

Application of Big Data Technology to Evaluate Gray Correlation Entropy in higher Education Sector

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Abstract

INTRODUCTION: The quality of ideological and political competence in colleges and universities is crucial to cultivating socialist builders and successors with all-round development of morality, intelligence, physical fitness, and aesthetics.

OBJECTIVES: To scientifically evaluate the capacity of ideological and political competence in colleges and universities, adopt the evaluation method based on gray correlation entropy in AI to construct a complete indicator system that comprehensively reflects multiple aspects of ideological and political competence in colleges and universities.

METHODS: By quantitatively analyzing the indicators and comprehensively considering the weights and degree of correlation of the hands, the evaluation results of the ideological and political competence capacity of colleges and universities can be derived, and this method can objectively and scientifically assess the strengths and weaknesses of the ideological and political competence capacity of colleges and universities and provide colleges and universities with the basis for improving and optimizing ideological and political competence.

RESULTS: The evaluation method based on gray correlation entropy in the context of AI helps to improve the quality and effect of ideological and political competence in colleges and universities and promotes the overall improvement of students' ideological and political quality, as seen through the analysis of examples.

CONCLUSION: The evaluation method also provides new ideas and plans for the research of the ideological and political competence capacity of colleges and universities, which has strong feasibility and practicality and offers colleges and universities the basis for the scientific evaluation of ideological and political competence, which helps to improve the quality and level of ideological and political competence in colleges and universities.

Keywords: ideological and political competence in colleges and universities, gray correlation entropy by AI, index system, ideological and political competence capacity

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1 Introduction

In recent years, ideological and political competence in colleges and universities has become increasingly prominent in higher education in China because ideological and political competence in colleges and universities is related to the country's long-term development and social stability. Considering that ideological and political competence in colleges and universities is an important task to cultivate socialist

builders and successors with all-round development of morality, intelligence, physicality, aesthetics and aesthetics, ideological and political competence in colleges and universities is also facing many challenges and problems, such as poor competence content, single competence method, and low students' participation, etc. [1-4]. Therefore, evaluating and improving the capacity of ideological and political competence in colleges and universities is imperative. The current research on evaluating ideological and political competence ability in colleges and universities still needs to be improved, especially requiring a scientific and objective evaluation method [5-7]. Therefore, constructing an evaluation

model that can accurately evaluate colleges and universities' ideological and political competence ability is of great theoretical and practical significance.

Through the evaluation of the ideological and political competence capacity of colleges and universities, the deficiencies of competence can be discovered in time and targeted for improvement and optimization, so as to improve the quality and level of ideological and political competence; the ideological and political quality of students can be cultivated, and the evaluation process can discover the strengths and shortcomings of the students, and target-oriented guidance for the students in the ideological and political aspects of their growth; through the evaluation of the ideological and political competence capacity of colleges and universities, it is possible to understand the distribution and utilization of competence resources, and discover the waste and insufficiency of help, so as to realize the rational allocation of resources; the analysis of data and indexes in the evaluation process can provide reference and basis for the research and innovation of ideological and political competence in colleges and universities, and promote the development and progress of the discipline [8-11].

The insufficiency of evaluation: This study aims to evaluate the ideological and political competence in colleges and universities based on the gray correlation entropy in the context of AI theory. The specific research question is: How does the author use the gray correlation entropy in the context of AI theory to evaluate the ability of ideological and political competence in colleges and universities? This study aims to analyze student groups' competence, determine the influencing factors on ideological and political competence in colleges and universities, and evaluate them to provide the scientific basis for improving ideological and political competence in colleges and universities. Compared with traditional evaluation methods, the gray correlation entropy in the context of extensive data technology methods can consider the correlation between multiple factors more comprehensively and improve the accuracy and objectivity of evaluation. In addition, this study provides a reference basis for formulating future improvement measures for ideological and political competence in colleges and universities and the reform and development of college competence, which is of great theoretical and practical significance.

