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Research on the Construction and Improvement Path of Quality Assurance System for Graduate Education Empowered by New Quality Productivity

Junwei Shi, Biao Huang, Lifeng Li*, Baitong Li, Hongzhu Jin

School of Management Science and Engineering, Shandong Technology and Business University, Yantai, China
**Corresponding author*

Abstract: *The evolution of quality productivity, driven by technological advancements, is reshaping the landscape of graduate education. This paper explores the construction and enhancement of a quality assurance system (QAS) for graduate education, emphasizing the integration of new quality productivity. The study underscores the importance of embedding technological innovation, such as artificial intelligence (AI) and big data analytics, into the QAS to ensure that graduate education aligns with the demands of the digital era. Based on the research methods of system dynamics and structural equations, this paper firstly analyzes the current status of community governance, identifies various influencing factors affecting graduate education and teaching, constructs an SEM model according to the causal relationship of its internal factors, and uses spss and amos analysis to obtain the path coefficient of the impact on the governance level of the whole community. Based on the theory of system dynamics, the stock flow diagram and SD model diagram were established to simulate the path coefficients obtained from the structural equation model, and the law of postgraduate education and teaching improvement was analyzed.The research findings aim to provide insights into how institutions can systematically integrate new quality productivity into their quality assurance practices, thereby fostering an educational environment that supports innovation, excellence, and sustainability in graduate education.*

Keywords: *postgraduate education and teaching; structural equations; system dynamics; simulation; New quality productivity*

1. Introduction

The government work report will "vigorously promote the construction of a modern industrial system and accelerate the development of new quality productivity" as the first of the top ten tasks of the government's work in 2024, and from the aspects of promoting the optimization and upgrading of industrial and supply chains, actively cultivating emerging industries and future industries, and further promoting the innovation and development of the digital economy, it will make specific arrangements for shaping new momentum and new advantages for development and promoting new leaps in social productivity [1]. Making efforts to the "new", improving the quality with the "new", and promoting growth with the "new" have become an important focus of China's efforts to promote high-quality development at present and in the future [2].

To develop new productive forces, it is necessary to give full play to the important role of colleges and universities in the cultivation of innovative talents. The new quality of productivity is the quality of advanced productivity in which innovation plays a leading role [3]. To cultivate and develop new quality productive forces, innovation is the core element, and the foundation and guidance depend on education, and top-notch innovative talents are cultivated through education. Focusing on the future and speeding up the development of new quality productive forces, we must adhere to the principle that science and technology are the primary productive forces, talent is the first resource, and innovation is the first driving force, and cultivate a team of innovative talents who are emotional, dare to take responsibility, have high quality, and are willing to struggle.

At present, China is at a critical juncture in forging ahead from a big country in graduate education to a strong country in graduate education, and the quality of talent training is the lifeline of graduate education, and it is very important to deepen the reform of the quality assurance system of graduate education [4]. Since the reform and opening up, especially since the 18th National Congress of the

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Communist Party of China, China's graduate education has established the main line of cultivating morality, serving needs, improving quality, and pursuing excellence. To build a more perfect quality assurance system for graduate education, it is necessary to take research as the basic index to measure the quality of graduate students, and cultivate high-level talents with research and innovation capabilities.

Today, with the rapid development of global science and technology, new quality productivity has become an important force driving social change. Emerging technologies such as artificial intelligence, big data, and cloud computing have not only changed the traditional mode of production, but also profoundly affected the mode and quality assurance mechanism of the field of education, especially graduate education [5]. However, the current quality assurance system for graduate education mainly relies on traditional teaching evaluation and quality monitoring methods, which are inadequate in the face of increasingly complex and diverse educational needs.

The technological innovation brought about by the new quality productivity has provided new tools and methods for improving the quality of education, for example, through big data analysis, the learning effect of students and the teaching quality of teachers can be more accurately evaluated [6]; Artificial intelligence (AI) technology can support personalized learning and intelligent tutoring; The wide application of cloud computing provides a technical foundation for the sharing of educational resources and the optimization of the teaching process. In this context, it has become an urgent topic to study how to effectively integrate new quality productivity into the quality assurance system of graduate education.

