

Study on Evaluation of Execution Capability Based on Artificial Intelligence CIPP Model: A Case Study from Henan Agricultural University

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Abstract

INTRODUCTION: The rapid change in artificial intelligence has evaluated ideological and political education ability in colleges and universities as a significant challenge.

OBJECTIVES: To assess the level of competence of universities in ideological and political education to determine the effectiveness and efficacy of educational programs and to provide a basis for improving and upgrading academic competence.

METHODS: Based on the CIPP model, the author constructed an index system and selected a suitable evaluation model to conduct a study on the evaluation of ideological and political competence of colleges and universities in the context of Artificial Intelligence, which helps to understand the background conditions, resource allocation, teaching activities and quality of teaching of educational programs, as well as the level of ideological and political literacy of the students and their achievements.

RESULTS: The evaluation results show that this kind of evaluation research helps to improve and enhance the capacity of ideological and political education in colleges and universities, and at the same time, it can dig into the implementation effect of the educational program, find problems and shortcomings, and promote the continuous improvement of the educational program.

CONCLUSION: Through evaluation, the quality and level of ideological and political education in colleges and universities can improve students' ideological and political literacy and sense of social responsibility. In addition, based on this, it makes the development of ideological and political ability in colleges and universities can be better adapted to the era of artificial intelligence.

Keywords: artificial intelligence, university ideology and politics, evaluation, competence level, CIPP model

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1 Introduction

The purpose of evaluating the competence of AI ideological and political education in colleges and universities is to assess the competence and level of college and university teachers in AI ideological and political education to promote teachers' professional development and improve the quality of education. Artificial intelligence has become an essential tool for

modern education, and evaluating teachers' ability to apply AI technology can help understand teachers' ability to utilize AI for teaching, educational resources development, and innovative educational models by evaluating teachers' mastery of knowledge and theories related to ideological and political education on AI, teachers' professionalism and academic attainments in the field can be understood, which can provide a reference basis for further educational reforms and teacher training

to provide a reference basis. At the same time, AI ideological and political education is a practical and hands-on teaching work; evaluating teachers' educational and teaching ability and practical experience can understand their performance and effect in AI ideological and political education and provide references for teachers' academic and teaching improvement. In addition, AI ideological and political education requires teachers to have the correct attitude and philosophy of education, and the evaluation of teachers' performance in this regard can help understand whether they are actively involved in education and teaching and whether they pay attention to the overall development of students and value education.

Evaluating the ideological and political education capacity of colleges and universities under the development of artificial intelligence can help to understand the implementation effect and results of the education program, including the development of students' ideological and political literacy, values, sense of social responsibility, etc. Through the evaluation, it is possible to judge whether the education program has achieved the expected educational goals, thus providing a reference basis for educational reform and enhancement; through the evaluation of the ideological and political education capacity of colleges and universities, it is possible to discover the problems and shortcomings of the educational programs[1-4], for example, the teacher moral education of the faculty, the adaptability of teaching materials and methods, the degree of perfection of educational facilities, etc.[5] , through the discovery of the problems and shortcomings, suggestions and measures for improvement can be put forward to enhance the educational capacity further. Evaluation of the colleges and universities' ideological and political education capacity can promote the continuous improvement of the academic programs. Through the review of the implementation effect of the educational programs and the discovery of the problems, the direction and focus of progress can be provided for the colleges and universities. Provide guidance and focus on improvement for colleges and universities. Through continuous improvement and upgrading of educational capacity, it can better meet the needs of students and promote the quality and level of ideological and political education in colleges and universities [6-8].

In summary, the purpose of the evaluation of the ideological and political education competence of colleges and universities is to comprehensively understand the competence and level of teachers in the ideological and political education of AI, to provide a reference basis for the professional development of teachers and improve the quality of education. The evaluation can enhance the quality and level of ideological and political education in colleges and universities. Students' ideological and political literacy and sense of social responsibility can be cultivated. However, how to evaluate and improve the "ideological

and political education capacity of colleges and universities" has become an important issue.

Research has shown that ideological and political education in Chinese colleges and universities is integral to cultivating students' correct worldview, outlook on life, and values [9-11]. However, the evaluation of ideological and political education in the past mainly focused on students' knowledge mastery and thought expression and lacks a comprehensive assessment of the educational process and educational results; therefore, a more comprehensive and systematic evaluation method is needed to assess the level of competence of ideological and political education in colleges and universities.

