

# Evaluation of Civic Education Effectiveness of WeChat Public Website of Universities Based on AHP Fuzzy Comprehensive Evaluation Method

Yifan Han<sup>1, a, \*</sup>, Yuncong Zeng<sup>2, b</sup>

\*<sup>a</sup>Corresponding author: 13051523565@163.com, <sup>b</sup>life\_zengyc@uestc.edu.cn

<sup>1</sup>University of Electronic Science and Technology of China School of Public Affairs and Administration Chengdu City, Sichuan Province, China

<sup>2</sup>University of Electronic Science and Technology of China School of Life Science and Technology Chengdu City, Sichuan Province, China

**Abstract:** Nowadays, China is in the post-epidemic era of rapid development of information technology. As an important platform and medium for popularizing ideological and political education online in domestic colleges and universities, the communication effect of the WeChat public number directly affects the effectiveness of students' ideological and political education. At present, there are problems such as confusion and confusion of subjects, limitation of information timeliness, applicability and popularity in college WeChat public numbers. This paper firstly establishes 17 evaluation indexes and their recursive hierarchical structure model for the evaluation of the effect of college WeChat public number of ideological and political education through AHP, and determines the weight value of each index by using the method of second-level evaluation; then obtains the affiliation degree of each factor through fuzzy statistical analysis, uses multi-level fuzzy comprehensive evaluation method to comprehensively evaluate the effect of college WeChat public number of ideological and political education, and adopts the principle of maximum affiliation to fuzzy. The final evaluation results are obtained by analyzing the comprehensive evaluation results. The model results have some reference value for universities to improve the new media education platform and enhance the education quality.

**Keywords-**AHP; Civic Education; WeChat Public; Evaluation Method

## 1 BACKGROUND

According to the 49th Statistical Report on the Development Status of China's Internet Network released by China Internet Network Information Center (CNNIC) in Beijing on February 25, 2022, as of December 2021, the size of China's Internet users reached 1.032 billion, an increase of 42.96 million from December 2020[1], and the Internet penetration rate reached 73.0%. Among them, since WeChat began to launch its public platform in August 2012, various entities such as government, media and enterprises have gradually used WeChat public numbers as online publicity carriers for message pushing, brand communication and cultural sharing. As the main position of education for young college students, colleges and universities nationwide have widely built "two micro ends" platforms and launched "Internet + ideological

and political education" mode in recent years [2] to promote education through online information dissemination platforms such as microblogs and WeChat public numbers. The work is highly integrated with information technology through online information dissemination platforms such as microblogs and WeChat public numbers. However, there is no scientific evaluation system for the effectiveness of ideological and political education of microblogs and public WeChat numbers in colleges and universities. According to the communication characteristics of new media platforms, the construction of the evaluation system of the super effect of the political thought education of college WeChat public numbers is conducive to the graded play of the communication effectiveness of WeChat public numbers in colleges and universities and the strengthening of the guidance of ideological and political education of teachers and students [3].

## **2 AHP FUZZY COMPREHENSIVE EVALUATION METHOD**

In this paper, AHP and fuzzy comprehensive evaluation method are combined to build AHP-fuzzy comprehensive evaluation model in the process of evaluating the effectiveness of Civic Education in college WeChat public website, and the AHP-fuzzy comprehensive evaluation model mainly consists of two parts: the first part is the hierarchical analysis method, which establishes the recursive hierarchical structure model of education effectiveness evaluation index system through AHP, constructs the two-comparison judgment matrix, and then calculates the weight vector of each index and its combination.[4] The second part is the fuzzy comprehensive evaluation method, which uses the multi-level fuzzy comprehensive evaluation method to evaluate the effect of Civic Education on college microblogs. The fuzzy comprehensive evaluation in the second part is based on the hierarchical analysis method in the first part to give full play to the advantages of each method and jointly improve the reliability and validity of the evaluation process and evaluation results [5].

