

Application of Subjective and Objective Empowerment in Evaluation of ideological and political Distance Learning Online Teaching

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Abstract

INTRODUCTION: Distance network teaching has been widely used in today's informationization era, and it also provides a new teaching mode for ideological and political education. However, evaluating the quality of ideological and political distance network teaching still needs to be solved.

OBJECTIVES: To solve the problem of subjective solid dependence in its evaluation, the hierarchical analysis method and entropy weighting method are used to calculate the subjective and objective weights, and the principle of minimum information identification is used to determine the optimal comprehensive consequences of the indicators, taking into account the absolute subjectivity and absolute objectivity brought about by the calculation method of the weights of the hands.

METHODS: Considering the incompatibility of grade determination in the evaluation results, the evaluation grade determination of Civics remote network teaching is completed through the table evaluation model, and the table evaluation model of Civics remote network teaching based on the principle of minimum information discrimination with combined weights is finally established, and the application of the model is carried out.

RESULTS: The evaluation model is simple and practical and improves the efficiency and operability of comprehensive evaluation.

CONCLUSION: Civics remote network teaching will further broaden the sharing and dissemination channels of educational resources and needs to improve the quality and effect of education continuously, and the study has a good application prospect for the evaluation of Civics remote network teaching.

Keywords: distance online teaching, ideological and political education, teaching evaluation, portfolio empowerment, topological theory

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1 Introduction

With the rapid development of information technology and the popularization of the Internet, distance network teaching has become a hot spot and trend in today's

education field. Distance network teaching connects teachers and students through network platforms and tools, realizing the sharing of educational resources and remote collaboration of teaching activities (Steggerda et al., 2023). As an essential part of ideological and moral education in colleges and universities, ideological and political theory courses are also gradually introduced into

distance network teaching(Lv et al., 2022). The application of remote network teaching in ideological and political theory classes is of great significance in promoting the improvement of students' ideological and political quality and cultivating their ideological and moral literacy.

However, compared with traditional face-to-face teaching, there are still some problems and challenges in distance online teaching. For example, how teachers prepare and deliver teaching resources, how to guide students to learn and think independently, how students can effectively participate in the classroom, interact and cooperate with teachers and classmates in a remote environment, and the technical support and stability of the remote network teaching platform, which also represents an evaluation study of Civics remote network teaching, which can understand the cognition and attitude of students and teachers towards remote network teaching, explore the impact of remote network teaching on students' ideological and political quality, and put forward strategies and methods to improve remote network teaching, to promote the optimization and development of Civics remote network teaching.

At the same time, this paper considers that with the continuous development and popularization of network technology, Civics remote network teaching will gradually become one of the primary forms of Civics education. In the future, Civics remote network teaching will further broaden the sharing and dissemination of educational resources and need to continuously improve the quality and effectiveness of teaching (Cui, 2023). Secondly, the rapid development brought about by the epidemic shows that the influence of Civics distance network teaching on students is increasing, providing a more accessible and flexible way of learning so that students can better manage their learning time and learning progress. In addition, multimedia technology will also make Civics education more vivid and stimulate students' interest in learning. The diversity brought about by network teaching promotes cultivating students' cooperative learning and communication abilities and enhances students' teamwork ability. The lack of knowledge brought about by the development of society and the frequent emergence of various phenomena in society have also proved the need to adopt the Civics remote network teaching to strengthen the cultivation of students' Civics literacy, which can provide educational resources with Civics characteristics through the network teaching platform to enrich the students' Civics knowledge; with the help of the network platform, the students can participate in a variety of Civic and political practical activities to improve Civic and political literacy and social responsibility, and through the interactive and personalized characteristics of network teaching, cultivate the students' Civics literacy and social responsibility, as well as to enhance their social responsibility(Zhang et al., 2022). Through the interactive and personalized characteristics of online teaching, students' critical thinking and innovation ability are cultivated.

