

# Strategies of Infiltrating Psychological Fitness Education Into Ideological and Political Education

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## ABSTRACT

As the cradle of cultivating talents, universities are facing great opportunities and challenges in their education. Among them, IPE (ideological and political education), as an important foundation for the future growth of university students, is of great significance. This paper discusses the relationship between IPE and psychological fitness education in university teaching. This paper expounds the necessity and feasibility of playing the role of psychological fitness education in IPECU (ideological and political education in colleges and universities). Based on this, this paper gives the strategy of infiltrating psychological fitness education into IPE. This paper combines NN (neural network) method to construct an assessment model of IPE quality. In this paper, MATLAB is used for simulation and comparative analysis. The final experiment shows that the RMSE of this algorithm is 0.512, MAE is 1.089, and the accuracy of the algorithm is 0.958.

## KEYWORDS

Ideological and Political Education, Neural Network, Psychological Fitness Education

## INTRODUCTION

Today is an era of the internet and science and technology. Under the background of this era, a new generation of IT and modern manufacturing industry has been formed and, at the same time, a comprehensive innovative industry such as producer services has been formed (Y. Zhu et al., 2020). Under the background of cultural diversity, great changes have taken place in university students' ideology, value orientation, lifestyle, and psychological state, which means ideological and political education in colleges and universities (IPECU) faces severe challenges. There are some problems in contemporary university students' thinking, including hedonism, selfish mentality, decadent ideas, and so on. All these have impacted the spiritual growth of university students and the establishment of three views (Lin et al., 2019). Therefore, the integration of ideological and political education (IPE) into the teaching of various subjects has played a role in helping students correct their thoughts and

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establish three views to a certain extent. Ideology courses are the main channel and front for universities to spread Marxist theory and educate students in ideological theory, and they shoulder the special mission of training builders and successors of socialist construction with Chinese characteristics (Jiang et al., 2018). The quality of IPE for university students is directly related to the quality of talent cultivation in universities and to the realization of the goal of IPE. Therefore, research on IPE has certain theoretical and practical significance.

The IPE received in school has the same goal as psychological fitness education (Gociman et al., 2018). The teaching of ideology theory courses can be regarded as a dynamic system centered on education. This dynamic system educates students systematically in Marxist theory and helps them to establish a correct world outlook, outlook on life and values. Within the system, teachers' knowledge transfer, students' cultivation of ability, and students' values education are interrelated (Johnson et al., 2013). The purpose of IPE and psychological fitness education is highly consistent, and the inducing reasons are also consistent. The course of psychological fitness education mainly starts with students' personality, emphasizing internal psychological education and guidance, eliminating students' psychological problems through teaching cases and conversation, and encouraging them to establish a strong, confident and optimistic personality (Osborne & Sibley, 2015). The content of moral code of conduct and ideal belief education in IPE also emphasizes the inner world of individuals. Only when students are psychologically healthy can they better establish their ideals and beliefs. In the past, the IPE mode was relatively rigid, the instructional method was rigid, the teaching content was outdated, and the teaching interest was insufficient, which resulted in poor teaching effects (Tsamakis et al., 2017). The way of psychological fitness education is more perceptual, visual, and specific, and the combination with IPE can make boring content vivid and interesting and create a relaxed teaching atmosphere for teachers and students (Galey, 2015). Therefore, the education of university students can well combine the characteristics of the two, which is more conducive to give full play to their advantages and make up for each other's shortcomings, so as to guide university students to establish correct values and outlook on life and help them to improve their scientific and cultural qualities, strengthen their ideological and moral qualities, and promote their healthy physical and mental development.

The harmonious and orderly growth of IPE depends on the discovery, recognition, and utilization of various information indicators, and then reasonable and effective adjustment and control measures are adopted to continuously improve the instructional validity of ideological theory courses in universities (Richardson et al., 2014). However, as far as the actual effect assessment of ideological courses is concerned, it is generally in a state of assessment without system. The assessment methods mostly adopt similar assessment methods and means, and the assessment contents are quite similar. In the assessment, students' achievement is emphasized, while students' subjectivity in teaching activities and the improvement of comprehensive quality are neglected (T. Wang & Park, 2021). Simply taking scores as the assessment standard of students' learning level cannot be the basis for evaluating students' of all levels, and it will gradually hurt students' learning motivation and reduce their interest in learning. At present, the quality assessment of university students' IPE lacks theoretical support and practical operability. Only by establishing and improving this assessment system can university students' IPE be more comprehensive and systematic, promoting the further growth of the theory and practice. Based on the above and on the information age, this paper makes an in-depth exploration of the strategy of psychological fitness education infiltrating into IPE and constructs an assessment model of IPE quality. Its innovations are as follows:

- (1) It explores the relationship between mental health education and ideological and political education in college teaching, analyzing their power, content, carrier, and environment. The paper suggests strategies for integrating mental health education into ideological and political education based on their influence on students' physical and mental health.

- (2) It uses a questionnaire survey method to gather data on contemporary college students' ideological trends, mental health level, and the role of mental health education in ideological and political education. Additionally, the paper develops a neural network (NN)-based model for assessing ideological and political teaching quality, providing technical support for evaluating its effectiveness.