In summary, this paper will evaluate the ability of ideological and political competence in colleges and universities based on the gray correlation entropy in the context of AI theory to provide the scientific basis for colleges and universities to formulate reasonable competence improvement measures. In the following chapters, this paper will explore the correlation between gray correlation entropy in the context of AI theory and the ability of ideological and political competence in colleges and universities, construct the evaluation model of the power of ideological and political competence in colleges and universities based on gray correlation entropy in the context of AI, and conduct empirical

analysis by using the model, and finally interpret the results and discuss the significance of the reference.

2 Relevant Entropy Theory and Indicator System Construction

2.1 Gray correlation entropy in the context of AI theory

Gray correlation entropy is a mathematical method for dealing with uncertainty and ambiguity in the context of AI theory. It is developed based on gray system theory, aiming to provide decision support and predictive ability by analyzing the degree of correlation between various factors and revealing their correlation laws [12-13].

Gray correlation entropy in AI theory is based on information entropy, which is applied to gray correlation analysis to measure the degree of correlation between various factors. In the specific application, firstly, the original data need to be gray correlation calculated to get the correlation degree sequence of each aspect, then calculate the correlation coefficient of each factor according to the principle of information entropy to determine the degree of influence of each element on the target.

Gray correlation entropy in the context of AI theory has been widely used in various fields, especially in engineering management, environmental evaluation, economic forecasting, and other essential aspects [14-16]. It can help decision-makers analyze the degree of correlation between influencing factors and identify the main factors to formulate a reasonable decision-making scheme. In addition, the gray correlation entropy in the context of AI theory can be used to predict and evaluate future development trends and assess the risks and benefits under uncertainty by analyzing historical data. In conclusion, gray correlation entropy in the context of AI theory is an effective mathematical tool that can help resolve uncertainty and ambiguity in complex problems and provide support and guidance for decision-making.

In this study, the author applies the gray correlation entropy in the context of AI theory to evaluate colleges' and universities' ideological and political competence ability. The gray correlation entropy in the context of AI can be used to assess the strengths and weaknesses of colleges and universities' ideological and political competence ability. The gray correlation entropy in the context of AI is a comprehensive index that can be calculated by the correlation degree of multiple factors. The author will calculate the correlation degree of teacher level, textbook content, and competence means to evaluate the ability of ideological and political competence in colleges and universities. In computing, the author needs to obtain relevant data truthfully and accurately. For example, the level of teachers can be obtained through the scoring data of the evaluation system; the content of teaching materials can be obtained through the analysis of teaching materials and the evaluation of students; and the means of competence can

be obtained through observation and questionnaire survey. These data will be used to calculate gray correlation entropy in the context of AI. The author can derive the evaluation results of colleges' and universities' ideological and political competence ability by calculating gray correlation entropy in the context of AI. The larger the entropy value, the stronger the knowledge of ideological and political competence in colleges and universities; the smaller the entropy value, the weaker the ideological and political competence ability in colleges and universities. The evaluation results provide the scientific basis for colleges and universities to formulate reasonable competence improvement measures.

2.2 Construction of the indicator system

In this paper, the selection of evaluation indicators is carried out in the following aspects: screening the most

Table 1 Key indicators for evaluating the ideological and political capacity of higher education institutions

Top-level indicators	Key indicators
Ideological and political competence in higher education	Funding for Civic and Political Research
	Expenditure on students' civic and political social practice
	Expenditures on library book purchases
	Funding for Teaching and Learning Enhancement in Civics and Political Science
	Number of Civics Teaching Staff
	Number of Civics Master Teachers
	Number of books on Civics in the library
	Weighting of the Civics Teaching Staff
	Number of Civics Executive Disciplines
	Competitive teaching skills
	Web traffic in Civics
	Evaluation of student teaching
	Total number of papers published
	Total number of core papers
	Civic and political subject personnel
	Number of projects
	Civics Heat Search Volume
	Total number of student publications
	Number of Civics and Political Science courses
	Civics class attendance rate
	Frequency of training for Civics teachers
	Expenditures on training for teachers of Civics and Political Science
	Frequency of Student Civic and Social Practices
	Popularization of Situation Policy Classes
	Civics Program Design

A total of 25 indicators are constructed in this paper, and the relevant representative indicators are analyzed as follows.