In summary, the evaluation and research of Civic and Political Distance Network Teaching is of great significance. By evaluating the popularization and development of Civic and Political Distance Network Teaching, people can understand the current situation and prospect of its application in different fields; at the same time, the research on the impact of Civic and Political Distance Network Teaching on the comprehensive quality and Civic and Political Literacy of the students can help to guide and improve the practice of Civic and Political Education(Le & Nguyen, 2021). This paper hopes that through continuous evaluation and research, the quality and effect of Civic and Political Distance Network Teaching can be further improved, contributing to the cultivation of socialist builders and successors with all-around development of morality, intelligence, physicality, aesthetics, and labor.

There are relatively more studies on evaluating distance network teaching at home and abroad, but there are few studies on assessing distance network teaching in Civic and Political Theory Courses (Sumino, 2021). Therefore, in-depth research on the evaluation of distance network teaching of Civics and Politics is of great significance to promote the reform of ideological and political theory courses and improve the quality of education.

In this paper, to solve the indicator weights favoring subjectivity or objectivity in the current teaching evaluation and to realize the balance of subjective and objective consequences of evaluation indicators, it was finally determined that the AHP method and the entropy weight method were used to get the weights. The combination of the assignments was completed using the minimum information identification principle (Yuan, 2021). In this way, not only can the subjective and objective weights be considered comprehensively, but it also can make the indicator assignment more scientific and practical.

In addition, given that the evaluation of online teaching includes teachers, students, Internet, equipment, etc., which covers a wide range of topics, this paper adopts the object element topological evaluation method to study the results of online teaching in Civics and Political Science courses(Sheppard, 2022). Using the means of system object element matrix transformation and correlation equation calculation, people transform the mutual influence and independent research problems of teachers, students, and resources into compatible problems(Sato et al., 2021). Finally, through the example analysis, people verify the effectiveness of our object element stoppable evaluation model based on subjective and objective empowerment-information fusion.

2 Weight Optimization for the Minimum Information Discriminatory Principle

2.1 Evaluation System Construction of Civics Distance Online Teaching

The first step to the reliability of the evaluation results is to construct a practical evaluation index system. The selected indicators must cover all the contents as far as possible, for this paper must respond to the teachers, students, teaching, resources, etc., and the indicators should be available through the teacher review, peer review, student review, and other ways (Kim & Moon, 2022). This paper focuses on the contribution of the evaluation indicators and the reliability of the data, and under the principle of systematic science, based on the relevant research, selects five factor-level indicators while constructing several secondary indicators under the factor-level hands, and ultimately makes the Civics Remote Network Teaching Evaluation System as shown in the figure below.

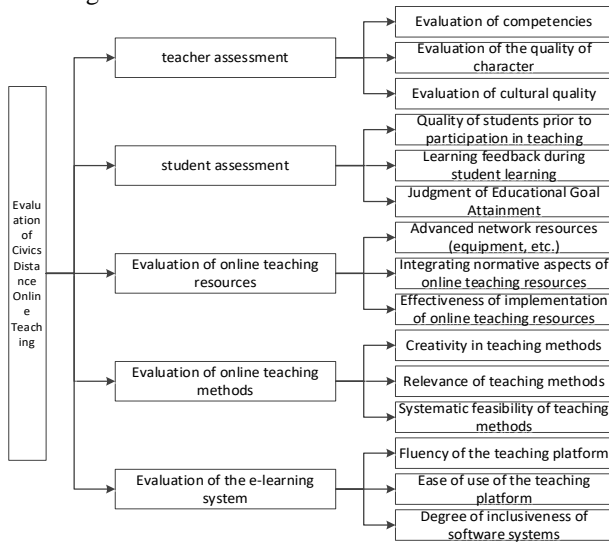


Figure 1 Evaluation system of Civics distance online teaching

2.2 Subjective and objective empowerment

2.2.1 AHP method

The traditional AHP method uses a scale of 1 to 9, which is perceptually pleasing, computationally simple, and widely applicable.

The subjective weights in this paper are determined using the 9-scale hierarchical analysis method, and the calculation steps are shown below.