2. Analysis of Quality Assurance Factors of New Quality Productivity Empowering Graduate Education

2.1. Identification of influencing factors in graduate education and teaching

By reading the relevant literature and accident cases, this chapter divides the influencing factors of graduate education and teaching level into four categories, namely organizational influencing factors, technical influencing factors, internal influencing factors and main influencing factors, and refines them on the basis of the four types of first-level risk factors [7]. The specific risk factors and their code correspondence are shown in Table 1.It is advisable to keep all the given values.

Table 1Table of influencing factors

Factors for the quality of graduate education	Faculty building	R1	Basic level of education and training
		R2	Innovation and integrity of systems and mechanisms
		R3	The level of teaching ability
		R4	Government policy support
		R5	Educational resources and the environment
		R6	The state of education facilities
		R7	Teachers' scientific research training
	Educational Philosophy and Goals	S1	Overall development
		S2	Teaching of innovative thinking
		S3	Facilitation of practical skills
		S4	The advanced nature of education and teaching concepts
		S5	Diversity of school education goals
		S6	Innovation in teaching methods
	Evaluation of the quality of education	L1	The improvement of the evaluation system
		L2	The improvement of the reward and punishment mechanism
		L3	The multifaceted nature of the evaluation dimension
		L4	Completeness of comprehensive evaluation
		L5	Multi-party evaluation of the teaching situation
		L6	The extent to which the government attaches importance to the evaluation of education
		L7	Highlight the content and methods of education
	Curriculum and innovation	Y1	Clarity of course objectives
		Y2	Coverage of course content
		Y3	Timeliness of course content
		Y4	Innovativeness in course design
		Y5	Diversity in course design

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2.2. Research on the path of improving the teaching quality of graduate education

2.2.1. Classification of Variables in Structural Equation Modeling

Structural Equation Modeling (SEM) is a multivariate statistical method used to explore the relationship between variables [8]. It not only combines path analysis and multiple regression analysis, but also allows researchers to simultaneously test the measured relationships (i.e., direct relationships between variables) and structural relationships (i.e., indirect relationships between latent variables) in the model. SEM analyzes the correlation between variables based on the covariance matrix, and evaluates the degree to which the model fits with the actual data by fitting the index. Measurement models focus on the relationship between observed and latent variables, often through factor analysis (e.g., confirmatory factor analysis) [9]. Structural models focus on the associations between latent variables and describe how they affect each other.

2.2.2. Main model construction and description

According to the reading of relevant literature and the division of variables in Table 2, the initial model diagram of the structural equation model of the influencing factors of graduate education quality factors was constructed as shown in Figure 1. In order to verify the constructed theoretical model, the following hypotheses are proposed:

H1: There is a positive relationship between the evaluation of educational quality and the educational philosophy and goals

H2: The evaluation of education quality has a positive relationship with curriculum and innovation

H3: The evaluation of education quality has a positive relationship with the construction of teachers

H4: Educational philosophy and goals have a positive relationship with curriculum setting and innovation

H5: Educational philosophy and goals have a positive relationship with the construction of teachers

H6: Curriculum and innovation have a positive relationship with the construction of teachers

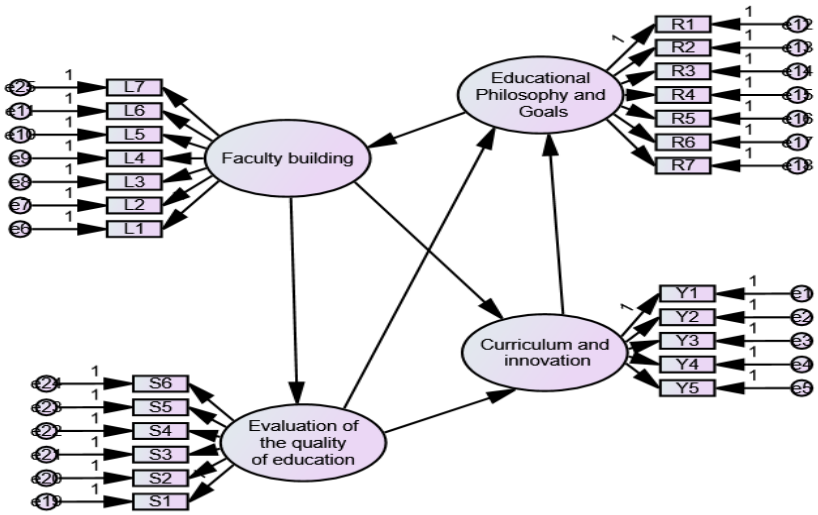

Figure 1: Initial model diagram of the influencing factor structural equation model