(1) Funding for Civic and Political Research: Funding for Civic and Political Research can support teachers' scientific research projects, including research projects,

representative and measurable indicators based on the importance and operability of critical factors, which should be able to reflect the achievement of the objectives accurately and can be improved within a specific range; evaluating the selected indicators to understand the achievement of the goals and make necessary adjustments, which can be realized through the establishment of a data collection and reporting mechanism. Such indicators can be recognized by establishing data collection and reporting agencies. Based on the assessment results, continuous improvement and optimization can be carried out, and future enhancements will involve adjusting the indicator settings, improving data collection methods, and optimizing processes. Based on the above factors' consideration and related scholars' research [17-19], the evaluation index system shown in the following table is constructed.

academic paper writing, etc. The development of these scientific research projects can enhance teachers' academic research level and teaching ability, thus improving their Civic and Political Competence ability; through the development of the scientific research projects, teachers can have more opportunities to explore

and practice the teaching methodology, and develop teaching modes and textbook contents more suitable for the students' Civic and Political Competence; the support of the funding for Civic and Political Research can help teachers achieve more research results and establish a higher reputation and influence in the academic world, which is essential for improving the evaluation of teachers' Civic and Political Competence ability. Teachers can have more opportunities to explore and practice teaching methods and develop teaching models and teaching materials that are more suitable for students' Civic and political competence; the support of Civic and political research funds can help teachers achieve more research results and establish a higher reputation and influence in the academic world, which is crucial to improving the evaluation of teachers' Civic and political competence because teachers' academic standing and influence can directly reflect their professional level and contribution to the field of Civic and political competence; the investment in Civic and political research funds can promote the Civic and political competence in colleges and universities. Research and practice, and boost the overall Civic and Political Competence level in colleges and universities. By supporting teachers' scientific research projects and teaching innovations, colleges and universities can continuously improve and refine the content and methods of Civic and Political Competence and provide a better Civic and Political Competence teaching environment and resources.

(2) Student teaching evaluation: Student teaching evaluation can directly reflect the teaching effect of teachers in ideological and political competence. Students are directly involved in the teaching process and the primary competence body. Their evaluation of the teaching effect can objectively reflect whether the teacher has achieved the expected teaching goals and whether it can effectively convey the content and values of ideological and political competence; student teaching evaluation can provide teachers with opportunities for improvement through the feedback and assessment of the students, teachers can understand the students' opinions and suggestions on their teaching methods, textbook content, assessment methods and so on, to make timely adjustments and improvements, and improve their ability of ideological and political competence; student teaching evaluation can evaluate teachers' ability of ideological and political competence. Through students' feedback and assessment, teachers can learn students' opinions and suggestions on their teaching methods, textbook contents, assessment methods, etc., so that they can make timely adjustments and improvements and improve their ability to Civic Competence; students' teaching evaluation can evaluate teachers' teaching methods and attitudes; Civic Competence focuses on cultivating students' thinking ability, innovation ability, and morality, so teachers' teaching methods and perspectives have a crucial impact on students' Civic Competence. Students' evaluation can reflect whether teachers can use various teaching methods, establish good teacher-student relationships with

students, etc. Through the comprehensive analysis of students' teaching evaluation, colleges and universities can understand teachers' teaching strengths and deficiencies, thus guiding teachers' training and development and robust support for improving Civic and Political Competence in colleges and universities.

(3) Number of Civic and Political Master Teachers: The number of Civic and Political Master Teachers reflects whether colleges and universities have a high-level team of Civic and Political competent teachers; how many Civic and Political Master Teachers are also reflects whether colleges and universities can provide rich and diverse high-quality teaching resources; the number of Civic and Political Master Teachers plays a vital role in colleges and universities academic influence, and the existence of Civic and Political Master Teachers also attracts more excellent teachers to join the Civic and Political Competence team, which further improves the Civic and political competence capacity of colleges and universities, colleges and universities should focus on cultivating and attracting master teachers of Civics and Politics to enhance the quality and level of Civic and political competence.

As can be seen from the analysis of the above indicators, evaluating the capacity of the university's Civic and Political Affairs should broadly include economic, human, resource, knowledge, action, and ideological outputs.