CIPP model is a commonly used evaluation model, which is entirely called the Context, Input, Process, and Product model, which emphasizes that the evaluation should focus on the four aspects of the context, input, process, and output of education to comprehensively assess the effectiveness and efficacy of education [12-14]. It can be seen that the research on the evaluation of ideological and political education competence in colleges and universities based on the CIPP model has a significant background and significance, which can provide a comprehensive evaluation perspective, promote educational reform and enhancement, and push forward the improvement of the quality of education.

2 Model building based on the CIPP model

2.1 CIPP evaluation model

CIPP Evaluation Model This model is designed to provide a comprehensive, systematic, and integrated approach to evaluating the effectiveness and efficacy of educational programs.

(1) **Context:** The evaluator will focus on the background and contextual information of the educational project, including the objectives of education, the target group, educational policy, and the environment. This step aims to understand the climate and conditions in the education program.

(2) **Input:** The evaluator will focus on the input elements of the educational program, including academic resources, faculty, teaching materials, and curriculum design. This step is designed to assess the resources invested in the educational project and the quality of the educational program.

(3) **Process:** The evaluator will focus on the implementation process of the educational program, including teaching methods, teaching activities, and teachers' teaching behaviors. This step assesses the academic program's actual implementation and teaching effectiveness.

(4) **Output:** The evaluator will focus on the output results of the education program, including student learning outcomes, competencies, and attitudes. This step aims to

assess the actual impact and effectiveness of the education program.

By comprehensively assessing these four aspects, the CIPP evaluation model can provide a comprehensive educational evaluation, help evaluators understand the various aspects and elements of the educational program, identify problems and deficiencies, and propose measures for improvement and enhancement. This model can be applied to multiple academic fields, including evaluating the capacity of ideological and political education in colleges and universities.

This paper adopts the CIPP model based on the four aspects of background, input, process and output, which provides a comprehensive evaluation perspective, and can better understand the various links and elements of the education program, and through the thorough evaluation, the problems and deficiencies of the education program can be found, which can provide a basis for the improvement and enhancement of the education capacity; the evaluation of this paper using the CIPP model can help colleges and universities to discover the problems and deficiencies of the education program in terms of background, input, process and output, and through the evaluation results, corresponding improvement and enhancement measures can be put forward to promote the reform and enhancement of ideological and political education in colleges and universities; the evaluation of this paper using the CIPP model can comprehensively assess the competence level of ideological and political education in colleges and universities, including the design of the educational program, faculty, the teaching process and the developmental outcomes of students, etc., and through the evaluation, the quality of education can be found out. Problems and bottlenecks, and further improve the quality and level of education.

2.2 Evaluation principles

Principles for evaluating colleges' and universities' ideological and political education capacity refer to the guiding principles followed in assessing the ideological and political education capacity. This paper considers the following points.

- (1) The evaluation should consider several aspects of the teacher's knowledge of AI ideological and political education, application of technology, educational and teaching abilities, and practical experience to assess the teacher's level of competence comprehensively.
- (2) Evaluation should consider the educational environment and conditions in which the teacher operates, including academic resources, technical equipment, and the student body, as well as the teacher's scholarly and pedagogical responses and adaptability.
- (3) Evaluation should be oriented to the effect of education and teaching, focusing on evaluating the impact of teachers' ideological and political education on students and the cultivation of students' comprehensive quality,

rather than focusing only on the level of teachers' knowledge and ability to apply technology.

(4) Evaluation should focus on teachers' professional development and growth and encourage self-reflection and continuous learning to improve their AI ideological and political education skills.

(5) Evaluation should encourage teachers to engage in innovative practices in AI ideological and political education, focusing on innovating teachers' educational and teaching ideas and methods to improve the effectiveness of education and teaching.

These evaluation principles can help the evaluator comprehensively and fairly evaluate the AI ideological and political education competence of college teachers, promote teachers' professional development, and improve the quality of education.