Through SEM analysis, the core factors affecting the teaching quality of graduate education were clarified, including the teaching level of teachers, course content design, student learning input, educational resource allocation and the effectiveness of management mechanism. There is a significant interaction between these elements, which together determine the overall level of education quality. The results show that teachers' teaching level and curriculum content design are the key factors affecting students' learning engagement, and students' learning engagement is the mediating variable to improve teaching effectiveness. In addition, the rational allocation of educational resources and the effectiveness of the management mechanism are also crucial to the impact of teachers and students' behavior, forming a multi-dimensional and interactive quality assurance system. Based on the analysis results of the SEM

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model, a specific path to optimize the teaching quality of graduate education is proposed. First of all, we should focus on improving teachers' teaching ability and the innovation of curriculum content to enhance students' learning motivation and participation. Second, it is necessary to strengthen the optimal allocation of educational resources to ensure the full utilization and fair distribution of resources. Finally, the management mechanism should be improved and a dynamic feedback and continuous improvement guarantee system should be established to achieve continuous improvement of education quality. Through the test of empirical data, the structural equation model constructed in this study has a high degree of fit, which verifies the scientificity and practicability of the model. The results of the model provide a theoretical basis and practical guidance for practical education management, which is helpful to build a more perfect quality assurance system in graduate education.

3. Simulation of system dynamics affecting the teaching quality of graduate education under the empowerment of new quality productivity.

3.1. Establish the system simulation flow of the subsystem

The influencing factors were summarized into five aspects, namely, teacher construction, educational philosophy and goals, educational quality evaluation, curriculum setting and innovation. The construction of teachers includes the innovation and integrity of the basic system and mechanism, the level of teaching ability, the support of government policies, the situation of educational resources and environment, the improvement of educational facilities, and the scientific research and training of teachers [10]. The subsystem of educational philosophy and objectives includes the overall development, innovative thinking teaching, practical ability promotion, advanced education and teaching concepts, diversity of school education goals, and teaching method innovation. The evaluation of education quality includes the improvement of the evaluation system, the improvement of the reward and punishment mechanism, the multi-faceted evaluation dimension, the completeness of comprehensive evaluation, the multi-party evaluation of education, the importance of the government to the evaluation of education, and the highlighting of educational content and methods. Curriculum design and innovation include the clarity of curriculum objectives, the coverage of curriculum content, the timeliness of curriculum content, the innovation of curriculum design, and the diversity of curriculum design. The relationship between the factors was analyzed, and the simulation flow diagram of four subsystems was established, including teacher construction, educational philosophy and objectives, education quality evaluation, curriculum setting and innovation, as shown in Figure 2, Figure 3 and Figure 4 .