## **3 DESCRIPTION OF ASSESSMENT INDICATORS**

In this paper, we obtain the indicators related to the evaluation of the effectiveness of the Civic Education of WeChat public number in colleges and universities through the three-level index research. As shown in Table 1. [6] Among them, the secondary indicators contain the effectiveness of the subject, process and result, influence.[7]

### **3.1 Subject validity**

In the subject validity, the funding ratio and team structure are based on the situation of the author's unit, research on sister colleges and review of relevant literature to obtain qualitative research results. The number of hosted projects, the number of participating training, the number of original works, and the activity of the platform are based on relevant data collected from the department in charge of network culture construction in the author's unit. The professionalism of the operation team was assessed by the professional operation and maintenance personnel of the WeChat public website.

### 3.2 Process validity

In the process validity, the average number of reads, average in view, average communication index, popular tweets and other related indexes of each department's WeChat public number were obtained from the summary of the data of the superior media of the author's unit. The proportion of party and caucus news, the number of tweets on Civic Education, the number of interactive communication works and the coverage of interactive communication are supported by the relevant data provided by the competent party and caucus publicity department of the author's unit. The number of reprints by higher-level media is based on the year-end inventory of the college where the author works.

### 3.3 Result validity

In terms of the validity of the results, they are designed to evaluate the changes in students' awareness and acceptance of ideological level, political stance and moral quality after receiving the ideological and political education from the university WeChat. The changes in this area are mainly presented by two types of evaluation indicators: one is the moral literacy indicator, which mainly examines the changes in the number of students' applications for party membership, the number of participants in public welfare practice activities and the participation in youth learning after the intervention of WeChat in the ideological and political education work. Secondly, the collective literacy index, the ideological and political education work in colleges and universities has distinctive collective characteristics, that is, the evaluation of the effectiveness of education should emphasize the evaluation of the effect of collective education. Since all universities have formed a set of mature internal assessment systems of ideological and political education work in long-term practice, mainly represented by the selection of the advanced collective of ideological and political education carried out at the end of the academic work system, excellent network culture studio and the selection of May Fourth Red Flag Youth League Committee carried out by the Communist Youth League system, it can reflect the results of new media ideological and political education to a certain extent, and thus can be used as an index for examination.

### 3.4 Impact

The average number of reads, average in-view, average communication index, popular tweets and other related indicators of each department's WeChat public number was obtained by aggregating the data from the parent media of the author's unit.

Table 1. Evaluation Indicator System

Tier 1 Indicators	Secondary indicators	Tertiary indicators
Quantitative index system for assessing the influence of WeChat public numbers in colleges and universities	Subject validity (A <sub>1</sub> )	Funding ratio (A <sub>11</sub> )
		Team Structure (A <sub>12</sub> )
		Number of projects led (A <sub>13</sub> )
		Number of training participants (A <sub>14</sub> )
		Number of original works (A <sub>15</sub> )

	Process validity (A <sub>2</sub> )	Party and group news ratio (A <sub>21</sub> )
		Thinking Education Tweets Volume (A <sub>22</sub> )
		Volume of works (A <sub>23</sub> )
		Quality of Work (Award) (A <sub>24</sub> )
	Result validity (A <sub>3</sub> )	Application rate for joining the party (A <sub>31</sub> )
		Participation rate in public welfare activities (A <sub>32</sub> )
		Youth Big Learning Participation Rate (A <sub>33</sub> )
		Outstanding Network Culture Studio (A <sub>34</sub> )
	Impact (A <sub>4</sub> )	Number of reprints by higher-level media (A <sub>41</sub> )
		WeChat WCI Index (A <sub>42</sub> )
		Average share volume (A <sub>43</sub> )
		Average number of likes (A <sub>44</sub> )

## 4 DETERMINING THE SYSTEM OF INDICATORS

Generally speaking, the modeling of AHP includes four steps: building a structural model of recursive hierarchy, constructing a two-by-two comparison judgment matrix, hierarchical single ranking and hierarchical total ranking. The following specific analysis is carried out.