2.3 System of Evaluation Indicators

At present, the evaluation of ideological and political education ability in colleges and universities mainly focuses on the mastery of students' knowledge and often neglects to assess students' critical thinking ability, practical ability, moral emotion, etc. Therefore, the evaluation index system needs to be more scientific and comprehensive in order to comprehensively measure the ideological and political literacy and ability of the students[15] ; the evaluation of ideological and political education ability in colleges and universities mainly focuses on the written test and the paper questionnaire, and the evaluation method is single and cannot entirely reflect the actual situation of students, more flexible and diverse evaluation methods should be introduced, such as practical assessment, group discussion, case analysis, etc., in order to more accurately evaluate the ideological and political education ability of students; although some colleges and universities have carried out the evaluation of the ideological and political education ability, the application of the evaluation results in the actual teaching is still insufficient, and the results of the assessment should be an essential basis for the improvement of the learning, and the timely adjustment of the Teaching content, teaching methods and teacher training, etc., in order to improve the ideological and political education ability; the evaluation of ideological and political education ability in colleges and universities often focuses only on the learning of students and neglects the assessment of teachers' education ability, however, teachers' education ability directly affects the learning effect of students, so the evaluation and training of teachers' education ability should be strengthened in order to improve the quality of ideological and political education[16-17] .

Overall, there are some problems in the current evaluation of ideological and political education competence in colleges and universities in the context of artificial intelligence, which need to be improved through the efforts of improving the evaluation index system,

enriching the evaluation methods, strengthening the application of evaluation results, and comprehensively evaluating the teachers' competence, to promote the further enhancement of the evaluation of ideological and political education competence in colleges and universities.

Therefore, based on sections 2.1 and 2.2 analysis, this paper constructs the evaluation index system of colleges and universities' ideological and political education capacity based on CIPP, as shown in the table.

Table 1 Evaluation index system of ideological and political education competence of colleges and universities in the context of artificial intelligence based on the CIPP model

Target Level	Level Indicators	Secondary Indicators	Contents
Evaluation Of Ideological And Political Education Competence In Colleges And Universities Based On The Cipp Model	Background Evaluation - Civic Environment Development	Organization 1 Leadership	Whether Or Not To Form A Reasonable Leadership Team For Civics, Publish Relevant AI lectures, Etc.
		Institutional Safeguards	Degree Of Improvement Of The Work Program, System Improvement, And AI specification For The Construction Of Civics And Politics In The School
	Input Evaluation - Civics Resource Input	Financial Investment	Whether There Are Special Funds For The Construction Of Civics And The Extent Of Investment In Civics Special Funds
		Faculty Development	Whether To Conduct Training On Teachers' Ability To Build Up Their Civics And Multimedia Teaching Aids
		Curriculum Resource Development	Whether Or Not To Build Model Courses For Course Civics And Online Open Courses
	Process Evaluation - Current Status Of Civics In The Curriculum	Program Objectives	Whether The Objectives Of The Course Incorporate The Concept Of Civics
		Course Lesson Plans	Whether The Course Lesson Plan Is Closely Aligned With The Relevant Civics Fit And Content
		Classroom Teaching	Whether The Teaching Methods Are Highly Compatible With Civics
		Course Assessment	Does It Effectively Reflect The Effectiveness Of Civics Teaching
	Evaluation Of Results - Civic Development Outcomes	Teacher Assessment	Whether The Objectives Of Civics Are Achieved, Students' Satisfaction With The Content Of Civics In The Course And The Degree Of Gain
		Student Assessment	Changes In Student Values, Student Mental Health

2.4 Evaluation Modeling

This paper is based on sections 2.1 and 2.2 to construct the indicator system as in Table I. However, the CIPP model is only the first step to complete the construction of the evaluation model, and to get the evaluation results based on the indicator system is the second primary focus of the evaluation model. As mentioned earlier in this paper, the evaluation of ideological and political education ability in colleges and universities is mainly based on written tests and paper questionnaires, which is a single evaluation method and can't comprehensively reflect the actual situation of students [18-19], and more flexible and diversified evaluation methods should be introduced. Therefore, this paper adopts the principal component analysis method for evaluating ideological and political education ability in colleges and universities.

Principal Component Analysis (PCA) is a commonly used data dimensionality reduction technique and statistical analysis [20-21]. It transforms the original data into a new set of variables called principal components through

linear transformation, which are linear combinations of the actual variables, and the number of principal components is less than or equal to the number of the original variables, and downscaling of the data is realized by selecting the main components that can explain most of the variance of the data [22].