## RELATED WORK

At present, the psychological fitness education and IPE of university students are no longer completely independent of each other, and more and more scholars have turned their attention to the close relationship between the two. Sun et al. (2022) believed that in the case of the shortage of instructional resources for ideological courses in some universities, administrators, teachers, and students of universities should cherish and optimize the existing teaching and educational resources of ideological courses and fundamentally change the teaching and learning resources that rely on those courses. Attendance rate or test scores are used as standards and means to evaluate the validity of ideological courses in schools. Babb et al. (2022) pointed out that classroom emotional management plays a very important role in university students' study and life, and many problems in university students' IPE can be adjusted through emotional management. Taking countermeasures against specific problems, making the best use of the situation, and using emotional management methods to carry out effective education are important topics in IPE. Suldo et al. (2016) pointed out that the concept of psychological fitness education in universities should be completely transformed, the concept of being people-oriented should be integrated into it, the hidden psychological state of students should be fully considered, the psychological problems of university students should be screened, and the occurrence of some extreme events should be prevented. Chen et al (2021). believed that the psychological fitness of university students should not be ignored, and any thought-carrying needs to be based on a healthy body and mind. On the one hand, the positive energy in IPE helps students to form healthy and noble minds and sentiments and, at the same time, students with sound personalities will in turn support and spread good ideological orientations. Villanueva et al. (2017) pointed out that the ideological and moral problems and psychological fitness problems of contemporary university students are prominently placed in front of educators, and seeking a way to integrate the two can effectively promote the healthy growth of students' physical and psychological fitness and lay the foundation for cultivating qualified social talents. Yang et al. (2017) tried to construct a preliminary theory on the combination of university students' psychological fitness education and IPE from three aspects: concept, goal, and content. Ma et al. (2017) analyzed and studied the integration of IPE and university students' psychological fitness education, discussed the integration method of psychological fitness courses and IPE from various aspects and angles and, combined with the actual situation and teaching requirements, put forward a specific application design scheme. Xu et al. (2021) pointed out that the ideological theory course is an effective way to guide and control the psychological problems of university students in classroom teaching. S. Wang (2017) believed that the combination of psychological fitness education and IPE for university students has gone through four stages: concern and exploration, reflection and orientation, construction and innovation, and improvement and promotion. W. Zhu (2017) believed that universities should establish their own teams of young ideological talents, cultivate a group of teachers with strong theoretical research and work practice capabilities, and build a guaranteed force for ideological and psychological fitness education in universities. G. Zhu et al. (2021) believed that strengthening IPE is our party's fine tradition and political advantage, and it is the lifeline of IPECU. From the perspective of IPE, to explore the students' psychological crisis intervention path is a new direction that is extremely important and urgently needs to be studied in contemporary IPE. Du et al. (2017), based on the goals and requirements of students' psychological fitness education and IPE in different periods, combined with the modern situation, found the connection and difference between

psychological fitness education and IPE and looked for effective points of mutual integration, so as to find ways the two could promote each other.

Most previous studies have integrated IPE and psychological fitness education of university students into the study of moral education theory, but only the analysis of the relationship between psychological fitness education and IPECU, the necessity and feasibility of the combination of psychological fitness education and IPECU, and the theory of the combination approach are relatively lacking. Based on this, this article explores the relationship between IPE and mental health education in university teaching, analyzes the shortcomings of IPE in the new era, and elaborates on the necessity and feasibility of exerting the role of mental health education in physical education departments. Then, this article presents strategies for integrating mental health education into IPE and combines NN methods to construct a quality evaluation model for IPE.

## METHODOLOGY

### Strategies of Psychological Fitness Education Infiltrating Into IPE

With the advent of economic globalization, a new generation of university students are influenced by European and American cultural thoughts, and IPECU is facing new challenges. However, for a long time, due to the severe employment situation, the only child's lack of self-reliance and social money worship, there are some problems in the psychological fitness of Chinese university students. Improving students' ideals, beliefs, and psychological quality is an important guarantee for future employment development (Albright & Hurd, 2018). IPE is of great significance to the spiritual growth of university students. The goal of IPE is to integrate social ideological values and moral norms into the ideological and moral character of the educated and become their behavioral and ideological guides. Therefore, teachers are required to thoroughly grasp the Marxist stand, viewpoint, and method, deeply understand the scientific connotation of Mao Zedong's thought and the theory of socialism with Chinese characteristics, and enhance the theoretical persuasiveness. Psychological fitness education focuses on the education of psychology, cognitive development, social relations, personality shaping, etc., which can help university students to construct a stable and healthy internal mental environment and contribute to their psychological growth. However, IPE focuses on ideological education, which is related to outlook on life, values, patriotism, and national consciousness. It can help university students correctly understand their own environment and improve their ideological awareness. Good ideological and moral character promotes university students' physical and mental harmony. World outlook is at the highest level of ideological and moral structure, which plays a general guiding role in psychology, thought, and behavior. People with excellent ideological and moral character have a more positive view of the world, have a more positive attitude toward life, and actively solve problems in life. The target group for both of them is the same, that is, the students in the school. Therefore, the combination of the two is helpful to construct the coordinated developmental mechanism of thought, psychology, and behavior and promote the all-round growth of university students. If the synergy between IPE and psychological fitness education in universities is to achieve practical results, it is necessary to practice them as the foundation of educational activities, so that IPE and psychological fitness education in universities can return to the essential requirements of educational practice.

IPE is the source of strength for university students' future career planning and work development. Good IPE can make students have a clearer understanding of their career development and work purpose, that is, contributing to the country, serving the society, realizing their own values, etc., and make them indomitable and enterprising when encountering difficulties and obstacles. Both psychological fitness education and IPE play a crucial role in cultivating well-rounded university students who can contribute to society and meet the needs of China. At their core, both these approaches are focused on helping students achieve comprehensive growth in areas such as knowledge, emotions, intentions, and actions. By developing students' abilities and adaptability, these approaches enable

students to pursue their goals and fulfill their values in life. Ultimately, the goal of both psychological fitness education and IPE is to equip students with the tools they need to succeed and make positive contributions to society. The content and experience of psychological fitness education can effectively enrich the goal and content of IPECU and enable universities, teachers, and students to pay more attention to university students' own psychological coordination, personality growth, and cognitive development, besides theoretical and practical teaching of IPE. Universities should not only realize the importance of IPE and psychological fitness education under the new situation, but also realize the urgency and necessity of combining the two and provide a platform for combining the two. At the same time, we should constantly establish and improve the on-the-job training system of IPE teachers and regularly organize ideology teachers to participate in psychological fitness education training. It can enhance university students' subjective consciousness, improve their subjective status, and enable them to participate in IPE more actively, so as to improve the validity of IPE through communication. University students' psychological fitness education and IPE have their own rich concept systems. On the basis of adhering to their respective educational concepts, the combination of university students' psychological fitness education and IPE should highlight the basic concepts of being education oriented, putting moral education first, and stressing value oriented teaching. At present, in the process of advocating psychological fitness education in universities, in addition to the traditional teaching mode, the network psychological fitness education has been designed. And many universities can make full use of the network and resources, absorb the content of psychological fitness education, and guide students to self-regulate and monitor their psychological fitness; under the active guidance of universities, we can exert our strength of supervision and control.