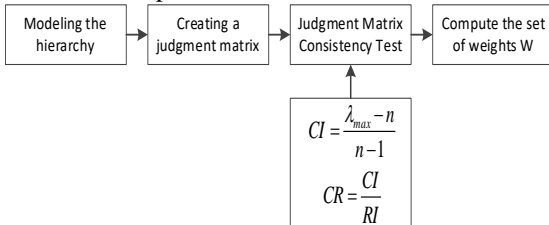


Figure 2 AHP calculation diagram

The calculated subjective weight is denoted as α_i , as shown in the following equation:

$$\alpha_i = (\alpha_1 \cdots \alpha_n) \quad (1)$$

In Equation(1): α_n -Indicator weights.

2.2.2 Entropy weight method of objective empowerment

Considering that the data acquired from the indicator system in this paper are all actual data of the indicators, the objective assignment method-entropy weight method is adopted. Entropy is a thermodynamic unit; information entropy is defined in mathematics as the expectation of the information contained in the event (Solazzi, 2022). For the evaluation indicators, the entropy value represents the degree of dispersion of the indicator data, which usually shows an inverse relationship, i.e., the smaller the entropy value, the greater the degree of distribution, which indicates that the influence of the indicator on the comprehensive evaluation (i.e., the weight) is excellent.

The main calculation steps are shown below:

(1) Data standardization

In this paper, people consider the perceptual nature of the indicator data and the convenient nature of the data calculation and believe that. Generally, each indicator is of a different order of magnitude and needs to be reduced to the same range before comparison. There are m objects to be evaluated and n evaluation indicators, which can form a data matrix $X = (x_{ij})_{m \times n}$. Let the elements within the data matrix x_{ij} . After the indicator normalization and standardization of the elements of the data matrix is x'_{ij} . The elements of the data matrix after the forwarding and standardization of the indicators are

If x_j It is a negative indicator (more minor and more severe type). The treatment is as follows:

$$x'_{ij} = \frac{\max(x_j) - x_{ij}}{\max(x_j) - \min(x_j)} \quad (2)$$

If X is a positive indicator (more extensive and more severe type). The treatment is as follows:

$$x'_{ij} = \frac{x_{ij} - \min(x_j)}{\max(x_j) - \min(x_j)} \quad (3)$$

Where: $\max(x_j)$ -Maximum value of indicator data after normalization;

$\min(x_j)$ -Minimum value of indicator data after normalization.

(2) Calculating information entropy

For any evaluation metric, the information entropy is denoted as

$$E_j = -\frac{1}{\ln m} \sum_{i=1}^m p_{ij} \ln p_{ij} \quad (4)$$

In Equation (4) : p_{ij} -Intermediate value when calculating information entropy.

(3) Calculation of objective weights β_i

$$\beta_i = \frac{1 - E_j}{\sum_{j=1}^n (1 - E_j)} \quad (5)$$

2.2.3 Minimum Discriminative Information Principle Combinatorial Empowerment

Currently, the method of fusing subjective and objective weights has a certain degree of subjectivity when considering the fusion coefficient. To solve this problem, this paper adopts the principle of minimum discriminative information to obtain the integrated weights by solving the optimization equation, as shown in the equation. (6). This method can effectively deal with the subjectivity factor and provide reliable weight values.

The combination assignment method of the minimum information identification principle is a method to obtain more reasonable indicator weights through the regulation of information fusion, which has good applicability to subjective indicator importance and objective indicator importance law. It can coordinate the existing information conflict between different methods and find the balance point between them to achieve the combined weights after information fusion(Khtere & Yousef, 2021). The principle of minimum information identification can fuse subjective decision-making and the intrinsic distribution of objective data, which has a specific improvement in the reasonable applicability of the weights of the indicators of the evaluation system.

$$\begin{cases} \min J(\omega) = \sum_{i=1}^n \left(\omega_i \ln \frac{\omega_i}{\alpha_i} + \omega_i \ln \frac{\omega_i}{\beta_i} \right) \\ \text{s.t.} \sum_{i=1}^n \omega_i = 1 \quad \omega_i \geq 0 \quad i = 1 \cdots n \end{cases} \quad (6)$$

Equation: $\min J(\omega)$ -Minimum information fusion value;
s.t.-Constrained mathematical solution conditions.
Solving the above equation yields a composite weight. ω_i
For:

$$\omega_i = \frac{\sqrt{\alpha_i \beta_i}}{\sum_{j=1}^n \sqrt{\alpha_j \beta_j}} \quad (7)$$

The combined weight vector is $\omega_i = [\omega_1, \omega_2, \dots, \omega_n]^T$.

