process. For students with weak foundations, it is necessary to independently supplement necessary basic knowledge and skills, especially computer and network application abilities. Although teaching service personnel do not directly participate in teaching, they play a crucial role in providing logistical support and learning assistance. In the distance education mode, the concept of "student-centered" requires teaching service personnel to respond to students' needs in a timely manner, provide personalized learning guidance and administrative support.

The quality assurance work of the personnel system requires the establishment of a sound teacher selection, training, and evaluation mechanism, strengthening the service awareness and ability of teaching service personnel, and establishing a scientific student learning effectiveness evaluation system. These tasks in the organizational system can ensure the effective operation and continuous improvement of the quality of the

distance education teaching system, which is crucial for building an efficient, interactive, and personalized learning environment.

3.4 Teaching Service System

The distance education quality assurance teaching service system is a comprehensive support architecture designed specifically to enhance and ensure the teaching quality of distance education. This system plays a core and fundamental role in ensuring the quality of distance education. It meets the diverse learning needs of students in remote learning environments through a series of carefully planned service activities, ensuring the richness of learning experiences and the effectiveness of teaching outcomes. This system covers five parts: pre class consultation, course design, teaching implementation, learning support, and transparent and timely transmission of teaching information.

Pre class consultation services help students understand the course structure, master remote learning skills, and prepare adequately for their learning journey. Curriculum design provides structured and hierarchical teaching content based on the characteristics of students' self-directed learning, meeting the learning needs of students from different backgrounds and achieving personalized learning paths. The teaching implementation mode ensures the diversity and interactivity of teaching activities through various forms such as self-learning, collaborative learning, face-to-face tutoring, and practical activities. The three most commonly used forms of online course implementation currently include live streaming courses, recorded courses (i.e. MOOCs), and virtual simulation based practical skills courses, which can achieve large-scale knowledge transfer in a short period of time [24]. Learning support services include the production and distribution of learning resources, online Q&A, formation of study groups, and one-on-one tutoring by teaching assistants. These services not only solve students' technical problems during the learning process, but also enhance the interactivity and personalized experience of learning. The transparency and timeliness of teaching information ensure that students can timely access key information such as course settings, changes, and tutoring arrangements. With the continuous evolution of distance education practice, the teaching service system is also constantly expanding its service areas. It breaks the boundaries of traditional education to better adapt to the digital and networked learning trends and meet the growing needs of learners.

3.5 Evaluation and Assessment System

The quality assurance evaluation and assessment system for distance education is a comprehensive evaluation mechanism that is a key link in ensuring that educational activities meet the expected quality standards. This system can comprehensively evaluate and monitor all aspects of distance education, ensuring the efficiency and effectiveness of educational services and promoting continuous improvement of educational quality. The evaluation and assessment system mainly includes five parts: student learning performance evaluation, infrastructure completeness evaluation, technical standard compliance evaluation, curriculum development quality evaluation, and personnel qualification evaluation.

Student learning performance evaluation focuses on the correspondence between students' learning outcomes and teaching objectives. It adopts quantitative and qualitative methods to comprehensively examine students' knowledge mastery, skill application, and comprehensive ability development. Infrastructure assessment focuses on the hardware conditions such as technology platforms, network environments, and learning tools required for distance education, ensuring the stability and accessibility of the learning environment. Technical standard evaluation is a normative review of the technical development, content presentation, and interactive design of teaching resources based on national or industry standards to ensure the quality and applicability of teaching resources. The evaluation of curriculum development standards focuses on the rationality of curriculum structure, the scientificity of teaching content, the innovation of teaching methods, and the richness of teaching resources. Its existence can improve the teaching quality of the course and the learning experience of students. The evaluation of personnel standards involves the professional level, teaching ability, information technology application ability, and professional service skills of teaching service personnel of teachers. It can ensure that the teaching team can meet the needs of remote teaching. The evaluation and assessment system combines formative and summative evaluations to monitor and provide real-time feedback on the teaching process, and periodically summarize and reflect on teaching outcomes. The establishment of an evaluation index system provides evaluation basis and quantitative standards for assessment and evaluation. It makes evaluation and assessment more systematic, standardized, and objective, providing solid support for ensuring the quality of distance education.

4 Future Prospects of Quality Assurance Research in Distance Education in China

The development of modern distance education is influenced by the interaction and mutual influence of national policies, industry atmosphere, student needs, teaching services, and evaluation and assessment. This study proposes the following suggestions based on foreign experience and the actual situation in China.