Principal component analysis has various applications in evaluation. Principal component analysis can be used as a factor analysis method to find potential factors that constitute the data; principal component analysis can be used for scoring and weight allocation. In some evaluation problems, it is necessary to score the object according to multiple indicators or variables and assign different weights to different indicators or variables; principal component analysis can convert the variables into main components, and The principal component analysis can convert the variables into principal components and score and rank the objects according to the weights of the central parts and can simplify the evaluation index system and reduce the complexity of the data.

In this paper, principal component analysis helps to simplify data analysis and interpretation and reduce

computational complexity. Points can better capture the variability of the data without interference from the correlation between the variables. It can be retained by selecting the component with the most significant variance of the explanatory variables, keeping most of the information advantages of the original data, and using principal component analysis to complete the evaluation of ideological and political competence of multiple colleges and universities, and romantic and political competence of various colleges and universities is ranked and analyzed—ability to assign and rank scores and discover and explore common factors. The realization steps are as follows.

(1) Standardization based on the Z-Score method

In this paper, there are five objects to be evaluated and 11 secondary evaluation indicators, which can constitute the data matrix $X = (x_{ij})_{m \times n}$, and after standardization, the data matrix is denoted as $D = (d_{ij})_{m \times n}$.

$$\bar{x}_j = \frac{1}{n} \sum_{i=1}^n x_{ij} \quad (1)$$

$$S_j = \sqrt{\frac{\sum_{i=1}^n (x_{ij} - \bar{x}_j)^2}{n-1}} \quad (2)$$

$$d_{ij} = \frac{x_{ij} - \bar{x}_j}{S_j} \quad (3)$$

(2) Principal component analysis

① Correlation coefficient R calculation

The Pearson correlation coefficient was used to calculate the correlation coefficients between indicators, i.e., the correlation coefficients between columns.

② Calculate the eigenvalues and eigenvectors of R

The eigenvalues are computed and arranged in descending order, and the corresponding eigenvectors are set accordingly.

The eigenvalues are denoted as: $\lambda_1 \geq \lambda_2 \geq \dots \geq \lambda_n \geq 0$

The corresponding eigenvectors are denoted: $e_j = (l_1, l_2, \dots, l_n)$

③ Principal Component Contribution Rate Calculation and Cumulative Contribution Rate Calculation.

Denote the contribution of an indicator as a_j .

$$a_j = \frac{\lambda_j}{\sum_{j=1}^n \lambda_j} \quad (4)$$

Denote a_{sj} the cumulative contribution of all p-indicators.

$$a_{sj} = \frac{\sum_{j=1}^p \lambda_j}{\sum_{j=1}^n \lambda_j} \quad (5)$$

Synthesized embodied indicators are recorded as M_{ij} .

$$M_{ij} = D_{m \times n} \times [l_1, l_2, \dots, l_n] \quad (6)$$

(3) Calculation of scores

The first p principal components are selected to find the score, denoted as F_i .

$$F_i = \sum_{j=1}^p a_j M_{ij} \quad (7)$$

3 Example analysis

3.1 Data sources

The data used in this paper comes from five colleges and universities statistics; data mainly use questionnaires and other forms of obtaining, which in the questionnaire survey, considering the perception of the survey scoring, the use of 0-10 for the index score. The final results of the study are shown in Table 1.

Table 2 Survey data table

Secondary Indicators	Data 1	Data 2	Data 3	Data 4	Data 5
Organizational Leadership	7	8	7	8	8
Institutional Safeguards	8	8	6	7	8
Financial Investment	6	7	9	8	7
Faculty Development	7	7	8	7	7
Curriculum Resource Development	8	8	8	7	7
Program Objectives	8	8	9	7	8
Course Lesson Plans	7	8	8	8	8
Classroom Teaching	6	7	6	8	8
Course Assessment	8	6	7	8	7
Teacher Assessment	8	7	7	7	7

Student Assessment	7	7	6	7	6
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3.2 Analysis of survey data results

