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Article

Integrating ecological philosophy into ideological and political education in universities: Bridging with biomechanics for sustainable development and human health considerations

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Abstract: The ideological and political education (IPE) ecosystem in universities is not only an essential component of the broader educational ecosystem but also a microcosm of it. In an era that emphasizes ecology and sustainability, integrating the concepts of the biomechanics field into the ecological environment of IPE in universities holds significant practical implications. Biomechanics, a discipline dedicated to studying the mechanical behavior of organisms, has a profound impact on aspects such as the ecological environment and human health. From the perspective of ecological philosophy, the ecological environment of IPE in universities should fully consider the sustainable development of biomechanical technologies and their influence on human health. This paper presents a dynamic early warning system for IPE in universities based on an improved Support Vector Machine (SVM) algorithm. This system aims to optimize the IPE model and enhance educational effectiveness while incorporating concepts related to biomechanics. We have constructed an evaluation index system for the quality of IPE in universities across five dimensions: basic quality, teaching attitude, teaching method, teaching ability, and teaching effect. These indicators are evaluated through expert scoring to generate a comprehensive assessment of the teaching quality of IPE. Taking into account the close connection between human mechanical responses and the ecological environment in the field of biomechanics, during the evaluation process, we incorporate the impact of the ecological environment on the human biomechanical state (such as bone development and muscle function) into consideration. This approach guides students to establish a correct ecological view and understanding of biomechanical technologies. Model simulations and performance verifications show that the fuzzy neural network undergoes 779 training iterations, with a training target set at 0.05 and a learning rate of 0.09. This model demonstrates a strong ability to provide comprehensive dynamic early warnings for IPE in universities. It has obvious advantages in adaptability, model fitting accuracy, and processing efficiency in the face of information overload, contributing to the continuous development of IPE in universities from the integrated perspective of ecological philosophy and biomechanics.

Keywords: ecological philosophy; ecological environment; ideological education; biomechanics

1. Introduction

The study of the ecological environment of IPE remarkably aligns with the holistic and systematic principles emphasized in the field of molecular and cellular biomechanics (MCB). It delves deep into the interaction, coordination, and integration of complex systems. Differing from conventional research that only examines the individual elements of the social environment, this study highlights the dynamic relationship and mutual promotion among various social factors under specific

conditions [1]. These interconnected factors form a benign ecological chain, akin to the interconnected systems studied in biomechanics. From the perspective of ecological philosophy, which adopts a holistic view to understand the interdependence of nature, technology, and society, the emphasis is on achieving harmony and sustainable development [2,3]. Ecological philosophy underscores the unity and compatibility of systems and their persistence over time, a concept paralleled in MCB's study of biomechanical processes that focus on harmony within biological systems.

Viewing ideological and political education (IPE) through the lens of ecological cultural philosophy provides a theoretical breakthrough and practical path to overcome traditional challenges [4,5]. The ecological environment of IPE is a complex system that encompasses the relationships between social existence and consciousness [6]. This characteristic is akin to the dynamic and coordinated functionality evaluation of cellular and molecular interactions in biomechanics (MCB). This paper develops a dynamic early warning system for IPE based on an improved Support Vector Machine (SVM) algorithm, enabling the design, optimization, and evaluation of individualized IPE schemes. The system integrates high-dimensional data and dynamic feedback mechanisms to provide proactive insights, mirroring advanced computational approaches in MCB. It effectively addresses issues such as lagging feedback, inadequate early warning mechanisms, and weak risk management, similar to challenges in biomechanics research when dealing with complex biological data.

Scientific evaluation methods play a critical role in ensuring the accuracy and effectiveness of ideological and political education (IPE) assessments, much like the robust methodologies that underpin research in Molecular and Cellular Biomechanics (MCB) for evaluating the mechanics of biomolecules, cells, and tissues. [7]. From an ecological philosophy perspective, IPE highlights principles of harmony, sustainability, and cultural development, paralleling MCB's focus on the interconnectedness and adaptability of biological systems. The dynamic nature of the IPE ecological environment, where changes in one component affect the whole system, resonates with the principles of dynamic interactions in molecular and cellular systems studied in MCB [8].