3 Quality Evaluation of Civics Distance Online Teaching Based on Subjective and Objective Empowerment of Objective and Material Meta-Topological Models

The objective topological evaluation model can quantitatively represent the results and transform the multi-objective decision-making problem into a single-objective decision-making problem(David Andrés González et al., 2022). This paper aims to evaluate the quality level of Civics remote network teaching. The model can not only fully consider the grade uncertainty of index data and the ambiguity of grading boundaries in the evaluation system but also reflect the degree of bias for the evaluation level with the help of the unique grade eigenvalues of the evaluation model and based on the grade eigenvalues, it can be used to make a judgment on the trend of change and analyze the future development direction of the evaluation subject and the main direction

of improvement(Zou et al., 2021). The evaluation model can be used to analyze the future development direction of the evaluation subject and the main improvement direction(Gke et al., 2021).

In this paper, the optimized weights of the minimum information identification principle are combined with the topological object element evaluation method, which is used to improve the scientificity of the evaluation results(Huang et al., 2021). The computational process of the table object element model is as follows, which generally includes five steps:

(1) Determination of the amount of material to be evaluated

This paper aims to determine the evaluation level of Civics distance online teaching. Then, the object to be evaluated is the selected object of study. The object to be evaluated consists of three elements of the object element, denoted as $R = (N, C, V)$, i.e., the thing N has n features. N feature elements can characterize the thing $(C_1, \dots, C_2, \dots, C_n)$ and their corresponding quantitative values $(V_1, \dots, V_2, \dots, V_n)$ description. The matrix of elements to be evaluated is determined based on the indicators and their quantitative values.

$$R_i = \begin{bmatrix} N_i & C_{i1} & V_{i1} \\ & C_{i2} & V_{i2} \\ & \vdots & \vdots \\ & C_{ik} & V_{ik} \end{bmatrix} \quad (8)$$

In equation(8): N_i --Research subject;
 C_{ik} -All indicators in the indicator system;
The quantitative value of each evaluation indicator.

(2) Constructing the classical domain of evaluation indicators

The following equation shows that the classical domain can be expressed through all the indicator grading criteria.

$$R_v = \begin{bmatrix} N_v & C_{1v} & V_{1v} \\ & C_{2v} & V_{2v} \\ & \vdots & \vdots \\ & C_{nv} & V_{nv} \end{bmatrix} = \begin{bmatrix} N_v & C_{1v} & (a_{1v}, b_{1v}) \\ & C_{2v} & (a_{2v}, b_{2v}) \\ & \vdots & \vdots \\ & C_{nv} & (a_{nv}, b_{nv}) \end{bmatrix} \quad (9)$$

In the equation: N_v --the evaluation level;
 C_{iv} --this indicator is at the first evaluation level;
 a_{iv}, b_{iv} --The upper and lower limits of the value range of the evaluation indicator.

(3) Establishment of section domain object elements for evaluation indicators

The upper and lower boundaries of the value domain of a given evaluation indicator constitute the section domain unit; see the following equation.

$$R_p = \begin{bmatrix} N_p & C_{p1} & V_{p1} \\ & C_{p2} & V_{p2} \\ & \vdots & \vdots \\ & C_{pn} & V_{pn} \end{bmatrix} = \begin{bmatrix} N_p & C_{p1} & (a_{p1}, b_{p1}) \\ & C_{p2} & (a_{p2}, b_{p2}) \\ & \vdots & \vdots \\ & C_{pn} & (a_{pn}, b_{pn}) \end{bmatrix} \quad (10)$$

In the equation: a_{pn}, b_{pn} -- Range of values for evaluation indicators.