### 4.1 Create a Recursive Hierarchy Based on Information

In this paper, we set up the content and index system for evaluating the effectiveness of Civic and Political Education of college WeChat public numbers in four aspects: subject validity, process validity, result validity and influence. After clarifying the evaluation contents and the relationship between them, we can establish a hierarchical model composed of evaluation objects and their evaluation index system.

### 4.2 Constructing A Two-Comparison Judgment Matrix

A judgment matrix (also called pairwise comparison matrix) is constructed, and for factors of the same level, a two-by-two comparison is made according to their importance regarding a certain criterion of the previous level. Thus, a two-by-two comparison of the importance of all factors, available on a scale of 1 to 9, is given in Table 2.

**Table 2.** Definition of judgment matrix scales

Scale	Meaning
1	Factor i factor j is equally important
3	Factor i is slightly more important than factor j
5	Factor i is significantly more important

	than factor j
7	Factor i is strongly more important than factor j
9	Factor i is extremely more important than factor j
2,4,6,8	The ratio of the effects of factor i over factor j is between the two adjacent levels above
Countdown	The ratio of the effects of factor i over factor j is the ratio of the above $a_{ij}$ the reciprocal of. $a_{ij} = \frac{1}{a_{ji}}$

The n-order two-by-two comparison judgment matrix is constructed, as shown in the following constructed judgment matrix. Where  $A_i (i = 1, 2, 3, \dots, n)$  is the evaluation index, and  $a_{ij} (i, j = 1, 2, 3, \dots, n)$  denotes the weight. This paper evaluates the importance of each level of evaluation indexes compared with other evaluation indexes two-by-two by eight teachers engaged in college Civic and Political Science education at University of Electronic Science and Technology.

$$A = \begin{bmatrix} A & A_1 & A_2 & A_3 & A_4 \\ A_1 & 1 & 1/8 & 1/6.5 & 1/3 \\ A_2 & 8 & 1 & 2.3 & 4.4 \\ A_3 & 6.5 & 1/2.3 & 1 & 1.8 \\ A_4 & 3 & 1/4.4 & 1/1.8 & 1 \end{bmatrix} \quad (1)$$

Based on the constructed judgment matrix, using the characteristic root method, the weight vector  $\omega = (\omega_1, \omega_2, \omega_3, \dots, \omega_n)^T$ , right multiplying the weight ratio matrix A, we have.

$$A\omega = \lambda_{max}\omega \quad (2)$$

where  $\lambda_{max}$  is the maximum eigenvalue of the judgment matrix, which exists and is unique, and in addition  $\omega$  The components of the matrix are positive. Finally, the obtained weight vector is normalized, and the normalized vector is the weight vector for sorting.

### 4.3 Hierarchical Single Sort and Hierarchical Total Sort

The first is the hierarchical single ranking. After the aforementioned judgment matrix is constructed, the maximum eigenvalue of this judgment matrix and its corresponding orthogonal eigenvector are found, and the weight value of the relative importance of each factor in each level with respect to a factor in the previous level and its ranking are calculated.

The main methods for solving the feature vectors are the sum-product method, square root method, power method, least squares method, etc. The importance calculation is the most fundamental computational task of AHP decision analysis. In this paper, the sum-product method is used for calculation. Let the judgment matrix  $A = (a_{ij})_{n \times n}$ , whose specific steps include.

1) *Step 1*: The elements in A are normalized by columns, i.e., to find

$$\bar{a}_{ij} = \frac{a_{ij}}{\sum_{k=1}^n a_{kj}}, i, j = 1, 2, 3, \dots, n \quad (3)$$

2)Step 2: The columns of the same row of the normalized matrix are summed, i.e.

$$\bar{\omega}_i = \sum_{j=1}^n \bar{a}_{ij}, i = 1, 2, 3, \dots, n \quad (4)$$

3)Step 3: The weight vector is obtained by dividing the summed vector by n, i.e.

$$\bar{\omega} = \bar{\omega}_i/n \quad (5)$$

4)Step 4: The maximum characteristic root is calculated as where  $(A\omega)_i \lambda_{max} = \frac{1}{n} \sum_{i=1}^n \frac{(A\omega)_i}{\omega_i}$  denotes the vector  $A\omega$  of  $i$  component of the vector. The calculation process is as follows.