Several scholars have emphasized the importance of ecological education in fostering ecological awareness and promoting harmonious development between humans and the environment [9–11]. This perspective aligns with MCB's emphasis on understanding the biomechanical dynamics of biological systems for sustainable health solutions. Furthermore, the integration of ecological methods into IPE research has provided new insights, much like how innovative methods in biomechanics have expanded the understanding of biological phenomena [12–16]. The application of networked communication in IPE [17] and the acknowledgment of environmental and ecological factors as integral to the system's effectiveness [18,19] further draw parallels to MCB's use of interdisciplinary approaches to enhance understanding and application in complex biomechanical systems. This convergence of ecological, philosophical, and biomechanical insights underscores the shared principles and innovative methodologies advancing both IPE and MCB.

The paper introduces two key innovations in the context of ideological and political education (IPE) in universities: structural innovation and perspective

innovation. Structurally, it divides the IPE ecosystem into an outer circulation system and an inner circulation system, emphasizing the positive interaction between educators and the educated within the inner system and its linkage with the outer system to optimize the overall IPE environment. This structural division allows for a clearer understanding of how different components of the IPE ecosystem interact and influence one another, facilitating targeted interventions that enhance the educational experience. The inner circulation system focuses on the direct relationships and communication between educators and students, fostering a collaborative learning atmosphere that encourages active participation and engagement. Meanwhile, the outer circulation system encompasses external influences such as societal values, institutional policies, and cultural contexts, which play a critical role in shaping the IPE environment. From a perspective standpoint, it places IPE environmental factors within a broader ecological system, highlighting the interconnectedness of these factors. This perspective innovation encourages stakeholders to view IPE not as an isolated component but as part of a larger ecological framework that includes social, cultural, and environmental dimensions. By recognizing these interconnections, the paper advocates for a holistic approach to IPE that considers the various influences at play, leading to more comprehensive and effective educational strategies. By applying ecological system optimization principles, the paper addresses practical challenges and proposes strategies for improvement, offering new ideas and methods for building a more effective IPE environment. These strategies include enhancing collaboration among educators, integrating community resources, and utilizing technology to create a dynamic and responsive IPE framework. Overall, the innovations presented in this paper provide a fresh perspective on optimizing the IPE environment, ultimately aiming to cultivate a more informed, engaged, and responsible student body.

2. Characteristics of IPE of college students from the perspective of ecological philosophy

The contemporary development of IPE has demonstrated diverse and rich methodologies. However, regardless of the approach, it must be firmly grounded in a cultural context replete with specific ideological content; otherwise, it risks veering into a purely mechanistic realm [20–23]. From the perspective of ecological philosophy, several key characteristics of IPE come to light. Firstly, IPE must place a strong emphasis on sustainable development. This entails not only tolerating diverse viewpoints but also deeply respecting students' individuality and fostering a harmonious teaching environment. Ideological educators, in this regard, should wholeheartedly adopt a student-centered perspective, meticulously instilling the essence of harmonious culture in students. Secondly, ideological criticism assumes a pivotal role in IPE. By seamlessly integrating critical thinking into ideological education, IPE can adeptly confront contemporary challenges and effectively resonate with college students.

Additionally, cultural significance is of utmost importance. Ideological teachers should guide students to understand the crucial role of culture in their growth. It is essential that the cultural content is in harmony with ecological philosophy, as cultures lacking an ecological foundation may impede rather than facilitate development.

Finally, IPE should embody integrity and holism, mirroring the ecological philosophy's holistic worldview. This approach underscores interconnectedness and systematic thinking, enabling students to interpret cultural phenomena and the natural world comprehensively. These principles highlight the profound importance of integrating ecological philosophy into IPE, fostering a sustainable, critical, and culturally relevant education for college student. As shown in **Figure 1**, the characteristics of IPE.