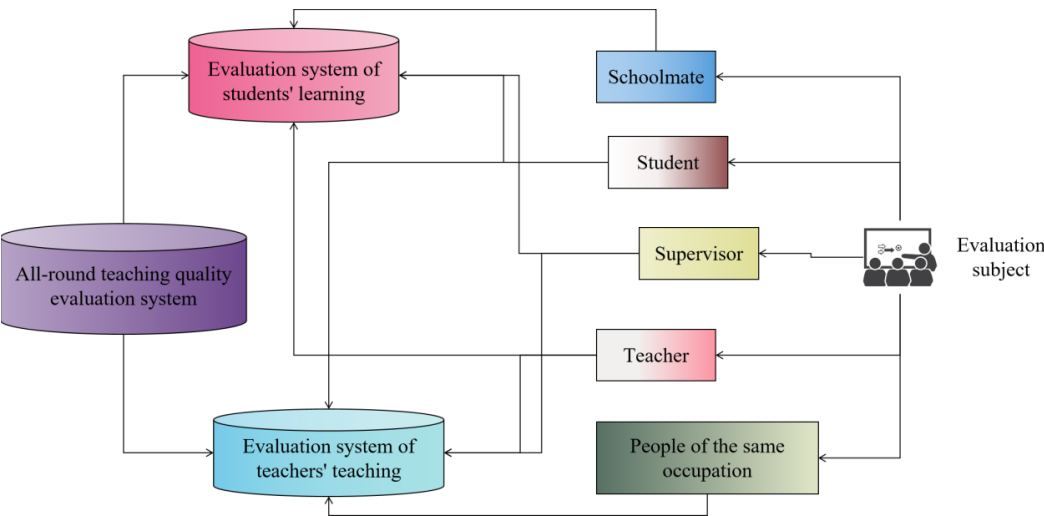
College students' mental health education involves a range of aspects including self-awareness, self-improvement, emotional regulation, and social awareness. Teachers who specialize in this field are expected to possess extensive psychological knowledge and be able to provide guidance and practical solutions to help students overcome challenges and improve their psychological adaptability. The ultimate goal of mental health education is to foster a healthy and positive mindset among students and support their overall growth and development. It is very important to integrate psychological fitness education into IPE. The details are as follows: (1) Optimize IPE and build a psychological counseling and guidance system. By introducing content related to psychological fitness education, students can gain a deeper understanding of the essence of IPE. (2) Choose the breakthrough point for ideological consolidation. Teachers should focus on individual students and incorporate personality discovery and insight into the curriculum to help students learn and internalize the spirit of ideology. This approach can help students shape their personalities, develop their critical thinking skills, and achieve both personal growth and academic success. In the process of cultivating students' noble moral quality, their body and mind should also be developed healthily. The combination of university students' psychological fitness education and IPE should adhere to the basic concepts and principles, so that the growth of university students will not deviate from the correct direction, form a joint force, and jointly serve the educational goal of cultivating socialist builders and successors. Paying attention to the role of psychological fitness education in IPECU also requires educators to pay attention to not only the university students' personality quality, but also the students' ideals and beliefs, complete the ingenious transition from primary education to advanced education, and realize the synchronous improvement of ideological quality and sound personality. In addition, the classroom teaching of IPE can take the form of cases or special topics, and each class is dedicated to a certain problem. It can classify the problems existing in the IPE of students and teach students with cases. In order to fully mobilize students' enthusiasm for participation, teachers should encourage students to speak out about their life and study problems and let everyone discuss and solve them together. Finally, teachers should carry out professional psychological fitness education, which will also improve the organic connection between theory and practice.

### Construction of Assessment System of IPE Quality

The comprehensive assessment of IPE quality in universities mainly describes the quality and makes a realistic analysis and appropriate comments on its process and effect. To be accurate and objective, this kind of analysis and comment must be guided by the scientific concept of development, and a scientific assessment system should be constructed. The rationality of the comprehensive assessment results of instructional level can enable school leaders, the staff of the instructional level assessment management department, and teachers themselves to know and find the problems existing in their own teaching in time, and make appropriate adjustments in time. In the past, there were still some problems in the process of establishing and using the instructional level assessment system and analyzing the assessment results. For example, the research of assessment theory, the use of assessment means, the update of assessment methods, the analysis of assessment data, and other issues directly affect the function of instructional level assessment and the mining of potential knowledge. The participants in the assessment system of ideological courses in universities include both micro-subjects and objective subjects. However, at present, some universities are still unable to define the participants, thus affecting the growth of assessment activities. The structure and quantity of participants directly affect the assessment results. The more complete the participation structure, the more participants, and the more objective and comprehensive the assessment results. The assessment index of IPE validity is the core of the whole assessment system, and it is the prerequisite to carry out the assessment of IPE validity. There are many assessment indexes for instructional levels. In the content of indicators, besides evaluating the teachers, students should also be evaluated for their validity. An all-round classroom instructional level assessment system includes teacher's instructional assessment system and student's learning assessment system. In the assessment system of teachers' teaching, the assessment object is teachers, and the assessment subjects are supervisors, peers, students, and teachers themselves. In the student learning assessment system, the assessment object is students, and the assessment subjects are supervisors, teachers, classmates, and students themselves. That is, the assessment subjects are diverse, and the assessment systems are interactive. The relationship between assessment systems is shown in Figure 1.