4.1 Strengthen Policy Guidance and Investment, Establish Unified Quality Assurance Standards

The construction of the quality assurance system for distance education in China faces a key challenge. The challenge lies in the imperfect regulatory system and the lack of unified quality assurance standards at the national level [25]. This deficiency has resulted in inconsistent standards in the enrollment, teaching, management, and evaluation processes of various universities and educational institutions. It can easily lead to unfair competition and have a negative impact on the overall level of education quality. Although some universities have spontaneously established quality assurance systems that include quantitative indicators driven by quality awareness, the lack of unified external standards guidance may cause these internal systems to deviate from the established track. Meanwhile, many universities have not yet established or fully

implemented a comprehensive quality evaluation system that covers all aspects of talent cultivation. It leads to a lack of unified work standards in multiple key areas such as enrollment, resource development, assessment, faculty construction, and teaching supervision, resulting in uneven quality of education. International experience has shown that implementing national or regional quality standards is a common practice in the field of distance education. The United States, the United Kingdom, Australia and other countries have established a set of quality assurance standards for distance education to ensure the teaching quality of distance education institutions. In order to standardize the operation of universities, China urgently needs to develop and promulgate a national standard system for ensuring the quality of online education in universities. This will provide clear reference for universities and promote the comprehensive improvement of the quality of distance education.

4.2 Pay Attention to the Construction of Industry Ecology and Promote the Establishment of a Diversified Quality Evaluation System

In addition to the guiding role of policies, the industry environment and the actual needs of students are also key external drivers for promoting the construction of a quality assurance system for online education in universities. Currently, the quality evaluation of distance education is developing towards diversified evaluation subjects, comprehensiveness, and multidimensionality. Building a quality assurance system for distance education requires the integration of government macroeconomic regulation, third-party supervision, market mechanisms, and diverse evaluations. These can ensure the objectivity, fairness, and transparency of the evaluation [26]. To achieve this goal, it is recommended to further enrich the evaluation subjects and form a diversified evaluation mechanism based on the existing evaluation system. This includes establishing third-party evaluation agencies that are independent of the government and educational institutions. These institutions will collaborate with the government and universities to jointly develop quality standards at the national level. It provides quality review services for educational institutions to enhance the confidence of all sectors of society in the quality of distance education [27]. The quality assurance work of distance education should follow the principle of "promoting construction through evaluation, promoting improvement through evaluation, promoting management through evaluation, and combining evaluation with construction". Its meaning is to promote construction, improvement, and management through evaluation, achieving an organic combination of evaluation and construction. Through a combination of online and offline evaluation methods, as well as the complementarity of comprehensive evaluation and specialized evaluation. It guides distance education institutions to clarify their development direction and comply with educational norms. And continuously improve the quality of education to meet the learning needs of students, promote the healthy development of the industry, and better serve the lifelong learning needs of the whole nation.

4.3 Enhance the Awareness of Quality Leadership and Improve the Organizational Structure of Quality Assurance

At the national and industry levels, it is necessary to strengthen quality awareness training for leaders of distance education institutions. The purpose is to promote a deeper understanding of the educational purpose of distance education and establish a school philosophy centered on nurturing students and guided by quality. In the new stage of development, it is necessary to clarify the new goals and tasks of quality assurance work to ensure the smooth execution of the work. And the implementation of education should adhere to the original intention and mission, comprehensively strengthen quality education and training, and build an endogenous quality culture driving force. At the level of business implementation, it is necessary to optimize workflow and tasks and establish strict quality standards based on the requirements of high-quality development and new guidance from education policies. And through continuous optimization of systems and processes, improve the efficiency and effectiveness of business implementation. In terms of internal quality control, it is necessary to clarify the monitoring focus and key indicators, especially strengthen the monitoring of teaching and learning processes, and ensure that the monitoring of students' learning effectiveness is in place [28]. Leaders of educational institutions should strengthen the supervision of various aspects of distance education, including resources, platforms, enrollment, teaching, exams, etc. They need to use modern technological means for data mining and learning analysis to achieve intelligent supervision of the teaching process. Ultimately, we need to improve the organizational structure for quality assurance. By integrating online education into the overall education planning of schools, optimizing the two-level management mechanism between schools and colleges, and establishing an authoritative decision-making body and monitoring department for the quality of online education. It is necessary to incorporate the evaluation of teaching quality into a unified management system, continuously improve the configuration of business departments, strengthen personnel training and ethics construction, and provide solid organizational support for quality assurance work.

5 Conclusions

Through in-depth analysis of the historical evolution of quality assurance in distance education in China, this study reveals the historical evolution of research on quality assurance in distance education in China and constructs a multidimensional and multi-level quality assurance system framework. Looking ahead, the quality assurance of distance education will face new challenges such as technological innovation, diversified learning methods, and global educational competition. This requires us to continuously innovate quality assurance mechanisms and strengthen international cooperation. Utilizing modern technologies such as artificial intelligence and big data to enhance the accuracy and effectiveness of education quality assessment, in order to meet the new demands of education in the digital age.

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