(4) Single-indicator correlation

The correlation function of the object theory depends on the table distance and the place value, both of which are used to describe the place value relationship between points and intervals and intervals and intervals, respectively, and the single indicator correlation is obtained by calculating the correlation function on the real axis.

Point v_i and the interval $V_{ij} = \langle a_{ij}, b_{ij} \rangle$ The distance is defined as

$$\rho(v_{ij}, V_i) = \left| v_{ij} - \frac{a_{ij} + b_{ij}}{2} \right| - \frac{b_{ij} - a_{ij}}{2} \quad (11)$$

Similarly, the point v_i is at a distance from the interval $V_{pj} = \langle a_{pj}, b_{pj} \rangle$. The distance between the point and the interval is

$$\rho(v_{ij}, V_p) = \left| v_{ij} - \frac{a_{pj} + b_{pj}}{2} \right| - \frac{b_{pj} - a_{pj}}{2} \quad (12)$$

Then, the single-indicator correlation function equation can be expressed as

$$k_v(N_{ij}) = \begin{cases} \frac{\rho(v_{ij}, V_v)}{\rho(v_{ij}, V_p) - \rho(v_{ij}, V_i)}, & \rho(v_{ij}, V_p) \neq \rho(v_{ij}, V_i) \\ -\rho(v_{ij}, V_v) - 1, & \rho(v_{ij}, V_p) = \rho(v_{ij}, V_i) \end{cases} \quad (13)$$

In the equation: $k_v(N_{ij})$ - - Evaluation indicators in the object to be evaluated concerning the evaluation level The degree of correlation of the

(5) Calculate the overall relevance and determine the evaluation level

Subjects to be rated N_i About the ratings: The combined relevance of the $K_v(N_i)$ is calculated as follows:

$$K_v(N_i) = \sum_{i=1}^n \omega_i k_v(N_i) \quad (14)$$

In the equation: $K_v(N_i)$ --Object to be rated N_i About the grade v The combined relevance of the

$k_v(N_i)$ --Single indicator correlation;

ω_i -Weight of each evaluation indicator.

After determining the integrated correlation of the unit to be evaluated concerning rank v take $K = \max_{v=1,2,3,4} K_v(N_i)$,

the comprehensive evaluation grade of the unit to be evaluated N_i of the units to be evaluated is the comprehensive evaluation grade of level.

$$\overline{K}_v(N_i) = \frac{K_v(N_i) - \min K_v(N_i)}{\max K_v(N_i) - \min K_v(N_i)} \quad (15)$$

Calculating the eigenvalues of the rank variable of the object to be evaluated is shown in the following equation

$$i^* = \frac{\sum_{v=1}^5 i \times \overline{K}_v(N_i)}{\sum_{v=1}^5 \overline{K}_v(N_i)} \quad (16)$$

where: i Evaluation rating threshold;

The eigenvalues of the hierarchical variables of the evaluation object.

4 Example analysis

4.1 Security evaluation level

This paper's teaching quality grading standards are mainly based on the following aspects: (1) Firstly, people refer to the relevant national regulations on ideological and political construction in colleges and universities. (2) Secondly, it draws on the grading standards proposed in the relevant literature, which is not only limited to the evaluation of ideological and political courses but also on the relevant evaluation and grading methods of the rest of the network courses. (3) Finally, it communicates with and listens to the opinions of the relevant experts who teach Civics and Politics or scholars who study the Civics and Politics courses and discusses the reasonableness of the division standards and the implementation of the evaluations that can be carried out (Anita Kéri, 2021). Finally, considering the qualitative and perceptual nature of the indicators, this paper will characterize the quality of Civics remote network teaching grade divided into four levels. That is, this paper adopts a four-level evaluation level. The survey scoring grading standards are shown in Table 1. The survey includes teachers' self-assessment, students' evaluation, peer review, and review of teaching results, and the network system adopts a study of the network personnel, related staff, etc., for the survey.