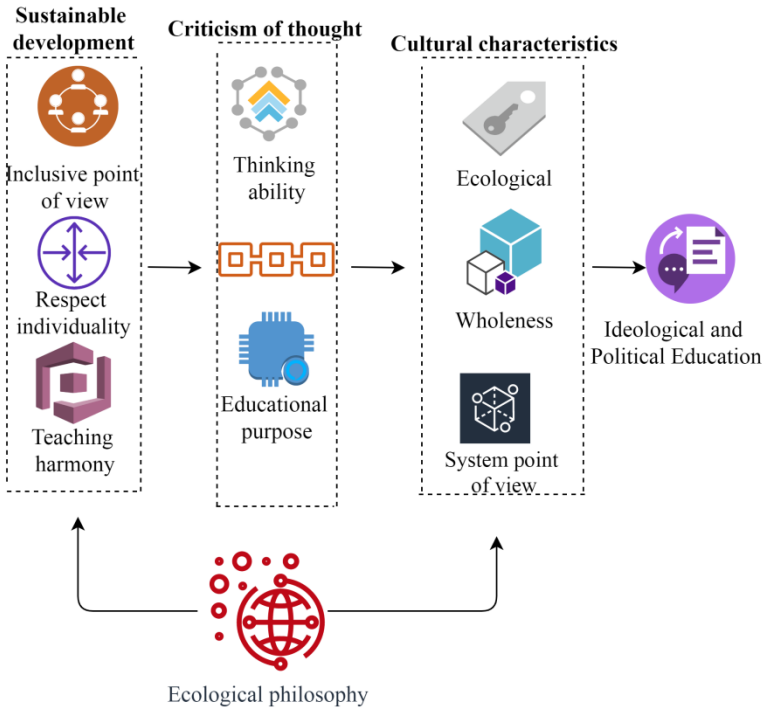

Figure 1. Characteristics of IPE.

3. Dynamic early warning system of IPE based on improved SVM algorithm

3.1. Construction of evaluation index system

Establishing a scientific and objective evaluation index system is essential for assessing new media ideology education in universities. While academic research has proposed various evaluation index systems for IPE, many of these indicators reflect certain characteristics of IPECU but still have notable limitations. Common issues include poor quantifiability, contradictions between the complexity of index parameters and ease of practical application, and insufficient integration of comprehensive evaluation mechanisms. Key factors influencing the effectiveness of IPE include the educational subject, the process of influence exertion, and the educational outcomes displayed by the target audience.

To objectively and fairly evaluate the effectiveness of IPECU, it is crucial to ensure that evaluation indicators are scientifically selected, rational, and systematically integrated. These indicators must address all aspects of the educational process to provide meaningful insights. To achieve this, the approach should include a comprehensive fuzzy evaluation of quantitative data, particularly related to users'

invisible early warning signals, and integrate these findings into a decision analysis system for improved functionality (see **Figure 2**). This method enables a more systematic and scientific assessment of the impact of evaluation indicators and ensures a practical framework for effective IPE evaluation.

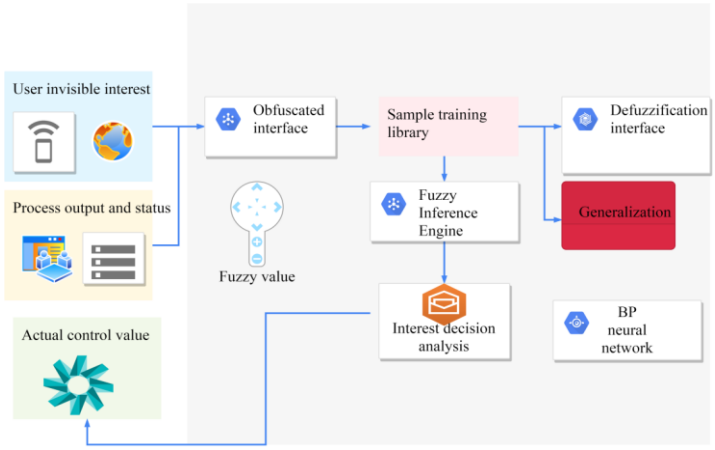

Figure 2. Schematic diagram of the decision analysis system mechanism.

From an ecological perspective, this paper examines the interplay between various ecological elements within the IPE environment system of universities. It proposes a framework for the dynamic, balanced, and coordinated development of the IPE ecosystem in universities to maximize the role of the environment as a critical factor in IPE activities. By applying ecological thinking, the optimization of the IPE environment not only advances theoretical understanding but also enhances the effectiveness of educational practices.

After identifying the application universities, system data preprocessing is conducted, which involves entering relevant national laws and regulations on IPECU, initializing system values in the data warehouse, and designing a personalized IPE plan for universities (see **Figure 3**). The effect analysis mechanism is then activated to evaluate these personalized plans through multi-dimensional effect assessments. Additionally, the dynamic early warning sub-module identifies students with potentially harmful ideological tendencies, issues early warnings, and enables timely intervention measures to ensure the overall effectiveness of IPECU.