**Table 3.** Calculation of the sum of the columns

<b>Effectiveness evaluation</b>	<b>Subject validity</b>	<b>Process validity</b>	<b>Result validity</b>	<b>Impact</b>
Subject validity	0.0540	0.0699	0.0384	0.0442
Process validity	0.4324	0.5596	0.5737	0.5841
Result validity	0.3514	0.2433	0.2494	0.2389
Impact	0.1622	0.1272	0.1385	0.1328

**Table 4.** Normalization by column

<b>Effectiveness evaluation</b>	<b>Subject validity</b>	<b>Process validity</b>	<b>Result validity</b>	<b>Impact</b>
Subject validity	0.0540	0.0699	0.0384	0.0442
Process validity	0.4324	0.5596	0.5737	0.5841
Result validity	0.3514	0.2433	0.2494	0.2389
Impact	0.1622	0.1272	0.1385	0.1328

**Table 5.** Calculation of the sum of rows

<b>Effectiveness evaluation</b>	<b>Subject validity</b>	<b>Process validity</b>	<b>Result validity</b>	<b>Impact</b>	$\omega'_i$
Subject validity	0.0540	0.0699	0.0384	0.0442	0.2065
Process validity	0.4324	0.5596	0.5737	0.5841	2.1498
Result validity	0.3514	0.2433	0.2494	0.2389	1.083
Impact	0.1622	0.1272	0.1385	0.1328	0.5607

$\sum a_{ij}$	1	1	1	1	
---------------	---	---	---	---	--

**Table 6.** Calculation of the weights of each element

Effectiveness evaluation	Subject validity	Process validity	Result validity	Impact	$\omega_i$
Subject validity	0.0540	0.0699	0.0384	0.0442	0.0516
Process validity	0.4324	0.5596	0.5737	0.5841	0.5375
Result validity	0.3514	0.2433	0.2494	0.2389	0.2708
Impact	0.1622	0.1272	0.1385	0.1328	0.1402

#### 4.4 Consistency Test

1) Calculate the consistency index  $CI$  (consistency index):  $CI = \frac{\lambda_{max} - n}{n - 1}$  where  $\lambda_{max}$  is the maximum eigenvalue of the judgment matrix.

2) Find consistency indicators  $RI$ .

3) Calculate the consistency ratio  $CR$  (consistency ratio)

$$CR = \frac{CI}{RI} \quad (6)$$

When  $CR < 0.10$  When the consistency of the judgment matrix is considered acceptable, otherwise, the judgment matrix should be appropriately revised.

This paper first calculate the maximum value of the eigenvectors of the judgment matrix  $A\lambda_{max}$  : The

$$\lambda_{max} = \frac{1}{n} \sum_{i=1}^n \left[ \frac{\sum_{j=1}^n a_{ij} \omega_j}{\omega_i} \right] = \sum_{i=1}^n \left[ \frac{\sum_{j=1}^n a_{ij} \omega_j}{n \omega_i} \right] = 4.1357 \quad (7)$$

Then its consistency index  $CI = \frac{\lambda_{max} - n}{n - 1} = \frac{4.1357 - 4}{4 - 1} = 0.0452$  , it can be seen from the table that when the order of the judgment matrix  $n=4$ , the correction coefficient  $RI = 0.90$ , so that its consistency ratio is  $CR = \frac{CI}{RI} = \frac{0.0452}{0.90} = 0.05026 < 0.10$  , and thus the judgment matrix has consistency, and through the test, that is, the resulting weight set.  $W = (0.0516, 0.5375, 0.2708, 0.1402)$  , can reflect the importance of each factor, and thus the distribution of each weight value is more reasonable.