The assessment of the ideological course teaching process is different from the general course assessment, which has strong uniqueness. First of all, the political nature is more distinct, so the assessment system also has certain political attributes. Second, the diversity of the teaching objectives

Figure 1. The relationship between assessment systems



of ideological courses makes the instructional assessment highly complicated. The diversity of IPE objectives makes the assessment of IPE highly complicated. To a great extent, the effect of IPE depends on its achievements in promoting the all-round growth of university students and meeting their needs. Scientific and effective IPE can improve university students' ideological quality, political quality, moral quality, psychological quality, and legal and disciplinary quality, so as to achieve the goal of individual all-round development. The assessment of instructional level in universities is generally carried out through four links: student assessment, expert assessment, peer assessment, and teacher self-assessment, and then the final assessment results are synthesized. In view of this, this paper designs a questionnaire that reflects the characteristics of IPECU and then analyzes and screens the survey data. Establish a preliminary index system of the assessment index system of ideological class teaching in universities, and determine the most representative comprehensive indexes. Instructional level assessment index itself plays a guiding role in teaching, that is, teachers will attach importance to what indicators are evaluated. Therefore, the establishment and selection of indicators are extremely important. It is not only required to reflect the essence of teaching and select typical and objective indicators, but also to work out a scientific and reasonable classroom instructional level assessment system from the professional training goals and direction, combined with the characteristics of the ideological course itself.

### Construction of Assessment Model of IPE Quality

Artificial NN provides a novel technology. Theoretically, it can simulate any nonlinear continuous function within a certain accuracy range. The novelty of artificial NN is that it can model nonlinear process without knowing the cause of data generation. Based on this, this paper uses an NN method to construct the assessment model of IPE quality. The assessment model of IPE quality based on NN is shown in Figure 2.

In NN, the error function can be defined by whether the network output generated by a single sample is consistent with the expected response output:

$$E_s = \frac{1}{2} \sum_{s=1}^{N_s} (y_j^k - o_j^k) \quad (1)$$

The global sum of squares error  $E$  of the network can also be used to judge whether the actual response output of the network output layer is consistent with the expected response output, and the error function is defined as:

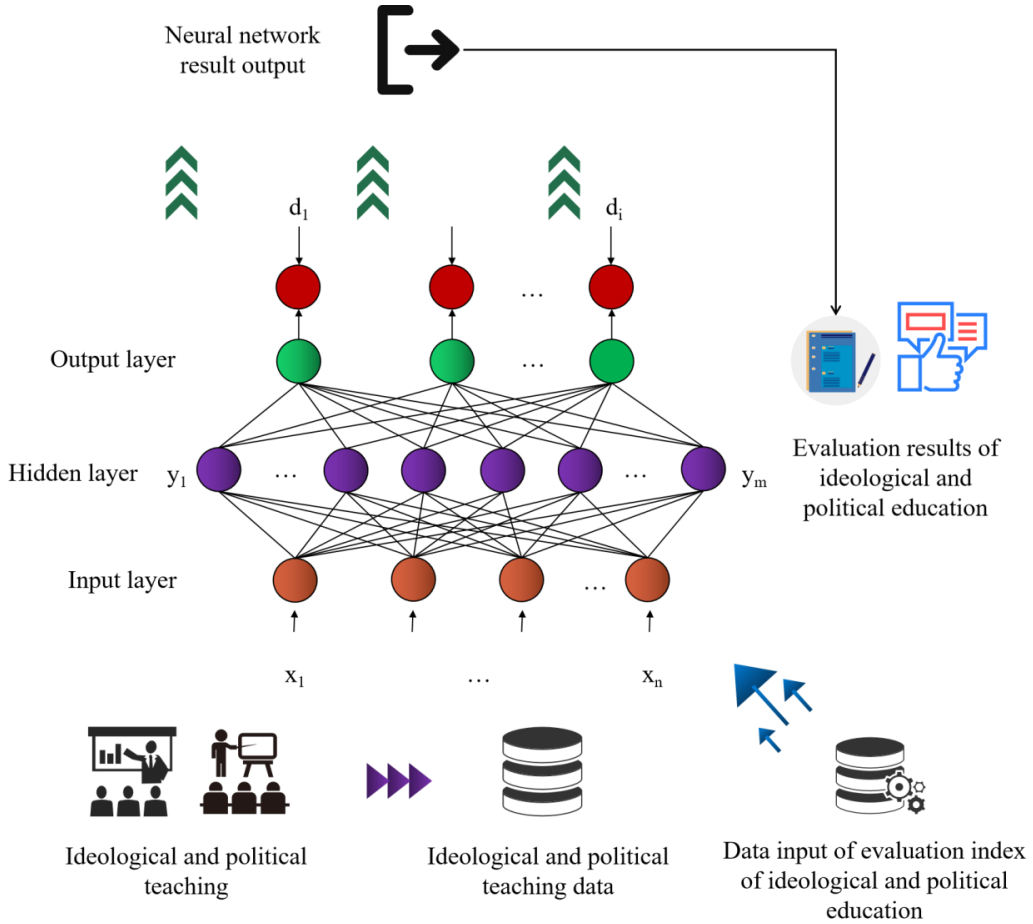
$$E_s = \frac{1}{2} \sum_{k=1}^{N_k} \sum_{s=1}^{N_s} (y_j^k - o_j^k) \quad (2)$$

The fitness function is shown in formula (3):

$$fitness = \frac{1}{E} \quad (3)$$

Among them,  $E$  is the learning error;  $p$  is the quantity of training samples;  $l$  is the quantity of output nodes 1;  $y_j^k - o_j^k$  is the error of the  $k$  th sample relative to the  $j$  th output node. The selection probability is calculated as follows:

Figure 2. Assessment model of IPE quality based on NN



$$z(a_j) = \frac{f(a_j)}{\sum_{j=1}^d f(a_j)} \quad (4)$$

There are  $n$  assessment objects, and each assessment object is described by  $p$  assessment indicators. The original data is  $(x_{ij})_{n \times p}$ , and the mean of each indicator is:

$$\bar{x}_j = \frac{1}{n} \sum_{i=1}^n x_{ij} \quad j = 1, 2, 3, \dots, p \quad (5)$$

Order:

$$z_{ij} = \frac{x_{ij}}{\bar{x}_j} \quad (6)$$



Then,  $z_{ij}$  is called the data after data  $x_{ij}$  averaging. The output of comprehensive NN is the final result of classroom instructional level assessment in universities. It is divided into different grades, and each category corresponds to the output range of comprehensive NN. An iteration period of this algorithm is:

$$w^{k+1} = w^k + \Delta w = w^k - \eta^k \frac{\partial e^k}{\partial w^k} \quad (7)$$

Let the parameter bit  $w$  of the NN model, given the input  $x$ , the probability that the NN output  $x$  belongs to each category  $C_k$  is  $P(C_k|x, w)$ . We can get the probabilities of all input class pairs on the training data  $S$ :

$$p(S|x) = \prod_{(x,z) \in S} p(z|x, w) \quad (8)$$

The maximum likelihood parameter  $w_{ML}$  can be expressed as:

$$w_{ML} = \arg \max_w p(S|w) = \arg \max_w \prod_{(x,z) \in S} p(z|x, w) \quad (9)$$

In practice, the negative logarithm of  $w_{ML}$ ,  $O$  bits  $p(S|w)$  is usually obtained by minimizing the objective function  $O$ :

$$O = -\ln \prod_{(x,z)} p(z|x, w) = -\sum_{(x,z)} \ln p(z|x, w) \quad (10)$$

Since the logarithmic function  $\ln$  is a monotonically increasing function, minimizing  $-\ln p(S|w)$  is equivalent to maximizing  $p(S|w)$ .

The organic combination of teaching process assessment and teaching effect assessment makes the assessment system more comprehensive; considering the influencing factors from various angles, it also enhances the feasibility of the implementation of the assessment system. Assessment is not just a broad concept, but a specific assessment of the process and effect of teaching implementation. Among them, the screening of each index is also based on scientific survey data. In this paper, a multi-input single-output assessment model is established by using the determined assessment index system and NN principle. The output accuracy of the network depends on the number of input training samples. The more training samples, the closer the output evaluation value of teaching effect is to the actual evaluation value.

## RESULT ANALYSIS AND DISCUSSION

Each school or education system also has many different views on whether the effect obtained in the process of IPE is ideal. Most of the assessment systems formed by schools based on the teaching effect did not jump out of the original universal framework. It does not look at the actual effect of the ideological theory course from the whole and multiple angles but unilaterally emphasizes the

classroom effect and test scores, which hinders the further growth of the IPE theory course teaching. In order to improve the reliability and efficiency of the assessment model of IPE quality, this paper establishes an assessment model of IPE quality based on NN, discusses the application effect of infiltrating psychological fitness education into IPE, and provides a feasible scheme for the assessment of IPE quality in universities. In this section, the model built above is tested in many aspects to verify the performance of the model. In this section, MATLAB is used for experiments. The error curve of the network training is shown in Figure 3.

It is not hard to see from the figure that after about 19 times of training, the error of the network has reached the requirements. The quality of IPE is investigated, and the results obtained after software analysis are shown in Table 1 below.

Comparison of statistical efficiency of several different models is shown in Figure 4. The statistical stability results of IPE quality of several different models are shown in Figure 5.

The assessment of IPE quality must comprehensively consider various influencing factors, as well as the links and logical relationships among these factors. Only by combining these influencing factors and constructing and perfecting a systematic assessment system can we improve the validity

Figure 3. Error curve of network training

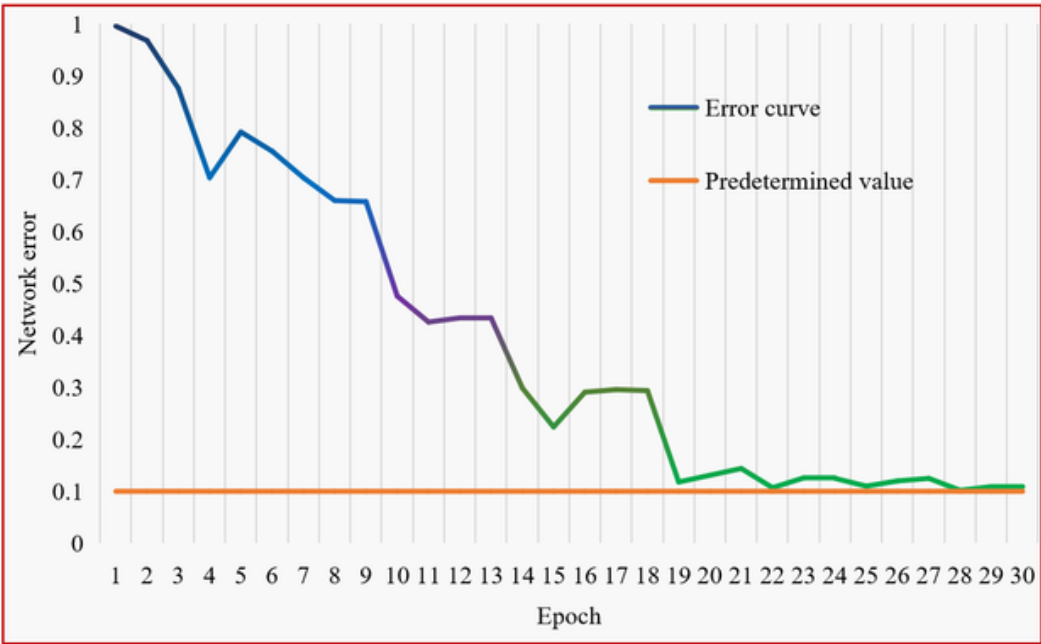


Table 1. "Cronbach a" coefficient

Index	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Terms
Teacher level	0.842	0.883
Instructional attitude	0.869	0.829
Instructional content	0.821	0.847
Instructional method	0.896	0.869
Instructional validity	0.883	0.887

