

Research on the Performance Evaluation Model and System of Ideological and Political Education for College Students

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Abstract

Ideological and political education for college students is not only objective of moral education development in high school talent cultivation, but also an important link in advanced talent quality-oriented education. Ideological and political education for college students is diverse, procedural, multi-objective, fuzzy and qualitative. So to evaluate the performance of ideological and political education for college students, a performance evaluation system is proposed and studied in this paper and furthermore an evaluation model is also generated based on extension theory. This model analyzes different types of evaluation indexes under the system, acquiring the extension superiority between different evaluation indexes and relevant classical fields by analyzing qualitatively and quantitatively. By then level and capacity of ideological and political education for college students are evaluated. At last the effectiveness of this model is proven through example verification.

Keywords: High school; ideological and political education; performance evaluation; index system; extension theory; model

1. Introduction

In the wake of implementation of comprehensive quality-oriented education, ideological and political education for college students is becoming increasingly important in high education and turning gradually into a key link in high talent cultivation. However, due to influences and limitations brought by various factors during the implementing process, there still are some difficulties and deficiencies in ideological and political education for college students. The performance evaluation of ideological and political education for college students as an important way to deepen the study of the education in high schools is of crucial significance to enhance and improve basic theories, construction of system and discipline.^[1-4] Therefore deeper research on the performance evaluation model and system of ideological and political education for college students is significantly important. To date, there have already been some analyses and studies conducted by experts and scholars from different perspectives in this field. And relevant performance evaluation systems and methods have been proposed. But some points of view still need to be improved, for examples: 1), analyses of subjects and objects in the evaluation are far from enough with only subjective role of one single aspect being highlighted; 2), the system in most cases only analyzes one single aspect, lacking integrity and completeness; 3), the model in most cases only analyzes from qualitative or quantitative perspective thus it has limitations. This thesis proposes an improved performance evaluation system of ideological and political education for college students on the basis of existing researches. Furthermore it gives a performance evaluation model combining qualitative and quantitative methods based on extension theory.

2. The Performance Evaluation System of Ideological and Political Education for College Students

The construction of the performance evaluation system of ideological and political education for college students is affected by many factors. Thus during the construction several principles need to be followed:

(1) Scientificity Principle: the selection of indexes should be reasonable. The performance evaluation of ideological and political education for college students needs to be conducted scientifically and credibly.

(2) Objectivity Principle: the selection of indexes should not be subjective but objective. The indexes should be able to reflect the real situations of ideological and political education for college students.

(3) Integrity Principle: the selection of indexes should consider the integrity and inner connection between indexes. The situation of ideological and political education for college students needs to be analyzed comprehensively from different perspectives.

(4) Consistency Principle: the selection of indexes should follow consistent standards thus they can be disposed effectively.

(5) Operability Principle: the selection of indexes should be operable and the indexes should be able to be measured quantitatively and qualitatively.

By strictly following the principles above, this paper proposes an improved performance evaluation system of ideological and political education for college students which is demonstrated in Table 1, hoping to conduct evaluation scientifically, objectively and effectively.

Table1. The Performance Evaluation System of Ideological and Political Education for College Students

Target layer	Criterion layer	Index layer
The performance evaluation system of ideological and political education for college students P	Input capacity of ideological and political education P_1	rationality of institution setting p_{11}
		rationality of personnel allocation p_{12}
		Input capacity of educational fund p_{13}
		construction capacity of discipline base p_{14}
	Planning capacity of ideological and political education P_2	scientificity of development plan p_{21}
		systematicness of executive operation p_{22}
		rationality of system installation p_{23}
	Practical capacity of ideological and political education P_3	creativity of practical method p_{31}
		functionality of practical content p_{32}
		frequency of practical activities of moral education p_{33}
		advancement of practical method p_{34}

	Quality of professional teacher P_4	number of well-edited textbooks of moral education p_{41}
		average number of articles published in core journals per person p_{42}
		percentage of highly educated teachers p_{43}
		average number of educational reform project of moral education per person p_{44}
		quality of classroom teaching of moral education p_{45}
		innovation capacity of educational reform p_{46}
		number of awards acquired in the educational reform p_{47}
	Quality of student cultivation P_5	cultivation percentage of student Party member p_{51}
		percentage of excellent students among Party members p_{52}
		number of articles published by student Party member p_{53}
		pass rate of students p_{54}
		comprehensive quality and ability of students p_{55}
	Social profitability P_6	employment rate of students p_{61}
		situation of service for west construction p_{62}
		participation situation of “three supports and one assistance”(support education, agriculture and medical service plus assistance for the poverty) p_{63}
		social satisfaction p_{64}

3. The Performance Evaluation Model of Ideological and Political Education for College Students

3.1 The Qualitative Performance Evaluation of Ideological and Political Education for College Students

The performance evaluation system of ideological and political education for college students demonstrated in Table 1 has shown that some indexes are qualitative which need to be described in qualitative language. The corresponding magnitudes are fuzzy and qualitatively uncertain. Therefore they need to be standardized and transformed into

unified quantitative descriptions. This paper uses centesimal method to finish this standardization. Concrete content is shown in Table 2.