2.3 Gray correlation entropy in the context of extensive data technology model construction

Gray correlation entropy in the context of AI is a data analysis method to evaluate the correlation and importance between indicators. Its advantages lie in the fact that compared with traditional correlation analysis methods, gray correlation entropy in the context of AI is not affected by the distribution of data and applies to various types of data, including quantitative and qualitative data; gray correlation entropy in the context of AI can evaluate the correlation between multiple indicators at the same time, and it can take into account the comprehensive impact of the arrows, avoiding the shortcomings of the single-indicator evaluation; through the calculation of the gray correlation entropy in the context of AI, the degree of the contribution of the indicators to the goal can be determined to help decision-makers identify important indicators and optimize the decision-making program [20]. Calculating the gray correlation entropy in the context of AI can evaluate the degree of contribution of each hand to the goal and help decision-makers determine the critical indicators and optimize the decision-making scheme [20]. However, the selection of sample data and processing methods affect the calculation results of gray correlation entropy in the context of AI. Different data samples and processing methods may lead to different results, and choosing and

processing data is necessary. Gray correlation entropy in the context of AI is based on the assumption of linear correlation. It has limited ability to evaluate the nonlinear relationship. In the presence of nonlinear relationships, the results of gray correlation entropy in the context of AI may be inaccurate [21].

In summary, gray correlation entropy in the context of AI is a commonly used data analysis method with the advantages of comprehensively considering the correlation of multiple indicators and determining the importance of hands. However, it also has the disadvantages of relying on sample data, needing help to deal with nonlinear relationships, and possible subjectivity and uncertainty. When using gray correlation entropy in the context of AI for analysis, attention must be paid to the rational selection and processing of data, considering nonlinear relationships, and weighing subjectivity and objectivity.

The specific steps are as follows:

(1) Standardization of evaluation sample data

$$r_{ij} = \frac{x_{ij} - \min(x_j)}{\max(x_j) - \min(x_j)} \quad (1)$$

Equation: $\max(x_j)$ -Maximum value of sample single indicator data;

(2) Calculate the absolute difference

$$\Delta_{0i}(k) = |x'_0(k) - x'_i(k)| \quad (2)$$

Where: $x'_0(k)$ represents the calculated sample reference value;

$x'_i(k)$ calculate sample standardized values.

(3) Calculation of the gray correlation coefficient

$$r(x'_0(k), x'_i(k)) = \frac{\Delta_{\min} + \rho\Delta_{\max}}{\Delta_{0i}(k) + \rho\Delta_{\max}} \quad (3)$$

Where: Δ_{\min} minimum difference between two levels;
Two levels of maximum difference;

ρ resolution factor, 0.5.

(4) Calculate the gray correlation entropy in the context of AI

$$P_i(k) = \frac{r(x_0(k), x_i(k))}{\sum_{k=1}^n r(x_0(k), x_i(k))} \quad (4)$$

3 Evaluation of Ideological and Political Competence of Colleges and Universities Based on Gray correlation entropy in the context of extensive data technology Modeling

3.1 Data sources

For data collection, the author used both questionnaires and field observations. The author collected students' opinions and suggestions on evaluating teachers' levels, textbook contents, and competence means through reasonably designed questionnaires. At the same time, the author also conducted field observations to obtain more intuitive and specific data by observing teachers' teaching processes and students' learning status.

3.2 Gray correlation entropy in the context of extensive data technology calculation

In this paper, the analyses are carried out according to Equation. (1)-Equation. (4), and the relevant results are finally obtained as follows.

Table 2 Data matrix

Indicator/sample	Data 1	Data 2	Data 3	Data 4	Data 5
Funding for Civic and Political Research	0.0398	0.0000	0.1037	0.4728	1.0000
Expenditure on students' civic and political social practice	0.0000	0.1277	0.4925	0.7827	1.0000
Expenditures on library book purchases	0.0000	0.1935	0.0961	0.2351	1.0000
Funding for Teaching and Learning Enhancement in Civics and Political Science	0.0000	0.0246	0.0545	0.6201	1.0000
Number of Civics Teaching Staff	0.0000	0.0000	0.0000	0.6000	1.0000
Number of Civics Master Teachers	0.0000	0.0000	0.1667	0.8333	1.0000
Number of books on Civics in the library	0.0000	0.1304	0.6957	0.6957	1.0000
Weighting of the Civics Teaching Staff	0.0000	0.0000	1.0000	1.0000	1.0000
Number of Civics Executive Disciplines	0.0000	0.1921	0.6880	0.8215	1.0000
Competitive teaching skills	0.0000	0.2222	0.2222	0.7778	1.0000
Web traffic in Civics	0.0000	1.0000	1.0000	1.0000	1.0000
Evaluation of student teaching	0.0000	0.3750	0.6250	0.8750	1.0000
Total number of papers published	0.0000	0.3750	0.5000	0.8750	1.0000