Similarly, the construct judgment matrices for each secondary index in the evaluation of the effectiveness of Civic Education in university WeChat public numbers according to the experts' ratings, perform operations to obtain their weight sets, and conduct consistency tests.

Judgment of "subject validity": the set of weights is  $W_1 = (0.0604, 0.0569, 0.1613, 0.3494, 0.372)$  to obtain its  $\lambda_{max} = 4.0182$ ,  $CI = 0.0061$ ,  $CR = 0.0055 < 0.10$  that passes the consistency test.

Judgment of "process validity": the set of weights is  $W_2 = (0.2802, 0.0548, 0.1578, 0.5071)$  and obtain its  $\lambda_{max} = 4.0079$ ,  $CI = 0.0064$ ,  $CR = 0.0071 < 0.10$  that passes the consistency test.

Judgment of "result validity": the set of weights is  $W_3 = (0.1444, 0.1411, 0.2631, 0.4547)$  to obtain its  $\lambda_{max} = 4.0103$ ,  $CI = 0.0034$ ,  $CR = 0.0038 < 0.10$  that passes the consistency test.

Judgment of "influence": the set of weights is  $W_4 = (0.4118, 0.1080, 0.1872, 0.2930)$  and get its  $\lambda_{max} = 4.0709$ ,  $CI = 0.0236$ ,  $CR = 0.0262 < 0.10$ , which passes the consistency test.

The hierarchical total ranking was performed and the relative weights of each indicator were calculated.

After calculating the single ranking weight value of each factor in each level relative to a factor in the previous level, the relative importance weight value of each factor in each level relative to the previous level can be calculated using the value of the factor itself in the previous level, which is the total ranking value of the level. Accordingly, the relative importance of each factor in the lowest level with respect to the highest level can be calculated from the top to the bottom. Using the previous results, the final weight values of each indicator at each level relative to the total indicator can be calculated, as shown in Table 7.

**Table 7.** Table of relative weights

Tier 1 indicators and their weights	Secondary indicators and their weights
Subject validity (A1) (0.0516)	Funding ratio (A11) (0.0031)
	Team structure (A12) (0.0029)
	Number of projects led (A13) (0.0083)
	Number of training participants (A14) (0.0182)
	Number of original works (A15)(0.0191)
Process validity (A2) (0.5375)	Party and group news ratio (A21) (0.1506)
	Thinking and education tweet volume (A22)(0.0295)
	Volume of work (A23) (0.0848)
	Quality of Work (Award) (A24) (0.2726)
Result validity (A3) (0.2708)	Application rate for joining the party (A31) (0.0391)
	Participation rate of public welfare activities (A32) (0.0382)
	Youth Big Learning Participation Rate (A33) (0.0712)
	Outstanding Network Culture Studio (A34)(0.1231)



Impact (A4) (0.1402)	Number of reprints by higher-level media (A41) (0.0577)
	WeChat WCI Index (A42)(0.0151)
	Average sharing volume (A43) (0.0262)
	Average number of likes (A44) (0.0411)

## 5 FUZZY COMPREHENSIVE EVALUATION

Therefore, we first separate each first-level indicator  $A_i (i = 1, 2, 3, 4)$ , the second-level indicators belonging to  $A_{ij} (i, j = 1, 2, 3, 4)$ . It conducts a single-factor first-level fuzzy integrated evaluation, followed by fuzzy integrated operation with the weight values of the first-level indicators to obtain the results of the second-level fuzzy integrated evaluation. The whole process is as follows.