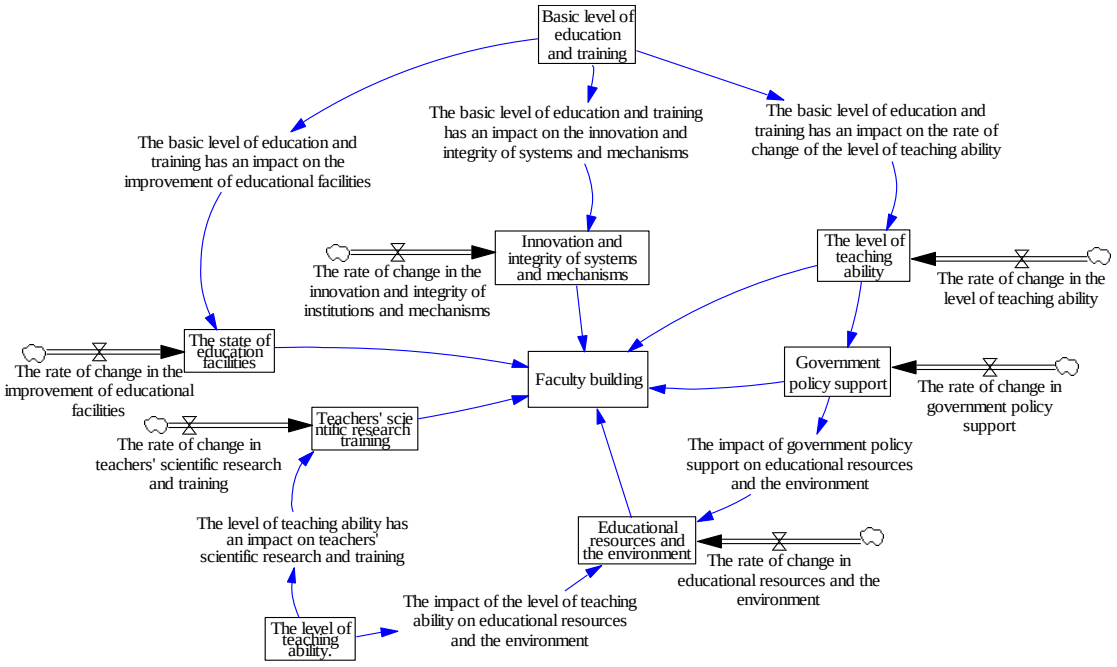

Figure 2: Simulation flow diagram of the faculty construction system.

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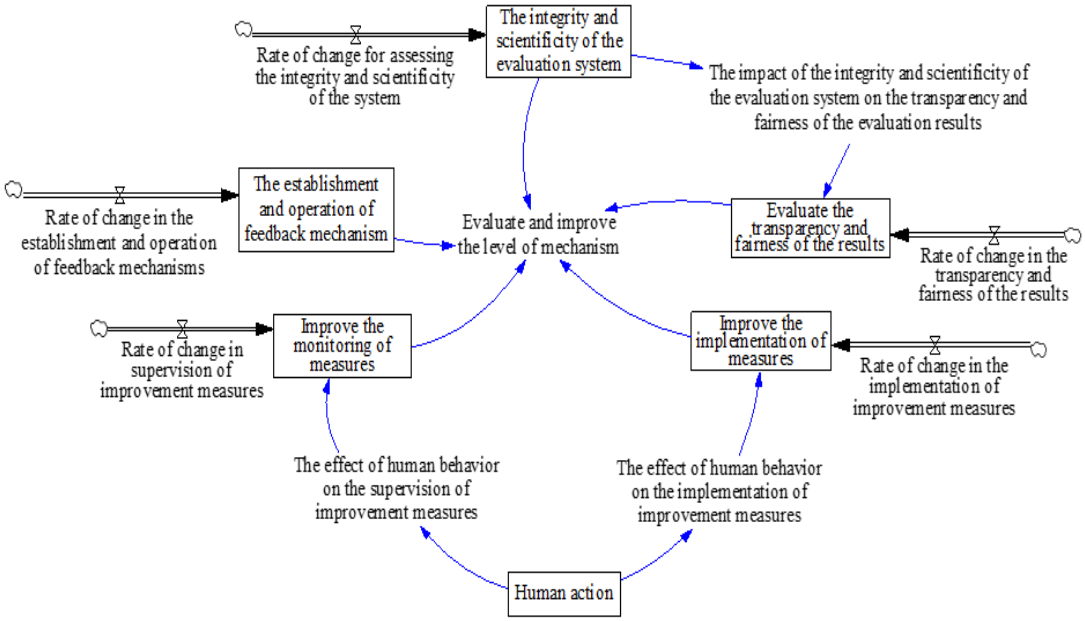

Figure 3: Simulation flow diagram of the education quality evaluation system.