Total number of core papers	0.0000	1.0000	1.0000	1.0000	1.0000
Civic and political subject personnel	0.0000	0.1842	0.2895	0.9211	1.0000
Number of projects	0.7023	0.8998	0.0000	1.0000	1.0000
Civics Heat Search Volume	0.0000	0.1558	0.3851	0.8054	1.0000
Total number of student publications	0.0000	0.2727	0.3636	0.7273	1.0000
Number of Civics and Political Science courses	0.0000	0.2222	0.4444	0.7778	1.0000
Civics class attendance rate	0.0000	0.4000	0.6000	0.6000	1.0000
Frequency of training for Civics teachers	0.0000	0.3474	0.7223	0.1246	1.0000
Expenditures on training for teachers of Civics and Political Science	0.0000	0.2500	0.3750	0.7500	1.0000
Frequency of Student Civic and Social Practices	0.0000	0.3628	0.6226	0.8186	1.0000
Popularization of Situation Policy Classes	0.1578	0.0000	0.4915	1.0000	0.7940
Civics Program Design	0.0000	0.2500	0.5000	0.6250	1.0000
Funding for Civic and Political Research	0.0000	0.2000	0.6000	0.8000	1.0000

Table 3 Gray correlation coefficients

Indicator/sample	Data 1	Data 2	Data 3	Data 4	Data 5
Funding for Civic and Political Research	0.9262	0.7965	0.5625	0.6173	1.0000
Expenditure on students' civic and political social practice	0.9262	0.7210	0.9851	0.6778	1.0000
Expenditures on library book purchases	0.9262	0.9531	0.9105	0.7724	1.0000
Funding for Teaching and Learning Enhancement in Civics and Political Science	0.9262	1.0000	0.8282	0.7972	1.0000
Number of Civics Teaching Staff	0.9262	1.0000	0.8881	0.5810	1.0000
Number of Civics Master Teachers	0.9262	0.7931	0.4579	0.6917	1.0000
Number of books on Civics in the library	0.9262	1.0000	0.3581	0.4868	1.0000
Weighting of the Civics Teaching Staff	0.9262	0.7224	0.4611	0.5891	1.0000
Number of Civics Executive Disciplines	0.9262	0.6923	0.8084	0.6211	1.0000
Competitive teaching skills	0.9262	0.3333	0.3581	0.4868	1.0000
Web traffic in Civics	0.9262	0.5714	0.4896	0.5542	1.0000
Evaluation of student teaching	0.9262	0.5714	0.5578	0.5542	1.0000
Total number of papers published	0.9262	0.3333	0.3581	0.4868	1.0000
Total number of core papers	0.9262	0.7308	0.7291	0.5273	1.0000
Civic and political subject personnel	0.4301	0.3572	0.8282	0.4868	1.0000
Number of projects	0.9262	0.7624	0.6399	0.6005	1.0000
Civics Heat Search Volume	0.9262	0.6471	0.6579	0.6627	1.0000
Total number of student publications	0.9262	0.6923	0.5947	0.6211	1.0000
Number of Civics and Political Science courses	0.9262	0.5556	0.5019	0.7972	1.0000
Civics class attendance rate	0.9262	0.5900	0.4470	0.5895	1.0000
Frequency of training for Civics teachers	0.9262	0.6667	0.6483	0.6433	1.0000
Expenditures on training for teachers of Civics and Political Science	0.9262	0.5795	0.4907	0.5912	1.0000
Frequency of Student Civic and Social Practices	0.8091	1.0000	0.5632	0.4868	0.7082
Popularization of Situation Policy Classes	0.9262	0.6667	0.5578	0.7666	1.0000
Civics Program Design	0.9262	0.7143	0.5019	0.6044	1.0000
Funding for Civic and Political Research	0.9262	0.7965	0.5625	0.6173	1.0000