Table 1 Evaluation criteria

indicator layer	Evaluation criteria			
	talented	favorable	moderate	general
value of a score	[90-100]	[75-90]	[60-75]	[0--60]
eigenvalue (math.)	4	3	2	1

4.2 Determination of indicator weights

In this paper, to determine subjective weights, several experts in the research field are consulted to rank the importance of the constructed indicators, and the emotional consequences are finally obtained through the AHP method. In this paper, considering the commonality of the evaluation of Civic and Political Remote Network Teaching, people adopt the entropy weighting method to calculate the objective weights by selecting the importance of a single index in the index system, which is to assess the significance of the indexes to the whole situation and score them as a sample for calculation, and the advantage is that people can expand the selection continuously and form an information base of the degree of importance, and people will constantly correct the degree of importance of relevant indexes in the process of the development of the society to achieve a balanced objective degree of importance; finally, people utilize the minimum information identification method to determine the subjective weights (Abdel, 2021). In the process of social development, the importance of relevant indicators is constantly revised to achieve a well-balanced objective

importance degree with good applicability; finally, the principle of minimum information identification is utilized to carry out the combination of weighting Table 2 Results of the calculation of indicator weights

calculation, and the calculation results are shown in Table 2.

Secondary indicators	Entropy weighting	Subjective weighting	Portfolio weighting
Evaluation of competencies	0.0495	0.1039	0.0739
Evaluation of the quality of character	0.0569	0.0825	0.0706
Evaluation of cultural quality	0.0549	0.0655	0.0618
Quality of students before participation in teaching	0.0531	0.0707	0.0631
Learning feedback during student learning	0.0483	0.0309	0.0398
Judgment of Educational Goal Attainment	0.1293	0.0809	0.1054
Advanced network resources (equipment, etc.)	0.0484	0.0686	0.0594
Integrating normative aspects of online teaching resources	0.0488	0.0378	0.0443
Effectiveness of implementation of online teaching resources	0.0481	0.0208	0.0326
Creativity in teaching methods	0.0815	0.1167	0.1006
Relevance of teaching methods	0.0661	0.1167	0.0905
Systematic feasibility of teaching methods	0.0902	0.0389	0.0611
Fluency of the teaching platform	0.0815	0.0830	0.0848
Ease of use of the teaching platform	0.0842	0.0415	0.0609
Degree of inclusiveness of software systems	0.0592	0.0415	0.0511

4.3 Topologizable Evaluation

Eventually, this paper chooses a remote Civics course implementation, for example, verification, and the subjective and objective combination of the first level indicator teacher evaluation as an example of the personal and objective combination of empowerment - Expandable Object Element Model evaluation, in which the classical domain has been proposed in the previous section, see Table 1 in the last quarter, and now an example of constructing the object to be evaluated and the sectional domains of the object of the study.

According to the constructed classical domain, section domain, and indicators to be evaluated according to equation (11)-equation (13) for the calculation of single-indicator correlation, based on the weights calculated above, according to equation (14) to calculate the first-level indicator level correlation and comprehensive correlation, to obtain the correlation of the research object for the entire indicator system is shown in the table below.

Table 3 Results of hierarchical correlation calculations

Secondary indicators	talented	favorable	moderate	general	Maximum affiliation
Evaluation of competencies	-0.2872	0.3250	-0.1625	-0.4417	0.3250
Evaluation of the quality of character	-0.2820	0.0788	-0.0325	-0.3550	0.0788
Evaluation of cultural quality	-0.4000	0.2000	-0.1000	-0.3077	0.2000
Quality of students before participation in teaching	-0.2685	0.4200	-0.2100	-0.4733	0.4200
Learning feedback during student learning	0.0000	0.0000	-0.4000	-0.5714	0.0000
Judgment of Educational Goal Attainment	-0.3750	-0.1667	0.5000	-0.1667	0.5000
Advanced network resources (equipment, etc.)	0.1600	-0.1600	-0.4000	-0.4750	0.1600
Integrating normative aspects of online teaching resources	0.1000	-0.1000	-0.3571	-0.4375	0.1000
Effectiveness of implementation of online teaching resources	0.1429	-0.8571	-0.9091	-0.9231	0.1429
Creativity in teaching methods	0.2000	-0.2000	-0.5200	-0.6571	0.2000
Relevance of teaching methods	-0.5000	0.3333	-0.2857	-0.1667	0.3333
Systematic feasibility of teaching methods	-0.3077	0.4000	-0.1429	-0.1000	0.4000
Fluency of the teaching platform	-0.3906	0.2413	-0.1217	-0.3035	0.2413
Ease of use of the teaching platform	-0.3438	0.0333	-0.0455	-0.2222	0.0333
Degree of inclusiveness of the software system	0.0000	0.0000	-0.5000	-0.7500	0.0000
teacher assessment	-0.3192	0.2033	-0.0993	-0.3719	0.2033
student assessment	-0.2711	0.0429	0.1129	-0.3369	0.1129
Evaluation of online teaching methods	-0.1743	0.1368	-0.3445	-0.3461	0.1368
Evaluation of online teaching resources	0.1364	-0.3072	-0.5078	-0.5700	0.1364