Figure 4. Statistical efficiency of the model

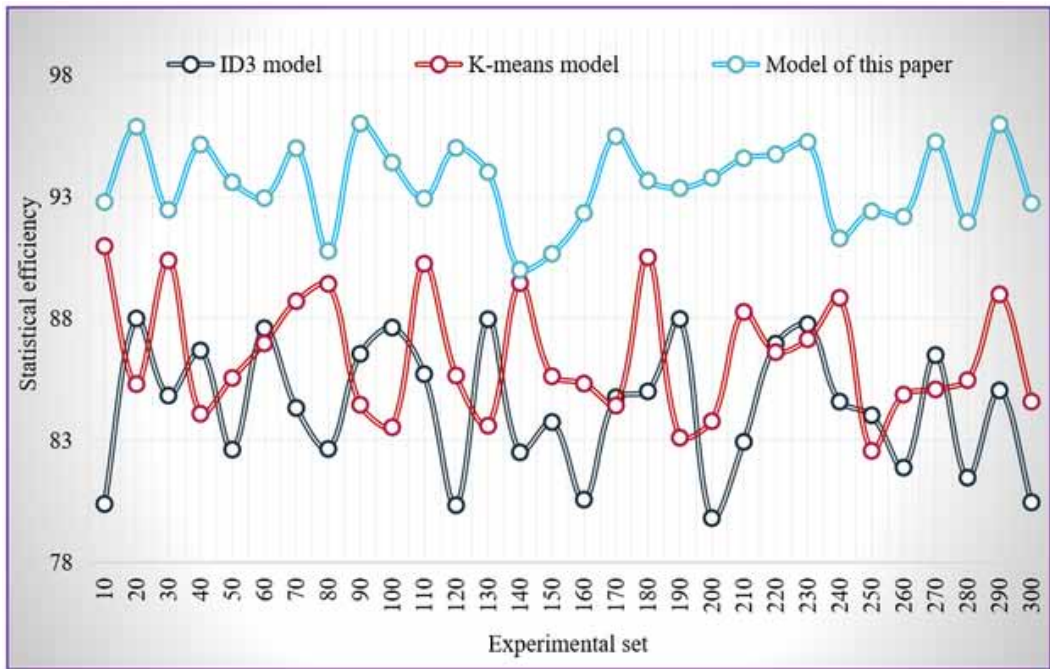
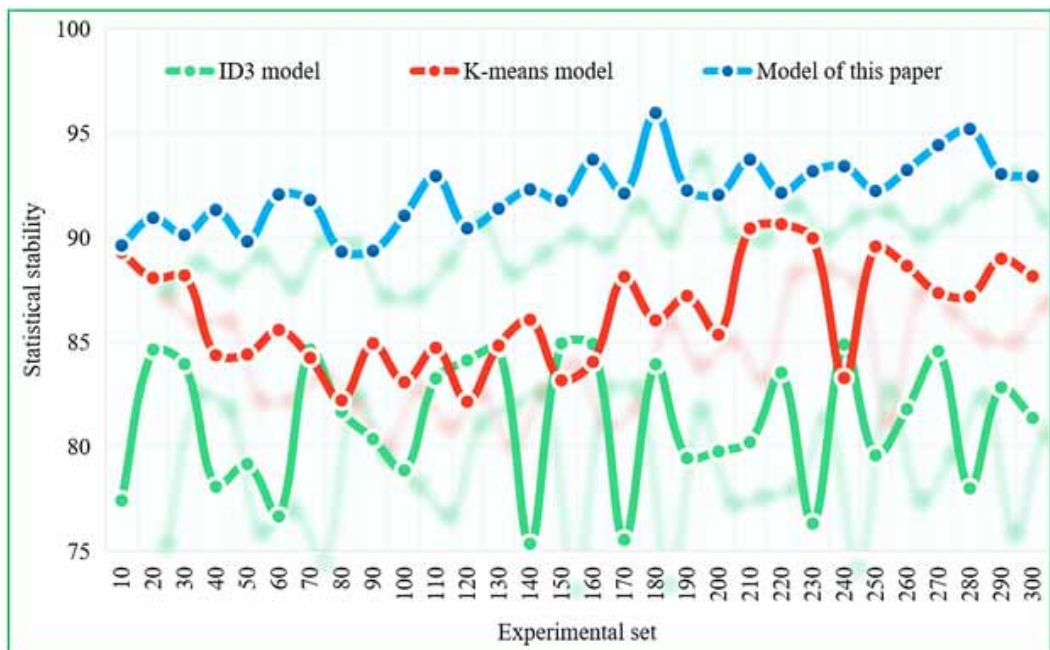
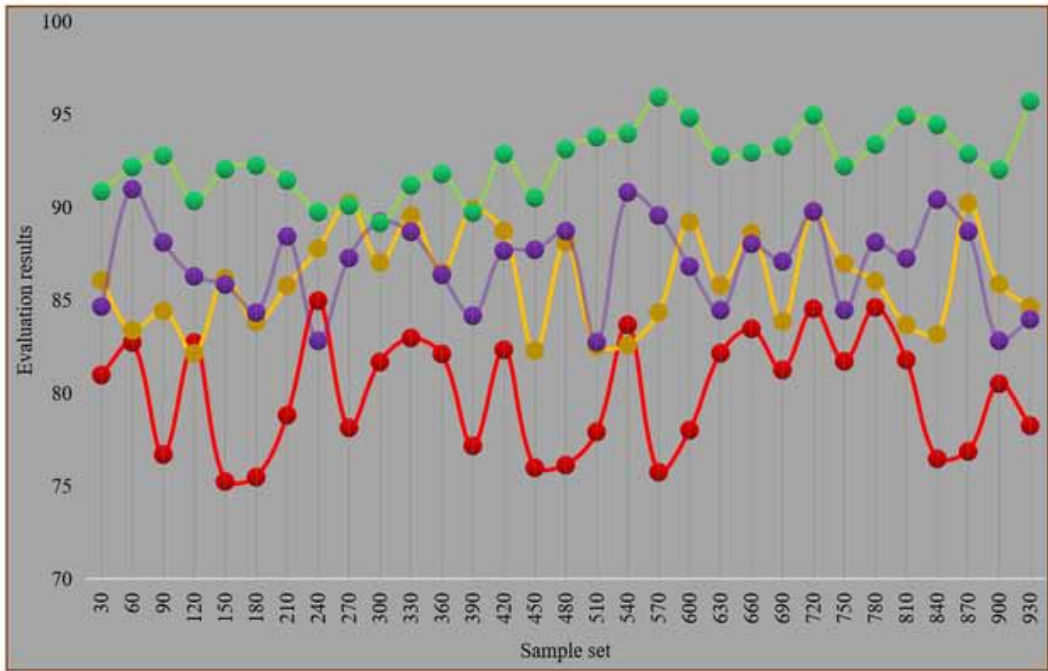