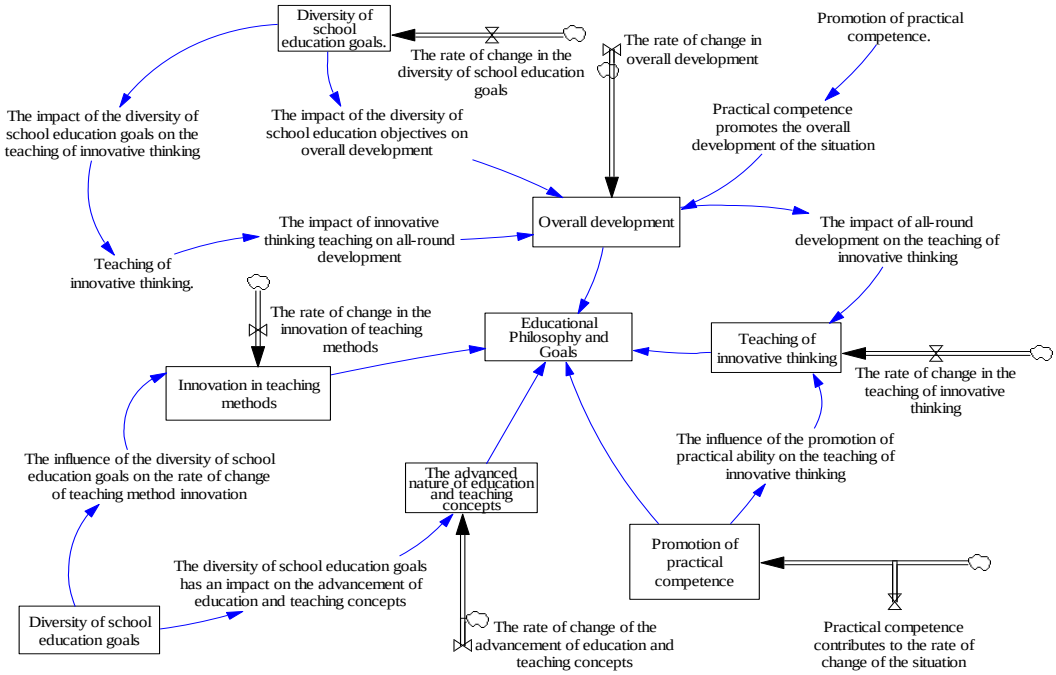

Figure 4: Simulation flow diagram of educational concept and target system.

According to the principle of system dynamics, the influencing factors of the factors of the quality level of graduate education and the SD simulation and early warning model of the quality level of graduate education, the SD equation is established. The quantitative variables in the quality factor system of graduate education are divided into state variables, rate variables and auxiliary variables. Since most of the variables in the system are qualitative variables, in order to ensure the rigor and logic of the model, all the variables in the model are converted into dimensionless values. The path coefficient in the SEM model of the quality level of graduate education is used as the data parameter of the simulation intervention system, the initial value of the state variable is zero, the sum of the mean value and the error of the measurement index is used as the constant in the SD model, and the parameters and constant values

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are shown in Table 2 auxiliary variable table. On this basis, the simulation equations and results are as follows:

Table 2: Auxiliary Variables Table

path		Path coefficient	constant
Faculty building	S11	0.768	1.85
	S12	0.748	1.91
	S13	0.57	2.1
	S14	0.736	2.25
	S15	0.72	2.19
	S16	0.654	2
	S17	0.8	2.13
Educational Philosophy and Goals	S21	0.827	1.95
	S22	0.712	2.27
	S23	0.792	2.18
	S24	0.809	2.08
	S25	0.876	2.05
Evaluation of the quality of education	S26	0.68	2.19
	S31	0.689	2.01
	S32	0.763	2.21
	S33	0.645	2.1
	S34	0.665	2.05
	S35	0.76	2.05
	S36	0.646	2.24
Curriculum and innovation	S41	0.739	2.32
	S42	0.749	2.25
	S43	0.837	2.09
	S44	0.796	1.81
	S45	0.817	2.08

3.2. Comparative simulation results of the dynamics model of the graduate teaching quality system

Combined with the causal diagram that affects the teaching quality of graduate education, the factors affecting the teaching quality of graduate education can be summarized. The purpose of the simulation model is to analyze the impact of different factors affecting the teaching quality of graduate education on the overall safety level of teaching, and then put forward targeted improvement measures. This paper uses the control variable method to compare and analyze the simulation results in different scenarios, mainly compares and analyzes the influence of the first-level index factors and the second-level index factors on the system goal, and conducts a preliminary simulation of each factor before the analysis, and concludes that the improvement of the first-level index level is a relatively easy level to achieve, and the teaching quality level of graduate education is significantly improved, and the analysis of the second-level indicators shows that the 50% improvement level is more in line with reality, as shown in Figure 5