Table 4 Gray correlation entropy in the context of AI

Indicator/sample	Data 1	Data 2	Data 3	Data 4	Data 5
Funding for Civic and Political Research	0.3414	0.3243	0.2792	0.2917	0.3489
Expenditure on students' civic and political social practice	0.3304	0.2991	0.3373	0.2909	0.3390
Expenditures on library book purchases	0.3237	0.3271	0.3216	0.3007	0.3327
Funding for Teaching and Learning Enhancement in Civics and Political Science	0.3240	0.3330	0.3101	0.3051	0.3330
Number of Civics Teaching Staff	0.3281	0.3368	0.3231	0.2675	0.3368
Number of Civics Master Teachers	0.3422	0.3249	0.2526	0.3078	0.3497
Number of books on Civics in the library	0.3448	0.3520	0.2236	0.2643	0.3520
Weighting of the Civics Teaching Staff	0.3467	0.3190	0.2596	0.2926	0.3536
Number of Civics Executive Disciplines	0.3375	0.3020	0.3217	0.2876	0.3454
Competitive teaching skills	0.3609	0.2396	0.2491	0.2905	0.3649
Web traffic in Civics	0.3508	0.2943	0.2735	0.2903	0.3571
Evaluation of student teaching	0.3490	0.2918	0.2886	0.2877	0.3556
Total number of papers published	0.3609	0.2396	0.2491	0.2905	0.3649
Total number of core papers	0.3411	0.3134	0.3131	0.2701	0.3487
Civic and political subject personnel	0.2739	0.2489	0.3526	0.2906	0.3649
Number of projects	0.3406	0.3182	0.2956	0.2871	0.3483
Civics Heat Search Volume	0.3416	0.2982	0.3004	0.3014	0.3491
Total number of student publications	0.3432	0.3091	0.2891	0.2949	0.3505
Number of Civics and Political Science courses	0.3446	0.2818	0.2680	0.3282	0.3518
Civics class attendance rate	0.3505	0.2982	0.2608	0.2980	0.3568
Frequency of training for Civics teachers	0.3418	0.3025	0.2988	0.2978	0.3493
Expenditures on training for teachers of Civics and Political Science	0.3496	0.2945	0.2721	0.2971	0.3561
Frequency of Student Civic and Social Practices	0.3365	0.3565	0.2914	0.2718	0.3210
Popularization of Situation Policy Classes	0.3410	0.3014	0.2776	0.3192	0.3486
Civics Program Design	0.3455	0.3160	0.2693	0.2943	0.3525
Funding for Civic and Political Research	0.3414	0.3243	0.2792	0.2917	0.3489

Table 5 Ranking of crucial indicators

Indicator/sample	calculated value
Funding for Civic and Political Research	0.9851
Expenditure on students' civic and political social practice	0.9921
Expenditures on library book purchases	0.9978
Funding for Teaching and Learning Enhancement in Civics and Political Science	0.9973
Number of Civics Teaching Staff	0.9894
Number of Civics Master Teachers	0.9800
Number of books on Civics in the library	0.9548
Weighting of the Civics Teaching Staff	0.9764
Number of Civics Executive Disciplines	0.9905
Competitive teaching skills	0.9351
Web traffic in Civics	0.9730
Evaluation of student teaching	0.9772
Total number of papers published	0.9351

Total number of core papers	0.9856
Civic and political subject personnel	0.9512
Number of projects	0.9878
Civics Heat Search Volume	0.9884
Total number of student publications	0.9858
Number of Civics and Political Science courses	0.9782
Civics class attendance rate	0.9720
Frequency of training for Civics teachers	0.9881
Expenditures on training for teachers of Civics and Political Science	0.9751
Frequency of Student Civic and Social Practices	0.9800
Popularization of Situation Policy Classes	0.9865
Civics Program Design	0.9802
Funding for Civic and Political Research	0.9851

Table 5 shows the gray entropy correlation of the critical indicators constructed in this paper, i.e., the degree of influence of the hands on the overall evaluation of the

political capacity of colleges and universities, plotted as follows.