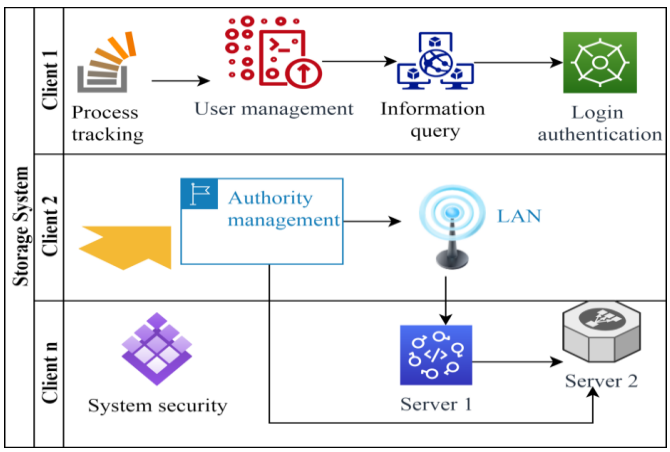

Figure 3. User authentication mode model.

3.2. SVM algorithm establishment

In the evaluation of ideological course teaching, relying solely on traditional final score metrics provides only a superficial measure of teaching outcomes and fails to capture the distinctive features of various types of ideological courses. This has raised the need for detailed analysis of these distinguishing features to improve the evaluation process. To address this, the attribute algorithm is enhanced based on the importance and interdependencies of attributes. The improved algorithm is incorporated into the teaching quality evaluation system, and validation results demonstrate its effectiveness and practical significance for the educational field.

Based on experimental outcomes, a decision is made regarding the algorithm's broader application. If supported, the IPE effect analysis sub-module is activated to assess the personalized IPE plans in higher vocational colleges using multi-dimensional effect evaluations. If not, the process returns to the initial step for further adjustments. The dynamic early warning sub-module identifies students with potentially dangerous ideological tendencies, issues early warnings, and enables timely intervention measures to ensure the effectiveness of IPE in higher vocational institutions.

The multi-dimensional application-oriented IPE dynamic early warning model is constructed with an objective function that minimizes the risk factors involved, ensuring a comprehensive and adaptive approach to identifying and addressing ideological trends. This model facilitates proactive management and continuous improvement in ideological education.

$$f(\delta) = \overline{\mathrm{rot}}\lambda\|\varpi\|^2 + \frac{1}{m}\sum_{i=1} l(\omega) \tag{1}$$

In Equation (1),

$$l(\omega) = \max[0,1] - y[\omega](x, y) \tag{2}$$

Among them, ω represents the objective function, and x, y represents the constraint space set.

A training sample t_i is randomly selected under the hyperplane constraint space, where i represents the intrinsic properties of the sample, and t represents the external activity (the number of iterations) of the sample, which is brought into Equation (1) to obtain Equation (3).

$$f(w, t_i) = {}^{\lambda}/_{2}\,\|\varpi\|^2 + l(\omega)(x_i, y_i) \tag{3}$$

Since the performance of the early warning model is affected by the selection of the initial input weight w_i and the hidden layer bias b_i, the improved SVM algorithm is applied to the selection of the initial input weight w_i and the hidden layer bias b_i of the early warning model, and a new method based on SVM is proposed. Objective function of the evaluation method of ideological teaching effect in universities:

$$\min F = \sqrt{\frac{\sum_{i=1}^{n}(y_i - d_i)^2}{n}} \tag{4}$$

In the Equation, y_i and d_i represent the expected output and the actual output, respectively. n represents the number of training set samples.

The root mean square error and correlation coefficient are used as indicators to measure the early warning model of IPECU, such as Equations (5) and (6),

$$RMSE = \sqrt{\frac{1}{n}\sum_{k=1}^{n}(x_k - pred_k)^2} \tag{5}$$

In the Equation, n represents the number of samples. x_i and $pred_i$ represent the actual and predicted scores of the i -th sample.

The biggest advantage of the correlation analysis method is that it does not have too high requirements for the amount of data, that is, more or less data can be analyzed, and it does not need the data to show a typical distribution law. It is more practical when the system data is less and the conditions do not meet the statistical requirements. At the same time, when using the grey correlation analysis way for comprehensive evaluation, a best value is sected from each index of the evaluated object as the evaluation standard, and the distance between each evaluated object and this standard is calculated. The standard is not fixed, but the selection result of the standard value is always the optimal value of the sample in the selected period. This way is a overall analysis method combining qualitative analysis and quantitative analysis, which better decreases the impact of human factors and makes the evaluation results more objective and accurate.