Based on the survey data in Table 1, it can be seen that there is a specific difference between colleges and universities in some of the indicators, but the difference in some of the hands is not very big. For example, the index of organizational leadership, the score is only 1 difference, indicating that colleges and universities for the ideological and political ability to tighten the grip is still not a big difference, but also reflects the organizational leadership for the ideological and political education in colleges and universities to evaluate the importance of the ability, which also includes the organization of the administration can be timely to find out the problems and shortcomings of the education, to provide the colleges and universities with the direction of improvement and optimization, and to promote the quality of the ideological and political education, at the same time, a good organization of the leadership to be able to At the same time, an excellent organizational leadership can fully recognize the importance and necessity of ideological and political education, increase the volume of ideological and political education, and provide better support and resources for ideological and political education in colleges and universities, and can promote the comparison and exchange between different colleges and universities, learn and share good educational experiences and practices, and promote the overall development of ideological and political education in the entire college and university education system, and the benign development of the organizational leadership can better understand and analyze the students' ideological and political education. Understand and analyze the current situation of students' ideological and political quality, provide colleges and universities with corresponding educational resources and measures, cultivate students' correct ideological concepts and moral values, and enhance their sense of social responsibility and civic awareness.

Visible in the questionnaire, most of the indicator's score difference is only 1, indicating that the level of capacity of ideological and political education in colleges and universities is in between. However, the difference is significant in some indicators, which is mainly reflected in the funding input, and this may lead to a lower level of ideological and political capacity in colleges and universities. The index is now dissected, and it can be concluded through the survey and consultation that the degree of investment in special funds for the construction of ideological and political education and special funds for ideological and political education can reflect the

degree of organization and leadership attention to ideological and political education. If the investment is high, the organization's leaders fully understand the importance of ideological education and are willing to provide the necessary support and resources. At the same time, the investment of special funds for the construction of ideology and politics and special funds for ideology and politics can be used for educational and teaching reform and innovation projects, such as developing new educational methods and building practice bases for ideology and politics education, etc., which can help to improve the relevance, creativity, and effectiveness of ideology and politics education in colleges and universities. Secondly, the investment of special funds for Civic and Political Construction and special funds for Civic and Political Education can be used to train and introduce professional talents for Civic and Political Education and improve the quality and ability of the teaching staff of Civic and Political Education in colleges. In addition, the investment of special funds for the construction of Civic and Political Education and special funds for Civic and Political Education can be used to optimize and allocate educational resources, such as purchasing teaching materials, books, and educational equipment, and providing the venues and facilities needed for educational activities and programs, which helps to provide a better educational environment and resource support for Civic and Political Education in colleges and universities. Finally, the degree of investment of special funds for Civic and Political Construction and special funds for Civic and Political Education can be used as one of the reference indicators to assess the effectiveness of ideological and political education in colleges and universities, which also demonstrates the reasonableness of the index system constructed in this paper, which can help the organization leaders better understand the effect of the use of the funds by comparing the relationship between the inputs and the effectiveness, and provide the experience and the basis for the future input decision-making.

3.3 Model validation based on principal component analysis

This paper applies the evaluation index system model of ideological and political education competence of colleges and universities constructed by the CIPP model according to equation (1)-equation (7), and the relevant calculation table is shown below.

Table 3 Correlation coefficient matrix

Secondary Indicators	Organizational Leadership	Institutional Safeguards	Financial Investment	Faculty Development	Curriculum Resource Development	Program Objectives	Course Lesson Plans	Classroom Teaching	Course Assessment	Teacher Assessment	Student Assessment
Organizational Leadership	1.00	0.41	-0.08	-0.61	-0.67	-0.65	0.61	0.91	-0.33	-0.61	0.17
Institutional Safeguards	0.41	1.00	-0.93	-0.88	-0.10	-0.40	-0.38	0.28	-0.13	0.38	0.41
Financial Investment	-0.08	-0.93	1.00	0.78	-0.08	0.31	0.69	0.00	-0.10	-0.69	-0.48
Faculty Development	-0.61	-0.88	0.78	1.00	0.41	0.79	0.25	-0.56	-0.13	-0.25	-0.61
Curriculum Resource Development	-0.67	-0.10	-0.08	0.41	1.00	0.65	-0.41	-0.91	-0.33	0.41	0.17
Program Objectives	-0.65	-0.40	0.31	0.79	0.65	1.00	0.00	-0.71	-0.42	0.00	-0.65
Course Lesson Plans	0.61	-0.38	0.69	0.25	-0.41	0.00	1.00	0.56	-0.53	-1.00	-0.41
Classroom Teaching	0.91	0.28	0.00	-0.56	-0.91	-0.71	0.56	1.00	0.00	-0.56	0.00
Course Assessment	-0.33	-0.13	-0.10	-0.13	-0.33	-0.42	-0.53	0.00	1.00	0.53	0.22
Teacher Assessment	-0.61	0.38	-0.69	-0.25	0.41	0.00	-1.00	-0.56	0.53	1.00	0.41
Student Assessment	0.17	0.41	-0.48	-0.61	0.17	-0.65	-0.41	0.00	0.22	0.41	1.00