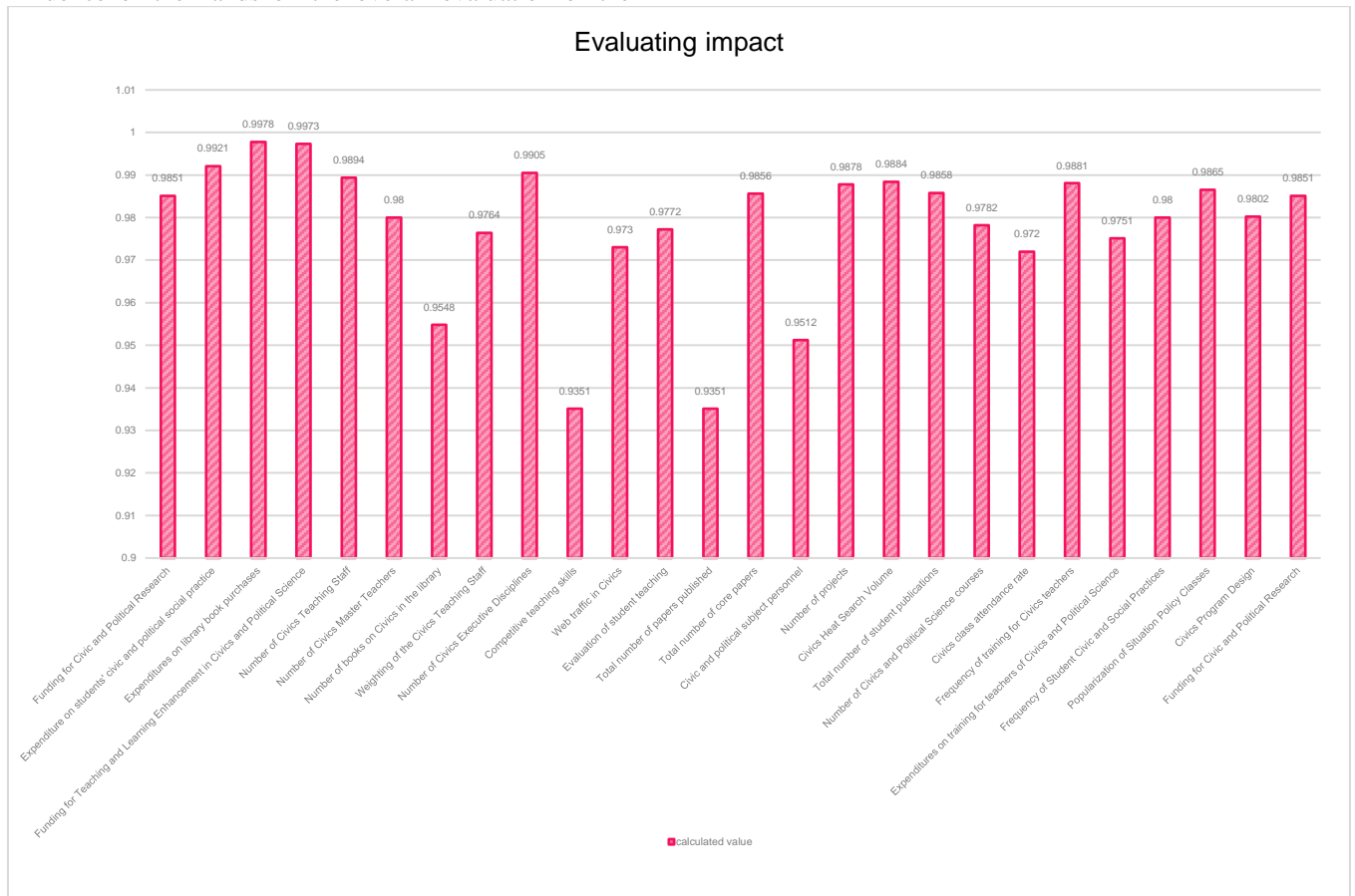


Figure 1 Evaluation impact map

3.3 Discussion of Example Results

Table 5 and Figure 1 show several critical indicators with high evaluation value in evaluating universities' ideological and political competence, which are analyzed as follows.