For grey relational analysis, the comparison data column (the parent factor time series) must first be formulated. The comparison data column is often denoted as x_t, which is generally expressed as:

$$x_t(k) = [x_0(1), x_1(2), \cdots, x_n(n+1)] \tag{6}$$

In the Equation, $i = 1,2,\cdots,m$.

$$x_i(p) = [x1, x2, \cdots, x_i(n)] \tag{7}$$

In the Equation, $p = 1,2,\cdots,n$.

The correlation coefficient only indicates the degree of correlation between the data at each moment. Due to the large number of correlation coefficients, the result is too piecemeal and inconvenient for comparison. At this point, we need to find the average value of the correlation coefficient at each time, rather than the total value of a set. A method of centralized processing of information. Therefore, the general expression of absolute correlation degree is:

$$r_i = \frac{1}{n}\sum_{k=1}^{n}\xi_i(k) \tag{8}$$

The closer the correlation degree r_i is to 1, the greater the correlation degree is. When $r_k \geq 0.5$, the correlation is significant. According to the degree of correlation, the index system is sorted, and the factors with smaller correlation degree are discarded.

Solve the above Equation by sub gradients, as shown in Equation (9).

$$\Delta_t = \lambda\omega_t - H|y_i(w_t, x_t) - 1|y_t x_i \quad (9)$$

In the Equation, $H|y_i(w_t, x_t) - 1|$ is the indicator function, the value range is two values, if it is true, it is 1, otherwise it is 0.

This kind of research mainly realizes the purpose of establishing a teaching evaluation system through the research and use of various technologies, such as using data mining technology to make a deep analysis of the hidden influencing factors of online teaching methods, explore the relationship between the key elements of education, and preliminarily construct the relevant process of realizing online teaching evaluation, so as to provide effective support for education and teaching management and decision-making. The comprehensive evaluation of the whole system, including teaching itself, covers all points, links and elements related to teaching activities.

3.3. Ideological education evaluation model

In the mathematical model of teaching evaluation, the stochastic mathematical model with uncertainty and randomness and the fuzzy mathematical model with ambiguity can effectively reveal the teaching law. The computer and mathematics together make it possible to conduct automatic, efficient and scientific evaluation of teaching quality. Here we construct a teaching quality evaluation model by comprehensively using mathematics, computer science, pedagogy and other multidisciplinary theories, and give an algorithm to realize this model. And put forward the idea of using fuzzy neural network to carry out teaching quality evaluation. First, the evaluation indicators of ideological teaching effect in universities are constructed from five aspects: basic quality, teaching attitude, teaching method, teaching ability and teaching effect, and then the score and final score of each evaluation indicator are obtained by means of expert scoring. Then the comprehensive indicators are obtained from the comprehensive education evaluation indicators and early warning evaluation indicators, as shown in **Table 1**.

Table 1. Scores of ideological teaching early warning evaluation indicators.

Index number	2014	2015	2016	2017	2018	2019	2020	2021
1	0.3374	0.3705	0.2642	0.2527	0.2265	0.1453	0.1915	0.3443
2	0.1203	0.2841	0.3862	0.2482	0.2293	0.3831	0.3724	0.3605
3	0.1401	0.3257	0.33	0.3834	0.2186	0.1878	0.1683	0.1553
4	0.1897	0.271	0.3233	0.317	0.1063	0.2339	0.1013	0.1273
5	0.1844	0.2773	0.3188	0.1172	0.2927	0.1252	0.159	0.1727
6	0.2766	0.3416	0.3357	0.1948	0.2524	0.3802	0.3217	0.3649
7	0.1231	0.3441	0.2584	0.1025	0.3242	0.3019	0.2977	0.3476
8	0.3808	0.3368	0.2719	0.3564	0.1837	0.1549	0.1858	0.3167
9	0.3956	0.1536	0.3327	0.1385	0.2404	0.3081	0.2133	0.307
10	0.223	0.169	0.2014	0.2511	0.363	0.1166	0.356	0.1316
11	0.1154	0.2187	0.193	0.2616	0.2825	0.3123	0.3483	0.1792

The membership function and fuzzy rules are represented by the hidden nodes of the BP neural network, the input and output nodes of the BP neural network are

mapped to the input and output signal flow of the fuzzy system, and the simulation data set provided by the fuzzy neural network toolbox in Matlab is used for simulation verification. Then the training result and the target value comparison chart. As shown in **Figure 4**, this is the simulation diagram of the dynamic early warning model of IPE based on the improved SVM algorithm.