### 5.1 Construction of evaluation factor set, rubric set and weight set of evaluation index

According to Table 8, it can construct the set of evaluation factors for the evaluation indicators as:

$$\begin{aligned}
 A &= \{A_1, A_2, A_3, A_4\} \\
 A_1 &= \{A_{11}, A_{12}, A_{13}, A_{14}, A_{15}\} \\
 A_2 &= \{A_{21}, A_{22}, A_{23}, A_{24}\} \\
 A_3 &= \{A_{31}, A_{32}, A_{33}, A_{34}\} \\
 A_4 &= \{A_{41}, A_{42}, A_{43}, A_{44}\}
 \end{aligned} \tag{8}$$

Meanwhile, constructing the rubric set as five levels of  $V = \{V_1, V_2, V_3, V_4, V_5\} = \{\text{Excellent, Good, Medium, Fair, Poor}\}$ . In addition, the set of target assignment weights for each level of indicators has been established earlier in this paper using AHP method, which are:

$$\begin{aligned}
 W &= (0.0516, 0.5375, 0.2708, 0.1402) \\
 W_1 &= (0.0604, 0.0569, 0.1613, 0.3494, 0.372) \\
 W_2 &= (0.2802, 0.0548, 0.1578, 0.5071) \\
 W_3 &= (0.1444, 0.1411, 0.2631, 0.4547) \\
 W_4 &= (0.4118, 0.1080, 0.1872, 0.2930)
 \end{aligned} \tag{9}$$

## 5.2 Construct the affiliation matrix

The affiliation matrix is the affiliation of the factor evaluated for the first  $i$  affiliation degree of each V in the set of comments corresponding to the first index, and  $r_{ij} = \frac{N_{ij}}{N}$ , where N is the total number of participants in the survey on the evaluation of the effectiveness of Civic Education in universities' WeChat public websites. In this paper, anonymous questionnaires were used to survey a total of 500 college students in the freshman, sophomore and junior years of the author's university. As a result, we obtained.

The affiliation matrix of the subject validity ( $A_1$ ) is:

$$R_1 = \begin{bmatrix} 0.146 & 0.500 & 0.192 & 0.146 & 0.016 \\ 0.442 & 0.320 & 0.080 & 0.098 & 0.060 \\ 0.220 & 0.674 & 0.088 & 0.012 & 0.006 \\ 0.374 & 0.296 & 0.210 & 0.080 & 0.040 \\ 0.285 & 0.356 & 0.196 & 0.146 & 0.017 \end{bmatrix}$$

The affiliation matrix of the process validity ( $A_2$ ) is

$$R_2 = \begin{bmatrix} 0.420 & 0.322 & 0.154 & 0.090 & 0.014 \\ 0.394 & 0.526 & 0.068 & 0.006 & 0.006 \\ 0.314 & 0.286 & 0.290 & 0.060 & 0.050 \\ 0.210 & 0.414 & 0.178 & 0.108 & 0.090 \end{bmatrix}$$

The affiliation matrix of the resultant validity ( $A_3$ ) is

$$R_3 = \begin{bmatrix} 0.338 & 0.412 & 0.130 & 0.100 & 0.020 \\ 0.366 & 0.296 & 0.186 & 0.140 & 0.012 \\ 0.290 & 0.318 & 0.174 & 0.118 & 0.100 \\ 0.356 & 0.370 & 0.150 & 0.120 & 0.004 \end{bmatrix}$$

The affiliation matrix of the influence ( $A_4$ ) is

$$R_4 = \begin{bmatrix} 0.260 & 0.404 & 0.238 & 0.060 & 0.038 \\ 0.288 & 0.464 & 0.118 & 0.080 & 0.050 \\ 0.288 & 0.268 & 0.240 & 0.100 & 0.104 \\ 0.226 & 0.376 & 0.162 & 0.210 & 0.026 \end{bmatrix}$$

## 5.3 Single-factor first-level fuzzy evaluation

$K_i = W_i * R_i = (w_{i1}, w_{i2}, \dots, w_{in})(r_{i1}, r_{i2}, \dots, r_{im})^T$ , apply the affiliation matrix  $R_i$  with the previously obtained weight set  $W_i$ . The composite operation of the fuzzy matrix can be performed to obtain the single-factor first-level fuzzy judgment results expressed by the affiliation degree.