Library book purchase expenditure is the most significant indicator of gray entropy calculation value. After

consulting the relevant, analyze the reasons: firstly, the book purchase expenditure directly reflects the school's attention to ideological and political competence. The more resources colleges and universities invest in purchasing relevant books, the more the school pays attention to ideological and political competence and is committed to improving the ideological and political qualities of the students; secondly, the book purchase

expenditure can also reflect the content of the ideological and political competence of the school's. Secondly, the expenditure on book purchase can also skip the richness and diversity of the school's ideological and political competence content. By purchasing diversified ideological and political books, the school can provide more extensive and comprehensive competence resources to meet the different needs of students and promote their all-around development; the expenditure on book purchases can also assess the service level and management ability of university libraries. A sound library management system can ensure that the quantity, quality, and variety of books are sufficient and diversified, provide teachers and students with a good borrowing environment and services, and enhance the students' experience of ideological and political competence; lastly, the expenditure on book purchases can also evaluate the actual effect of ideological and political competence in colleges and universities on the enhancement of students' romantic quality. By purchasing relevant books, the university can provide more learning resources and knowledge channels to help students study and understand the country's laws, regulations, and policies in-depth and improve their ideological and political quality and moral level.

Funding for teaching enhancement of the Civics and Political Science discipline is ranked second in the Grey Entropy Assessment Value, and the reasons for this are analyzed as follows: the funding for teaching enhancement of the Civics and Political Science discipline can be used to improve teaching conditions and facilities, purchase newer teaching materials and aids, provide better teaching resources and technical support, and promote the innovation and improvement of teaching methods and means. This will help to improve the teaching quality of Civic Competence and enhance students' learning effect and competence experience; funding can be used for teacher training, academic exchanges and professional development, which will help to improve teachers' teaching ability and the teaching quality of Civic Competence; funding can be used to support the innovation and reform of Civic Competence programs, including the development of new teaching contents, the design of new teaching modes and evaluation methods, the introduction of diversified teaching resources and cases to enhance the effectiveness and relevance of the courses and to adapt to the needs of students and the requirements of social development; the funding input can be used to carry out assessment and research on the effects of Civic and Political Competence, to establish a scientific evaluation system and methodology, and to carry out a comprehensive quality evaluation of the students, so as to find out the actual effects of the Civic and Political Competence and the enhancement of the ideological and political literacy of the students, which will help to identify problems, improve teaching methods and means, and enhance the

effectiveness and relevance of civic and political competence.

The above analysis shows that the gray entropy analysis method helps evaluate ideological and political competence ability in colleges and universities, and the results are intuitive.

5 Conclusion

In this paper, an example analysis was carried out based on gray correlation entropy in the context of AI, and the results proved that the evaluation method is effective and can objectively and comprehensively assess the scores of the critical indicators of the capacity of ideological and political competence in colleges and universities. The conclusions obtained through the analysis are as follows: First, through analyzing the data of relevant indicators, find that the research object performs well in the teaching quality of the ideological and political courses. The level of teachers' lectures, the adequacy of teaching resources, and the flexibility of teaching methods have all reached a high level. These factors allow students to acquire sufficient knowledge and opportunities for reflection in the Civics and Political Science courses, which helps improve their ideological and political literacy. Secondly, the research subjects have also made remarkable achievements in developing practical Civic and Political Competence activities. The school actively organizes various social practices, Civic and Political lectures, and seminars, providing students with valuable opportunities and platforms for exchanging ideas. These activities not only enrich the ideological and political knowledge of the students but also cultivate their practical ability and sense of social responsibility. In addition, the research object also has good operation in the evaluation and feedback mechanism of ideological and political competence. The school has set up a scientific evaluation system. It timely evaluates and gives feedback on the effect of students' ideological and political competence, which helps to discover problems and deficiencies in time and improve the competence impact by improving teaching methods and means. In summary, the results of evaluating colleges and universities' ideological and political competence based on gray correlation entropy in the context of AI show that the research subjects in this paper have high competence and level of ideological and political competence.

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