Table 4 Cumulative contribution

Secondary Indicators	Cumulative Contribution
Organizational Leadership	4.00%
Institutional Safeguards	7.68%
Financial Investment	9.13%
Faculty Development	9.90%
Curriculum Resource Development	9.90%
Program Objectives	9.90%
Course Lesson Plans	9.90%
Classroom Teaching	9.90%
Course Assessment	9.90%
Teacher Assessment	9.90%
Student Assessment	9.90%

Table 5 Evaluation scores for single indicators of ideological and political capacity in higher education institutions

Secondary Indicators	Sample 1 Single-Indicator Scores	Sample 2 Single-Indicator Scores	Sample 3 Single-Indicator Scores	Sample 4 Single-Indicator Scores	Sample 5 Single-Indicator Scores
Organizational Leadership	0.2802	0.3202	0.2802	0.3202	0.3202
Institutional Safeguards	0.6141	0.6141	0.4605	0.5373	0.6141

Financial Investment	0.5475	0.6388	0.8213	0.7300	0.6388
Faculty Development	0.6930	0.6930	0.7920	0.6930	0.6930
Curriculum Resource Development	0.7920	0.7920	0.7920	0.6930	0.6930
Program Objectives	0.7920	0.7920	0.8910	0.6930	0.7920
Course Lesson Plans	0.6930	0.7920	0.7920	0.7920	0.7920
Classroom Teaching	0.5940	0.6930	0.5940	0.7920	0.7920
Course Assessment	0.7920	0.5940	0.6930	0.7920	0.6930
Teacher Assessment	0.7920	0.6930	0.6930	0.6930	0.6930
Student Assessment	0.6930	0.6930	0.5940	0.6930	0.5940

Table 6 Evaluation scores for the first-level indicators of ideological and political capacity in higher education institutions

Evaluation Projects	Sample 1 Score	Sample 2 Ratings	Sample 3 Ratings	Sample 4 Ratings	Sample 5 Ratings
Background Evaluation - Civic Environment Development	0.8942	0.9343	0.7407	0.8575	0.9343
Input Evaluation - Civics Resource Input	2.0324	2.1237	2.4052	2.1159	2.0247
Process Evaluation - Current Status Of Civics In The Curriculum	2.8709	2.8709	2.9699	3.0689	3.0689
Evaluation Of Results - Civic Development Outcomes	1.4849	1.3859	1.2869	1.3859	1.2869
Evaluation Of Ideological And Political Education Competence In Colleges And Universities Based On The CIPP Model	7.2825	7.3148	7.4027	7.4283	7.3148

3.4 Analysis of Results

Based on Table 4, it can be seen that in the overall indicator system contribution rate, only the background contribution rate is low; analyzing the reason for this is that the background is only a kind of guiding role, and its main body should be embodied in the inputs, processes, and results.

Based on Table 6, it can be seen that the ratings of the five colleges and universities are close to each other, which shows that at this stage, colleges and universities are still paying close attention to ideological and political development. It also shows that colleges and universities are taking great pains to cultivate good teachers and students.

According to Table 4-Table six, at the same time, it can be seen that the contribution rate of the indicators contained in the input, process, and result are all not significantly different, so this paper, after the investigation, now mainly analyzes the importance of the four items of faculty development, course teaching, teacher evaluation and student evaluation in the assessment of ideological and political education competence in colleges and universities.