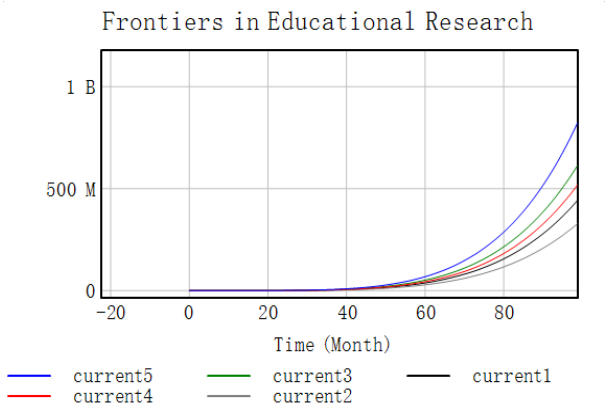

Figure 5: Trend of the impact level of postgraduate education and teaching quality under the secondary indicators

(1)The quality assurance system for graduate education is a complex dynamic system involving multiple interacting factors, such as the allocation of educational resources, faculty development, student engagement, curriculum design, and teaching methods. System dynamics modeling effectively reveals

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the intricate causal relationships between these factors and simulates their dynamic changes under various conditions. The study indicates that ensuring educational quality requires not only the optimization of individual factors but also a holistic and coordinated optimization of the entire system.

(2) The introduction of new productive forces, such as new technologies and new models, significantly enhances the overall effectiveness of the graduate education quality assurance system. System dynamics simulations show that new productive forces play a critical role in the allocation of educational resources, innovation in teaching methods, and the professional development of faculty. Particularly with the support of emerging technologies like information technology and artificial intelligence, the efficiency of resource allocation is improved, teaching methods become more diversified and personalized, and as a result, teaching quality is elevated.

(3)The construction and simulation analysis of the system dynamics model helped identify key factors affecting the quality of graduate education, such as faculty strength, the allocation and utilization of educational resources, student engagement, and feedback mechanisms. Based on these identified key factors, the study proposes a series of intervention strategies, such as strengthening faculty development, optimizing resource allocation, promoting innovation in teaching methods, and improving feedback and evaluation mechanisms to effectively ensure and enhance the quality of graduate education.

(4)The study emphasizes the importance of dynamic feedback mechanisms in quality assurance. The system dynamics model reveals how feedback mechanisms can promote continuous improvement in quality by monitoring and adjusting educational activities in real-time. Establishing effective dynamic feedback mechanisms helps educational administrators promptly identify issues and make targeted adjustments, thereby maintaining the robustness and adaptability of the education system.

(3)The application of the system dynamics method in educational research demonstrates its unique value. This method not only enables the modeling and simulation of complex dynamic processes in the quality assurance system but also provides quantitative analytical tools to help educational administrators make more scientific and rational decisions in practice. The case study in this research proves the potential of system dynamics in the education field, laying a solid foundation for further studies.

It can be seen that the system dynamics model can effectively simulate the various elements and their interaction relationships in a complex system, which is especially suitable for a multi-dimensional and multi-level complex system such as the teaching quality assurance system of graduate education. By constructing a system dynamics model, it is found that the model can dynamically reflect the changing trends and interactions of various elements in the education system, providing a holistic perspective for policymakers and education managers to help them understand and predict the long-term impact of different strategies on education quality. In the process of constructing the system dynamics model, this study identified several key factors affecting the teaching quality of graduate education. These factors include teacher quality, curriculum design, student participation, allocation of educational resources, effectiveness of management mechanisms, innovation of teaching methods, and external environmental support. Research has shown that these factors do not exist independently, but interact through complex feedback loops. For example, the improvement of teacher quality can directly improve the quality of curriculum design, which in turn can enhance students' learning participation and learning effectiveness, and students' learning feedback can react to teachers' teaching methods and promote further improvement.