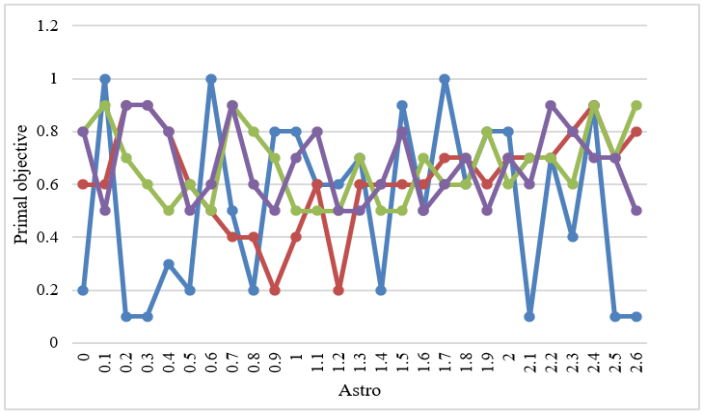

Figure 4. Simulation diagram of dynamic early warning model of IPE based on improved SVM algorithm.

So as to make the test data set utilized by the Sklearn library more suitable for the dynamic early warning model of IPE, regression mapping processing was carried out on the user behavior data set and the user invisible interest point data set. The purity of the data set is improved, the redundancy of the data set is reduced, and the simulation efficiency is improved.

Figure 5 shows that from the overall perspective of the evaluation of ideological teaching effect in Colleges and universities, cs-elm is the best. Therefore, using cs-elm model, the evaluation of ideological teaching effect in Colleges and universities is the best. Teaching evaluation is the value of measuring and judging teaching effect. Inevitably, means such as teaching measurement are needed. Collect information extensively and use appropriate information processing techniques to obtain reliable evidence. Analyze the teaching effect and the completion of teaching tasks and make estimates and judgments. Introduce mathematical models into teaching evaluation to make it more objective, scientific and actionable (shown in **Table 2**).

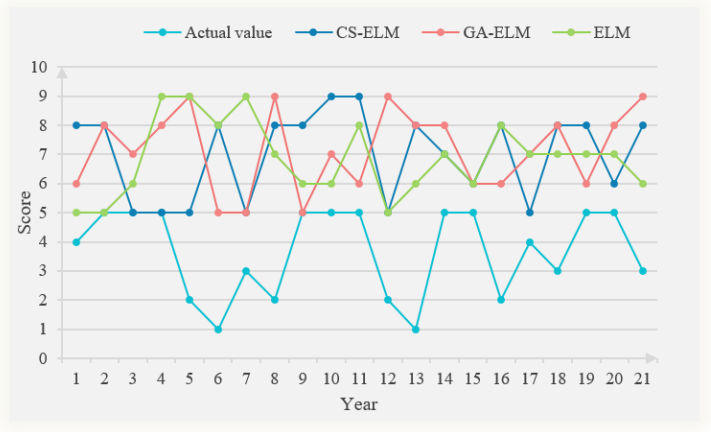

Figure 5. Evaluation of IPE and teaching.

Table 2. Evaluation equivalence division.

Corresponding score	Evaluation results
(4,2,5)	Very good
(3,4,4,1)	Better
(3,5,8,1)	General
(1,7,9)	Poor
(1,1,6)	Very bad

However, there are few factors that can be studied in this study, which affect the results of the evaluation of ideological teaching effect in universities. In the follow-up, we will study the impact of more influencing factors on the evaluation of ideological teaching effect in universities. In order to find out the rules, we must make scientific analysis and Research on the original information in order to draw objective and true conclusions. How to make an accurate evaluation with fewer indicators, which is representative and decision-making at the same time. The training results are shown in **Figure 6**. Using trainfcn function as the training function, the default value is hrainlm. Setting trainbfg algorithm, the function has fast convergence speed and is more effective for smaller networks, which is suitable for the training and Simulation of relatively small networks in this paper.