Evaluation of the e-learning system	-0.2747	0.1143	-0.1963	-0.3942	0.1143
Evaluation of Civics Distance Online Teaching	-0.2017	0.0660	-0.1917	-0.3895	0.0660

Single-indicator indicator affiliation grade can be seen through the single-indicator correlation. It can be seen that the network resources are defined as excellent grade, which indicates that the development of the Internet at this stage to keep up with the needs of network education, the equipment is advanced enough, the use of the process is standardized, in line with the requirements of the public. At the same time, the teaching platform and teaching network resources are closely related. There is some room for improvement in the convenience and smoothness of its platform, which indicates that the teaching and learning network experience of the teaching and learning of the audience should be considered to avoid the problems caused by the picture quality and sound quality(Chih-Hung et al., 2022). There is room for improvement in the judgment of the achievement of teaching objectives, and there are some limitations in considering the classroom task assessment brought about by remote, etc. Therefore, it is necessary to strengthen the classroom interaction, constantly decompose the teaching objectives, refine the teaching objectives, and consider appropriately reducing the number of teaching objectives to improve the teaching effect.

According to the correlation of the first-level indicators, it can be seen that the evaluation grades of teachers' evaluation, students' evaluation, evaluation of network Table 4 Characteristic values of the study population classes

norm	Grade eigenvalue
teacher assessment	2.7558
student assessment	2.5712
Evaluation of online teaching methods	3.2595
Evaluation of online teaching resources	3.6247
Evaluation of the e-learning system	2.9050
Evaluation of Civics Distance Online Teaching	2.9881

Table 4 will be analyzed, and it can be seen that the overall evaluation value is between medium and sound and entirely close to good; according to Table 3, it can be seen that the general assessment result is good, which indicates that the development trend is healthy, considering that the audience of network teaching is students, the correlation of students' evaluation is medium. However, the calculation result of its grade eigenvalue is 2.5712, which is between medium and sound and is inclined to sound. This indicates that the network Civic and Political Science Course is developing continuously and benignly; student recognition and teaching effects are improving. It also shows that improving teaching methods and other means can enhance student learning. The teaching objectives should be improved according to the actual situation to strengthen the network Civics teaching quality further. Considering that the leading person in network Civics teaching is the teacher, the teacher should learn more, explore more, and learn to apply multimedia images, digital teaching tools, etc., to carry out diversified teaching instead of purely conceptual exposition, PPT demonstration appropriate

teaching methods, evaluation of network teaching resources, evaluation of network teaching system in the implementation of remote Civics courses of the research object belong to good, medium, good, excellent, sound, and the overall evaluation is good. Student evaluation results are medium, reflecting the educational resources, network resources have reached a certain level, the student gain there is a lack of situation, the network-related considerations for hardware factors, improve the degree of theoretical with the campus investment, scientific and technological development constraints, so the focus should be on the teacher to make classroom adaptive improvements to improve the quality of teaching, teaching, targeted to make the teaching, the teacher should be done to teach back to visit the reasons for low student gains will be summarized. Teachers should make teaching visits to outline the reasons for students' low incomes. At the same time, considering the continuous development of network teaching, teachers should actively carry out learning exchanges among themselves, and network teaching will also get benign growth.