Figure 5. Statistical stability of the model



of the ideology course. The assessment results in the test sample data are predicted by different algorithms. The comparison results are shown in Figure 6.

Figure 6. Comparison between prediction results of different network models and actual results



After repeated experiments, the maximum quantity of iterations is set to 100, and the accuracy is set to 0.00001. When the learning times reach the maximum quantity of iterations or the error reaches the preset accuracy, the training will be stopped. In addition, this paper divides the output of the assessment model into three intervals (the interval with good validity, the interval with medium validity, and the interval with poor validity), compares the output value of the assessment model actually calculated to see which interval it matches, and gives the corresponding quality result assessment. Error comparison based on several different algorithm models is shown in Table 2.

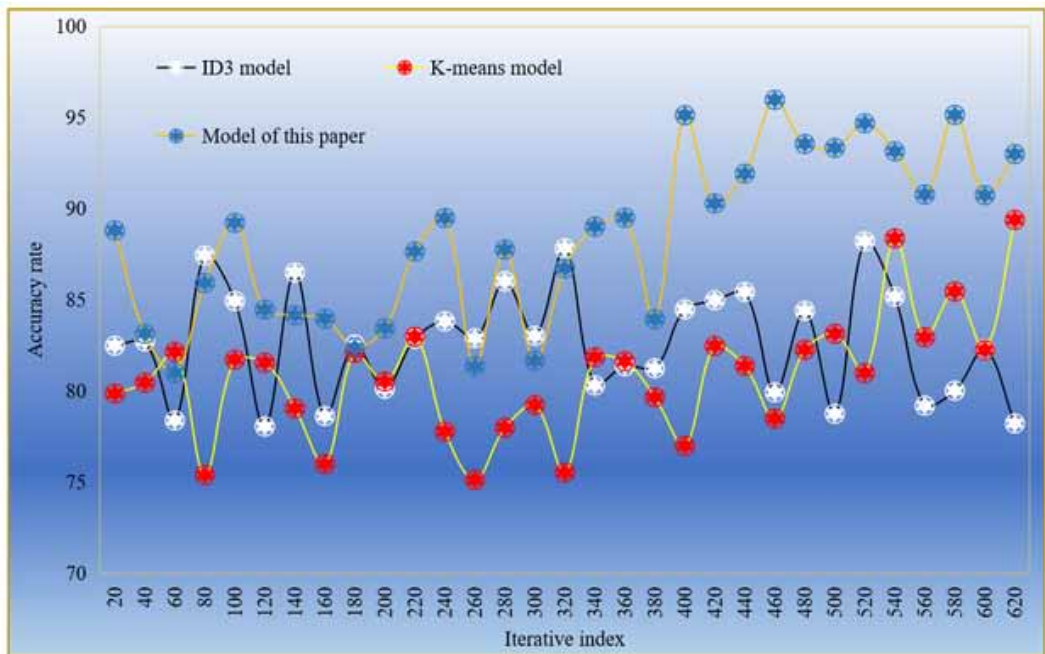
In this paper, NN method is used to quantitatively evaluate the instructional level of ideological theory courses in universities, and the assessment model is trained with the results, so as to establish a model for analyzing and evaluating the instructional level of IPECU. The comparison results of accuracy of several different models are shown in Figure 7.

In this section, MATLAB is used for simulation and comparative analysis. The final experiment shows that the RMSE of this algorithm is 0.512, MAE is 1.089, and the accuracy of the algorithm is 0.958. This result verifies the validity of this method, and it can be completely applied to the assessment of IPE quality in universities.

Table 2. Error comparison of several algorithm models

Algorithm	RMSE	MAE	Precision
ID3 algorithm	0.702	1.213	0.889
K-means algorithm	0.672	1.194	0.847
Algorithm in this paper	0.512	1.089	0.958

Figure 7. Accuracy results of the model



## CONCLUSION

The talents really needed by the current social development not only need to master scientific and cultural knowledge and professional skills, but also have lofty ideals and beliefs and a healthy psychological state. Therefore, giving full play to the role of psychological fitness education in IPE can make the two educations learn from each other's strengths and complement their own weaknesses. It not only improves the content of traditional IPE, optimizes educational methods, and innovates educational means, but also implements the goal of cultivating all-round university students. This paper discusses the relationship between IPE and psychological fitness education in university teaching.

Analyzing the shortcomings of IPE in the new period, this paper expounds the necessity and feasibility of assessing the role of psychological fitness education in IPE. Based on this, this paper proposes the strategy of infiltrating psychological fitness education into IPE. This study attempts to use NN modeling to evaluate the quality of IPE. Finally, MATLAB is used for simulation and comparative analysis. Experimental results show that the RMSE of this algorithm is 0.512, MAE is 1.089, and the accuracy of the algorithm is 0.958. This result verifies the validity of this method, and it can be completely applied to the assessment of IPE quality in universities. This article further explores the integration strategy of psychological fitness education into IPE and optimizes the assessment model of IPE quality in universities.