Teacher team building has the following leading roles in the evaluation of ideological and political education

capacity in the context of artificial intelligence, providing professional knowledge and skills, ideological and political education in the context of artificial intelligence requires teachers to have profound professional knowledge and skills, and teacher team building can provide relevant training and learning opportunities to improve the professional level and capacity of teachers; ideological and political education in the context of artificial intelligence requires teachers to have innovative thinking and flexible teaching methods. Thinking and flexible teaching methods, teacher training can introduce new educational concepts and teaching modes to help teachers update their teaching concepts and improve their teaching effects; teacher training can provide platforms and opportunities for teachers' professional development, such as holding academic seminars and organizing teaching exchanges, etc., to stimulate teachers' motivation to learn and improve their educational and teaching abilities and research levels; teacher training can be combined with ideological and political education competence evaluation to develop evaluation and assessment methods jointly; and teachers can also be trained in the use of new teaching methods and new teaching methods. Education ability evaluation, formulate evaluation standards and indicators, clarify the abilities and qualities that teachers should have, and provide a basis for evaluation. Teacher team building can promote

communication and cooperation among teachers to form a learning community so that teachers can learn from each other's experiences, progress together, and improve AI's ideological and political education.

As can be seen through the above analysis, the central role of teacher training for the evaluation of ideological and political education capacity in the context of artificial intelligence is to improve the professional level and ability of teachers, promote the innovation and development of education and teaching, and then improve the quality and effect of ideological and political education in artificial intelligence.

As for course teaching is the core link in the education process, essential in improving education quality and promoting education reform and development. Therefore, colleges and universities should pay attention to the evaluation of course teaching and continuously improve the curriculum and teaching methods to improve the teaching effect and student satisfaction.

According to Table 5, there are specific differences in teacher evaluation in colleges and universities, and teacher evaluation is an essential means of evaluating the quality and effect of education. Colleges and universities can cultivate and motivate excellent teachers and improve the quality and level of ideological and political education only if they pay attention to the evaluation of teachers and establish a scientific, fair, and practical evaluation system. Considering that the most prominent receptors of education are students, so student evaluation can provide students' honest feedback and needs, help teachers improve teaching methods and contents, and improve teaching effect and student satisfaction, colleges and universities should pay attention to the role of student evaluation, establish effective evaluation mechanism, encourage students to participate in evaluation, and improve the quality and effect of ideological and political education.

4 Conclusion

Based on the CIPP model, this paper finally constructs a reasonable index system and, at the same time, adopts principal component analysis to verify the evaluation model. The results prove that the method of making the index system is feasible. The evaluation method based on principal component analysis is effective and can comprehensively show colleges and universities' current situation of ideological and political competence under the background of artificial intelligence. At the same time, this paper also analyzes the reasons for the indexes with a high contribution rate, which aligns with the actual situation. Based on the evaluation and analysis of the ideological and political education capacity of colleges and universities under the background of artificial intelligence, the following conclusions can be drawn: teachers need to have the ability to be familiar with artificial intelligence technologies and platforms, including the use of online teaching tools, the

development, and management of online educational resources, etc., to meet the learning needs of students better and carry out online ideological and political education activities. Under the background of artificial intelligence, the content of ideological and political education needs to keep pace with the times, and teachers need to have innovative thinking and research ability, be able to update the teaching content promptly, combine with artificial intelligence resources and cases, to make ideological and political education closer to the actual situation and needs of students. Information explosion in the age of artificial intelligence, students are easily disturbed and misled by all kinds of information, students and teachers need to have the ability to think independently and critically, and the higher leadership team must guide teachers and students on how to understand and analyze the social phenomenon correctly, and teachers need to cultivate the student's ability to think independently and make judgments based on this. Colleges and universities need to have the ability to create interactive communication platforms, including online discussions, network counseling Q&A, etc., to promote interaction and communication among students, cultivate students' teamwork and communication skills, and enhance the participation and effectiveness of ideological and political education. Teachers need practical teaching assessment and feedback capabilities, using artificial intelligence technology to assess and provide feedback on students' learning outcomes, promptly discover students' learning difficulties and problems, and carry out targeted guidance and counseling to improve the teaching effect. In summary, evaluating the ideological and political education capacity of colleges and universities under the background of artificial intelligence needs to include familiarity with artificial intelligence technology and platforms, innovation and updating of teaching content, independent thinking, critical ability, and creating interactive communication platforms. Teaching assessment and feedback, etc., and only teachers with these abilities can better adapt to the needs of ideological and political education in the era of artificial intelligence and improve the quality and effect of education.

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