The meta-evaluation of the table object proposes the concept of rank bias, so this paper calculates the rank eigenvalues of the research object according to Equation (15) and Equation (16), as shown in Table 4.

teaching activities, student-oriented classroom demonstration can be carried out. In addition, the network of network teaching is the basis of education; to continuously optimize network resources, the school should continue to develop and keep pace with social progress. At present, the network of book resources, video resources, and other resources also need to be continuously integrated and optimized into the network teaching platform so that it develops into a comprehensive and convenient learning platform to deepen the ideological and political awareness of the audience of students. Considering that the evaluation of remote network teaching of ideology and politics is multi-faceted, it is necessary to continue to prove that the indicators should be refined and expanded. The unique ideological and political content should be developed to promote the evaluation of remote network teaching of ideology and politics to build benignly and improve the audience's ideological and political concepts as the ultimate direction of efforts.

Through the above evaluation, physical meta-evaluation can provide a reference for the development trend of

implementing the remote Civics class of the research object. By analyzing the grade eigenvalues of the teaching quality of the remote Civics course of the research object, people can intuitively observe the degree of bias for the neighboring quality grades and analyze the first-level indexes in line with the development law of the present society and network. People can see that the adoption of the grade eigenvalues of the object evaluation can clearly and intuitively determine the state of the quality of the Civic and political distance network teaching quality for the degree of bias for the adjacent two grades and provide decision support for the targeted transformation to improve the quality of the distance network teaching of Civic and political. It can support decision-making for the targeted adaptation of Civics and Politics remote network teaching quality improvement.

5 Conclusion

In this paper, based on the theory of combinatorial empowerment and topological object elements, a quality evaluation model of Civics distance network teaching is established with careful consideration of hierarchical analysis concept and fuzziness, and model examples are verified, with the main contents as follows.

(1) According to the relevant regulations and research content, this paper establishes the Civics remote network teaching quality evaluation index system, based on the calculation of subjective and objective weights, puts forward the weight combination model of information fusion - the principle of minimum information identification, and adopts the information fusion for the scientific evaluation of the indexes to provide a reference to the degree of importance.

(2) Civic and political distance network teaching quality evaluation grades can be obtained through the rank correlation. The table object element evaluation can determine it. In contrast, the grade eigenvalue obtained from the calculation can determine the degree of Civic and political distance network teaching quality bias towards the two adjacent grades. The example application of the evaluation model proves the applicability of the base subjective and objective weights - information fusion weights and the table model in the evaluation of Civics distance network teaching, which can provide theoretical support for the developmental ordering of diversified Civics distance network teaching evaluation and the developmental sequence of the quality of Civics distance network teaching over the years of single-member education.

(3) The results of the example study show that after subjective and objective weighting, the evaluation method can objectively and accurately evaluate the quality of Civics distance network teaching. The evaluation results also become more comprehensive and accurate by calculating subjective and objective weights. At the same time, the method can also reflect the importance of different evaluation indicators and the overall

development trend, providing a basis for improving the quality of teaching.

Based on the above research results, this paper puts forward some suggestions. First, schools and teachers should pay attention to the quality evaluation of Civics distance network teaching, establish a perfect evaluation system, and use subjective and objective assessment methods. Secondly, teachers should pay attention to the weight distribution of evaluation indexes, adjust teaching strategies and techniques in time, and improve teaching effect. Finally, researchers should continue to study the application of subjective and objective empowerment methods in evaluating Civics distance network teaching, improve the evaluation model, and improve the evaluation effect. Schools should also focus on the professionalization and support of teachers in future Civics distance network teaching, cultivate teachers' network teaching skills and knowledge of educational theories, provide teacher training and teaching resource support, and improve teachers' teaching level and quality.

In summary, this paper evaluates the Civics distance network teaching through subjective and objective empowerment methods and draws corresponding conclusions and recommendations. This provides a new way to assess Civics distance network teaching quality and a reference for improving the effectiveness of Civics teaching.

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