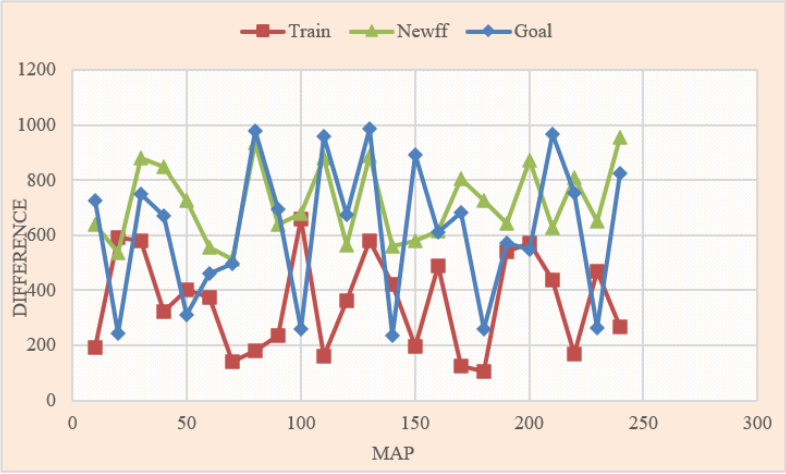

Figure 6. Training curve of neural network.

From the perspective of changes in evaluation factors, the factors of the new media IPE system in universities are nonlinear movements. New media IPE in universities involves many factors. Some of these factors have a linear relationship with the changes of the entire system, some have a curvilinear relationship, and some have an indeterminate relationship at all. According to the simplification of the evaluation index by the grey relational analysis theory, the obtained item index value of each evaluation object is used as the input of the BP neural network, and the correlation degree of each evaluation object is obtained through the grey relational analysis again, which is used as the expected output of the BP neural network, as shown in **Figure 7**.

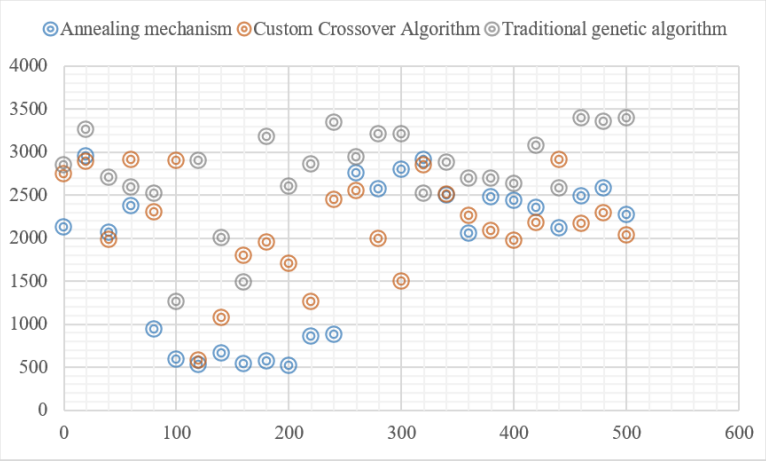

Figure 7. Simulation diagram of decision analysis effect of standard neural network algorithm.

The actual efficiency of using fuzzy neural network for decision evaluation and adaptive training of fuzzy rules is good. Many of the stored elements are repeated, which causes a great waste of storage space. In the process of attribute reduction, there are some deletion situations. Because these elements occupy a lot of space when they are stored, they will spend a lot of comparison time when they are deleted, which is obviously detrimental to the operation of the algorithm However, the practical effect of using decision evaluation to train the dynamic early warning model of IPE has been greatly improved. As shown in **Figure 8**, this is the simulation diagram of the decision analysis effect of the improved neural network algorithm.

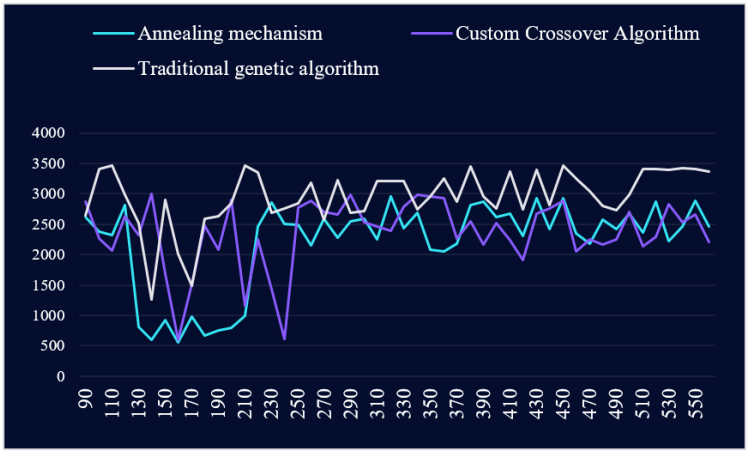

Figure 8. Simulation diagram of the decision analysis effect of the improved neural network algorithm.