4. Conclusions and recommendations

4.1. Conclusions

From the perspective of the subjectivity of new quality productivity, this paper reveals the influencing factors of new quality productivity on the quality of graduate education, and uses system dynamics and structural equation models to analyze and logically construct a causal diagram of the quality of graduate education empowered by new quality productivity. Based on the causal diagram and structural equation model of college students' thinking about new quality productivity and education acceptance will, a dynamic mechanism model of college students' thinking about new quality productivity and education acceptance will was established. Finally, the innovation of educational concepts, training models, and evaluation systems of new quality productivity have a positive impact on the quality of graduate education.

(1) It is often difficult for a single policy intervention to produce significant long-term effects, and the coordinated implementation of multiple strategies can significantly improve the quality of education.

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For example, although the teaching effect can be improved in the short term by increasing the input of educational resources, if the quality of teachers and the ability of curriculum design are not improved at the same time, this paper reveals the influencing factors of the new quality productivity on the quality of graduate education from the perspective of the subjectivity of the new quality productivity, and uses the system dynamics and structural equation model to analyze and logically construct the causal relationship diagram of the quality of graduate education empowered by the new quality productivity. Based on the causal diagram and structural equation model of college students' thinking about new quality productivity and education acceptance will, a dynamic mechanism model of college students' thinking about new quality productivity and education acceptance will was established. Finally, the innovation of educational concepts, training models, and evaluation systems of new quality productivity have a positive impact on the quality of graduate education. , this improvement will be difficult to sustain. On the contrary, if comprehensive measures can be taken at the same time in the allocation of educational resources, teacher training and curriculum innovation, the resilience and adaptability of the education system can be enhanced, so as to achieve continuous improvement in the quality of education.

(2) Through the verification of actual data, the system dynamics model constructed in this study has high prediction accuracy and explanatory power. The fit between the simulation results of the model and the actual education quality evaluation results is high, which verifies the validity and reliability of the model. This finding shows that the system dynamics model can not only be used as a research tool, but also provide strong decision-making support for actual education management, especially in the formulation of long-term education development planning, and can effectively predict the possible consequences of different policy combinations, so as to provide a scientific basis for achieving the goal of education quality.

(3)This study proposes several ways to improve the teaching quality of graduate education. First of all, in terms of teacher quality, it is recommended to strengthen the continuous professional development of teachers, and promote the teaching innovation and ability improvement of teachers through regular training and teaching seminars. Secondly, in terms of curriculum design, we advocate the introduction of diversified teaching resources and teaching methods to stimulate students' interest in learning and independent learning ability. Thirdly, in terms of the allocation of educational resources, it is recommended to make flexible adjustments according to the needs of students and the characteristics of disciplines to ensure the efficient use of resources. Finally, in terms of management mechanism, it is proposed to establish a dynamic feedback system to collect and analyze the feedback information of students and teachers in a timely manner, so as to quickly adjust the teaching strategy and ensure the continuous improvement of education quality.

4.2. Recommendations

(1) It is recommended that colleges and universities establish and improve the mechanism of teacher training and continuing education, regularly carry out teaching seminars, training courses and teaching observation activities, and encourage teachers to update their educational concepts and teaching methods. Through diversified training, the teaching ability and scientific research level of teachers will be improved, so as to better meet the needs of graduate education. It is suggested to improve the evaluation and incentive mechanism of teachers, and organically combine teaching quality, student feedback and scientific research results to form a scientific evaluation system. Establish teaching reward, promotion system and other incentive mechanisms to stimulate teachers' teaching enthusiasm and innovation motivation.

(2) In the course design, it is recommended to introduce diversified teaching methods, such as case teaching, project-based learning, online and offline blended teaching, etc., to enhance students' interest and participation in learning. Especially for postgraduate education, the course content is encouraged to be closely integrated with cutting-edge research to cultivate students' scientific research ability and innovative thinking. It is advisable to review and update the course content regularly to ensure that the curriculum is at the forefront of subject development and meets the needs of students for knowledge and skills. Teachers are encouraged to integrate the latest scientific research results into the curriculum teaching in combination with their own research fields, so that the teaching content is timely and applicable.