In turn, the first-level fuzzy evaluation matrix for the assessment of the effectiveness of Civic Education in college WeChat Public is obtained as

$$K = \begin{pmatrix} K_1 \\ K_2 \\ K_3 \\ K_4 \end{pmatrix} = \begin{bmatrix} 0.3062 & 0.3930 & 0.1766 & 0.0986 & 0.2565 \\ 0.3953 & 0.3741 & 0.1829 & 0.0898 & 0.0578 \\ 0.3386 & 0.3531 & 0.1590 & 0.1198 & 0.0327 \\ 0.2583 & 0.3768 & 0.2031 & 0.1136 & 0.0481 \end{bmatrix} \quad (10)$$

#### 5.4 Comprehensive assessment

Using the compound operation of the fuzzy matrix with the previously obtained weight set  $W$  by applying  $K$ , the final comprehensive assessment (second-level fuzzy comprehensive evaluation) of the evaluation of the effectiveness of the Civic Education of university WeChat public website expressed in terms of affiliation degree can be obtained as

$$P = W * K = (0.3024, 0.3698, 0.1790, 0.1008, 0.0480) \quad (11)$$

The final evaluation results of the effectiveness of the university's WeChat public website on thinking and government education show that 30.2442% may be "excellent", 36.98% may be "good", 17.90% may be "moderate", 10.08% may be "okay", and 4.80% may be "poor". There are 30.2442% likely to be "excellent", 36.98% likely to be "good", 17.90% likely to be "moderate", 10.08% likely to be "OK", and 4.80% likely to be "poor". According to the principle of maximum affiliation, in the five grades of "excellent, good, moderate, acceptable and poor", we have:  $0.3698 > 0.3024 > 0.1790 > 0.1008 > 0.0480$ . Therefore, the overall comprehensive evaluation of the effectiveness of the university's WeChat public education The overall comprehensive evaluation result is "good".

## 6 SUMMARY

In this paper, on the basis of studying the influencing factors of the evaluation of the effect of college WeChat public number of the Civic and Political Education, we use AHP hierarchical analysis and fuzzy comprehensive evaluation method to construct AHP-fuzzy comprehensive evaluation model to evaluate the effect of college WeChat public number of Civic and Political Education and overcome the limitations of traditional methods. Firstly, it establishes the content and index system of the evaluation of Civic Education effect of college WeChat public number through AHP and determines the weight value of each index; then it uses a multi-level fuzzy comprehensive evaluation method to make a comprehensive evaluation of the Civic Education effect of college WeChat public number. The second part of the fuzzy comprehensive evaluation is based on the first part of the hierarchical analysis method, so as to give full play to the advantages of each method and jointly improve the reliability and validity of the evaluation process and evaluation results.

## REFERENCES

- [1] G. Eason, B. Noble, and I. N. Sneddon, "On certain integrals of Lipschitz-Hankel type involving products of Bessel functions," *Phil. Trans. Roy. Soc. London*, vol. A247, pp. 529–551, April 1955. (*references*)
- [2] J. Clerk Maxwell, *A Treatise on Electricity and Magnetism*, 3rd ed., vol. 2. Oxford: Clarendon, 1892, pp.68–73.
- [3] I. S. Jacobs and C. P. Bean, "Fine particles, thin films and exchange anisotropy," in *Magnetism*, vol. III, G. T. Rado and H. Suhl, Eds. New York: Academic, 1963, pp. 271–350.
- [4] K. Elissa, "Title of paper if known," unpublished.
- [5] R. Nicole, "Title of paper with only first word capitalized," *J. Name Stand. Abbrev.*, in press.
- [6] Y. Yorozu, M. Hirano, K. Oka, and Y. Tagawa, "Electron spectroscopy studies on magneto-optical media and plastic substrate interface," *IEEE Transl. J. Magn. Japan*, vol. 2, pp. 740–741, August 1987 [Digests 9th Annual Conf. Magnetics Japan, p. 301, 1982].
- [7] M. Young, *The Technical Writer's Handbook*. Mill Valley, CA: University Science, 1989.