## DATA AVAILABILITY

The figures and tables used to support the findings of this study are included in the article.

## CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

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## REFERENCES

- Albright, J. N., & Hurd, N. M. (2018). Constellations of social support among underrepresented college students: Associations with mental health. *Applied Developmental Science*, 22(4), 258–269. doi:10.1080/10888691.2017.1287568
- Babb, S. J., Rufino, K. A., & Johnson, R. M. (2022). Assessing the effects of the COVID-19 pandemic on nontraditional students' mental health and well-being. *Adult Education Quarterly*, 72(2), 140–157. doi:10.1177/07417136211027508 PMID:35520881
- Du, Y. (2017). The development of ideological and political education information platform based on web technology. *CE Ca*, 42(4), 1530–1536.
- Galey, S. (2015). Education politics and policy: Emerging institutions, interests, and ideas. *Policy Studies Journal: the Journal of the Policy Studies Organization*, 43(S1), S12–S39. doi:10.1111/psj.12100
- Gociman, C. O., Florescu, T., Moscu, C. I., & Girneata, M. (2018). Urban aggression by ideological, political and economic strain-anthropic hazards. *Procedia Engineering*, 212, 1155–1162. doi:10.1016/j.proeng.2018.01.149
- Jiang, Y., Zhang, J., & Chen, C. (2018). Research on a new teaching quality evaluation method based on improved fuzzy neural network for college English. *International Journal of Continuing Engineering Education and Lifelong Learning*, 28(3–4), 293–309. doi:10.1504/IJCEELL.2018.098072
- Johnson, M. D., Narayanan, A., & Sawaya, W. J. (2013). Effects of course and instructor characteristics on student evaluation of teaching across a college of engineering. *Journal of Engineering Education*, 102(2), 289–318. doi:10.1002/jee.20013
- Lin, Q., Zhu, Y., Zhang, S., Shi, P., Guo, Q., & Niu, Z. (2019). Lexical based automated teaching evaluation via students' short reviews. *Computer Applications in Engineering Education*, 27(1), 194–205. doi:10.1002/cae.22068
- Liu, X., Xiantong, Z., & Starkey, H. (2021). Ideological and political education in Chinese universities: Structures and practices. *Asia Pacific Journal of Education*, 1–13.
- Ma, F. (2017). Research on the application model of university's ideological and political education means based on the new media environment. *Revista de la Facultad de Ingeniería*, 32(15), 428–432.
- Osborne, D., & Sibley, C. G. (2015). Within the limits of civic training: Education moderates the relationship between openness and political attitudes. *Political Psychology*, 36(3), 295–313. doi:10.1111/pops.12070
- Richardson, J., Grose, J., Doman, M., & Kelsey, J. (2014). The use of evidence-informed sustainability scenarios in the nursing curriculum: Development and evaluation of teaching methods. *Nurse Education Today*, 34(4), 490–493. doi:10.1016/j.nedt.2013.07.007 PMID:23948087
- Suldo, S. M., Thalji-Raitano, A., Kiefer, S. M., & Ferron, J. M. (2016). Conceptualizing high school students' mental health through a dual-factor model. *School Psychology Review*, 45(4), 434–457. doi:10.17105/SPR45-4.434-457
- Sun, X., Wang, Z. J., Li, Y. Y., Chan, K. Q., Miao, X. Y., Zhao, S., Wu, Y.-Q., Li, Z., & Wu, B. M. (2022). Trends of college students' mental health from 2005 to 2019 and its rural-urban disparities in China. *Journal of Affective Disorders*, 302, 160–169. doi:10.1016/j.jad.2022.01.042 PMID:35033592
- Tsamakis, K., Toumanidis, S., Nikiteas, N., & Sfikakis, P. P. (2014). Personal characteristics may affect evaluation of teaching: A prospective study in medical students. *Medical Teacher*, 36(1), 86–86. doi:10.3109/0142159X.2013.789840 PMID:23631404
- Villanueva, K. A., Brown, S. A., Pitterson, N. P., Hurwitz, D. S., & Sitomer, A. (2017). Teaching evaluation practices in engineering programs: Current approaches and usefulness. *International Journal of Engineering Education*, 33(4), 1317–1334.
- Wang, S. (2017). Construction of mobile teaching platform for the ideological and political education course based on the multimedia technology. *International Journal of Emerging Technologies in Learning*, 12(9), 156. doi:10.3991/ijet.v12i09.7496
- Wang, T., & Park, J. (2021). Design and implementation of intelligent sports training system for college students' mental health education. *Frontiers in Psychology*, 12, 634978. doi:10.3389/fpsyg.2021.634978 PMID:33897543

Yang, D., Lu, D., & Dong, J. (2017). Research on the ideological education of college students based on multimedia technology and cloud service platform. *Revista de la Facultad de Ingeniería*, 32(1), 504–510.

Zhen, C. (2021). Using big data fuzzy K-means clustering and information fusion algorithm in English teaching ability evaluation. *Complexity*, 2021, 1–9. doi:10.1155/2021/5554444

Zhu, G., Zhu, G., & Zhang, J. (2021). Computer simulation of ideological and political teaching under big data of complexity. *Complexity*, 2021, 1–13. doi:10.1155/2021/9941592

Zhu, W. (2017). A new method for college students' ideological and political education mode and structure design based on network cloud platform. *Boletin Tecnico/Technical Bulletin*, 55(18), 540-548.

Zhu, Y., Lu, H., Qiu, P., Shi, K., Chambua, J., & Niu, Z. (2020). Heterogeneous teaching evaluation network based offline course recommendation with graph learning and tensor factorization. *Neurocomputing*, 415, 84–95. doi:10.1016/j.neucom.2020.07.064