(3) It is recommended to flexibly adjust the allocation of educational resources according to the characteristics of the discipline and the needs of students to ensure the effective use of teaching resources. Especially for postgraduate education, the construction of infrastructure such as laboratories, libraries, and digital resources should be strengthened to improve the accessibility and sharing of educational

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resources. To promote the construction and application of digital resources, it is recommended that colleges and universities invest in the development and introduction of high-quality online educational resources, build a sharing platform, and realize the openness and sharing of educational resources, especially in the field of emerging technologies such as big data and artificial intelligence, and should increase resource investment and provide more opportunities for practice and application.

(4) It is recommended that universities strengthen cooperation with the government, industry and other educational institutions to jointly formulate and implement quality assurance policies for postgraduate education. Through cross-departmental collaborative governance, we will coordinate educational resources, policy support and management methods to form a synergy and improve the overall quality of graduate education. It is suggested that a comprehensive governance framework should be constructed to coordinate and deal with various problems in education quality assurance to ensure the effectiveness and sustainability of policy implementation. In particular, on complex education issues involving the interests of multiple parties, comprehensive management should be carried out with systematic thinking to ensure the coordination and coordination of various measures.

In summary, this research successfully constructed a model of the quality assurance system for graduate education, encompassing multiple factors using the system dynamics method, and proposed several practical optimization strategies. This research provides theoretical support and practical references for improving the quality of graduate education and cultivating high-quality, innovative talents. Moreover, it establishes a foundation for the broader application of the system dynamics method in the educational field in the future.

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References

[1] Hu Zhiai, Zou Shujuan, Zhu Songsong, et al. Application of digitally-assisted CBL in the teaching of orthodontic-orthognathic surgery combined therapy for graduate students[J]. Chinese Journal of Aesthetic Medicine,2024,33(07):156-159.DOI:10.15909/j.cnki.cn61-1347/r.006386.

[2] Zhang Yun, Gao Sheng, Zhang Meixia. Exploration of the complementary role of blended group teaching in the training of two types of graduate students in ophthalmology[J].China Continuing Medical Education,2024,16(06):17-21.

[3] Xie Ni, Mao Weiyun, Cheng Ying. Analysis of the difference and its impact on the motivation of learning behavior in graduate courses[J]. Journal of Higher Education,2024,10(06):24-31.DOI:10. 19980/j. CN23-1593/G4.2024.06.006.

[4] Li Fang, Fan Ruijun, Zhang Jing, et al. Research on the teaching reform of case-based teaching method in laboratory diagnostics[J].Chinese Journal of Continuing Medical Education,2022,14(21):36-39.

[5] Zhang Jinliu. Construction of evaluation index system for practice teaching quality of graduate students with master's degree in environmental engineering[J].Journal of Bengbu University, 2022, 11(05): 86-89.DOI:10.13900/j.cnki.jbc.2022.05.014.

[6] Xia Ningman. Investigation and research on teaching quality satisfaction of graduate students with master's degree in translation[J].Foreign Language Electronic Teaching,2021,(05):80-87+12.

[7] Wang Dan. Research and practice of classroom teaching quality monitoring system for graduate students in local medical colleges[J].Huaxia Medicine,2020,33(03):166-168.DOI:10.19296/j.cnki. 1008-2409. 2020-03-048.

[8] Zhang Fen, Wei Gang, Hu Zhiyong, et al. Curriculum Effective Teaching Quality Assurance Strategy

ISSN 2522-6398 Vol. 7, Issue 9: 99-108, DOI: 10.25236/FER.2024.070916

from the Perspective of Teachers[J].Journal of Graphics,2020,41(01):158-163.
[9] Guo Yingying, Zhao Jing, Liu Hongdou. The connotation and realization of quality monitoring of postgraduate experimental teaching——Based on the practice of quality monitoring of experimental courses in Shenzhen Graduate School of Tsinghua University[J].Education Modernization,2020,7(37):1-3.DOI:10.16541/j.cnki.2095-8420.2020.37.001.
[10] Chen Ming, Wu Jianlin, Shu Dan. Exploration on the teaching quality improvement strategy of "Engineering Numerical Methods" course under the background of modern engineering technology [J].Higher Education Forum, 2019,(10):30-33.