The common methods of teaching evaluation include testing student achievement, questionnaire survey, and on-the-spot lectures. Based on this, a series of quantitative and non-quantitative information is obtained. How to conduct comprehensive analysis and research on these information, make value judgments, and obtain evaluation conclusions, it is necessary to use fuzzy comprehensive evaluation. After the simulation and verification of the model performance, it is obtained that the training times of the fuzzy neural network epochs is 779, the training target goal is 0.05, and

the judgment rate lr is 0.09. This model can realize all-round dynamic early warning of IPECU, and has obvious advantages in early warning adaptability, model fitting degree, and information overload processing efficiency. By constructing a large log database based on user behavior, introducing the improved support vector machine algorithm and integrating the early warning classifier to establish a dynamic early warning model for IPE, we can realize the functions of designing and optimizing personalized IPE programs in universities, evaluating the multi-dimensional effects of personalized IPE programs, finding students with dangerous thoughts in advance and giving early warning tips.

4. Strategies for the integration of IPE and ecological environment in universities

College students, as the vanguards of future national development and the torchbearers of progress, hold a pivotal position in shaping ecological awareness and surmounting ecological challenges. In an era where environmental issues are at the forefront of global concerns, their cultural literacy and ecological acumen significantly influence how they perceive and respond to ecological dilemmas. This, in turn, has a profound impact on the nation's future construction and long - term sustainability endeavors. Integrating ecological education concepts and content into the present ideological and political education (IPE) of college students is not just important but essential. It is the cornerstone for fostering correct ecological values, nurturing environmentally conscious behavior, and ultimately achieving the educational objectives of ecological literacy. Ecological education should encompass fundamental elements such as a comprehensive ecological view of nature, sound ecological values, and a deep understanding of sustainable development. Teachers, as the guiding lights, must accentuate the role of culture in students' growth, making certain that the cultural influences are in perfect harmony with ecological principles. Non - ecological or inflexible cultural forces can distort students' understanding and lead to inappropriate behavior.

The concept of green development, which emphasizes the twin pillars of resource conservation and environmental protection, should be the nucleus of teaching in universities. Educational institutions must instill this concept deeply in students, kindling their ecological awareness and motivating them to actively engage in building an ecologically responsible society. To achieve this, universities need to establish robust mechanisms. Regular training sessions, interactive workshops, and insightful lectures can enhance the professional quality of ideological educators, ensuring that their teaching is in line with sustainability goals. Moreover, universities should create innovative learning platforms that stimulate students' critical and creative thinking. By inspiring students rather than simply spoon - feeding knowledge, educators can equip them with the skills and mindset needed to address ecological and social challenges, thereby contributing to a sustainable future.

5. Conclusions

This paper delves into the optimization strategies for the Ideological and Political Education (IPE) environment in universities, particularly from the perspective of the

ecological environment. It first clarifies the concepts of ecological environment and IPE environment optimization in universities, analyzing the relationship between "environment" and "ecology." The optimization process is grounded in theories of educational ecology, ecological philosophy, and ecological psychology, following the ecological analysis principles of integrity, relevance, dynamic balance, and openness. These theoretical foundations provide a framework for addressing the challenges in optimizing the IPE environment within universities.

Based on identified problems, the study develops a dynamic early warning system for IPE using an improved Support Vector Machine (SVM) algorithm. By calling the dynamic link library file, the system supports the design and optimization of individualized IPE programs in higher vocational colleges. It facilitates multi-dimensional effect evaluations, detects students with dynamic tendencies toward dangerous ideologies, issues warnings, and enables timely interventions. Additionally, the paper discusses feasible strategies for optimizing the IPE environment by analyzing the interactions among the external environment, internal environment, and overall environment. This approach offers practical solutions for improving the IPE environment in universities, aiming to enhance students' ideological and political literacy and social responsibility.

Author contributions: Conceptualization, QZ and LZ; methodology, QZ; software, QZ; validation, QZ and LZ; formal analysis, QZ; investigation, QZ; resources, QZ; data curation, QZ; writing—original draft preparation, QZ; writing—review and editing, QZ; visualization, QZ; supervision, QZ; project administration, QZ; funding acquisition, LZ. All authors have read and agreed to the published version of the manuscript.

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