Table2. The Standardization of Qualitative Indexes

Qualitative description	Quantitative description	
	Positive pointers	Negative pointers
Excellent	100	20
Good	80	40
Medium	60	60
Not bad	40	80
Bad	20	100
situations between qualitative descriptions above	10, 30, 50, 70, 90	
uncertain adjacent qualitative situations	interval values between adjacent magnitudes	

Make the magnitude of qualitative evaluation index P_i^{DX} of evaluation target $v(P_i^{DX})$. The corresponding qualitative evaluation index P_j^{DX} belongs to the evaluation orders U_j^{DX} . The classical field of U_j^{DX} is $V(U_j^{DX}) = [v_1(U_j^{DX}), v_2(U_j^{DX})]$. Then the extension distance between P_i^{DX} and U_j^{DX} is $\rho_{ij}^{DX}(v(P_i^{DX}), V(U_j^{DX}))$:

$$\rho_{ij}^{DX}(v(P_i^{DX}), V(U_j^{DX})) = \left| v(P_i^{DX}) - \frac{v_1(U_j^{DX}) + v_2(U_j^{DX})}{2} \right| - \frac{v_2(U_j^{DX}) - v_1(U_j^{DX})}{2} \quad (1)$$

Make the magnitude of qualitative evaluation index P_i^{DX} of evaluation target $V(P_i^{DX}) = [v_1(P_i^{DX}), v_2(P_i^{DX})]$. Then the extension distance between P_i^{DX} and U_j^{DX} is $\rho_{ij}^{DX}(V(P_i^{DX}), V(U_j^{DX}))$:

$$\begin{aligned} & \rho_{ij}^{DX}(V(P_i^{DX}), V(U_j^{DX})) \\ &= \frac{\rho_{ij}^{DX}(v_1(P_i^{DX}), V(U_j^{DX})) + \rho_{ij}^{DX}(v_2(P_i^{DX}), V(U_j^{DX}))}{2} \\ &= \frac{\left| v_1(P_i^{DX}) - \frac{v_1(U_j^{DX}) + v_2(U_j^{DX})}{2} \right| - (v_2(U_j^{DX}) - v_1(U_j^{DX})) + \left| v_2(P_i^{DX}) - \frac{v_1(U_j^{DX}) + v_2(U_j^{DX})}{2} \right|}{2} \end{aligned}$$

(2) In a similar way, extension distances between the qualitative evaluation index P_i^{DX} of evaluation target and relevant evaluation index joint fields can be obtained. The method of measurement is centesimal thus the extension distance between qualitative indexes P_i^{DX} and corresponding index joint fields $\rho_i^{DX}(v(P_i^{DX}), V(U_o^{DX}))$ is:

$$\rho_i^{DX} \left(v(P_i^{DX}), V(U_o^{DX}) \right) = \frac{|v_1(P_i^{DX}) - 50| + |v_2(P_i^{DX}) - 50| - 100}{2}$$

(3)

Then the extension correlation coefficient between qualitative evaluation index P_i^{DX} of the target and evaluation orders U_j^{DX} is γ_{ij}^{DX} as:

$$\gamma_{ij}^{DX} = \begin{cases} \frac{\rho_{ij}^{DX} \left(V(P_i^{DX}), V(U_j^{DX}) \right)}{|v_1(U_j^{DX}) - v_2(U_j^{DX})|} & [v_1(P_i^{DX}), v_2(P_i^{DX})] \in [v_1(U_j^{DX}), v_2(U_j^{DX})] \\ 0 & \rho_i^{DX} \left(v(P_i^{DX}), V(U_o^{DX}) \right) - \rho_{ij}^{DX} \left(V(P_i^{DX}), V(U_j^{DX}) \right) = 0 \\ \frac{\rho_{ij}^{DX} \left(V(P_i^{DX}), V(U_j^{DX}) \right)}{\rho_i^{DX} \left(v(P_i^{DX}), V(U_o^{DX}) \right) - \rho_{ij}^{DX} \left(V(P_i^{DX}), V(U_j^{DX}) \right)} & [v_1(P_i^{DX}), v_2(P_i^{DX})] \notin [v_1(U_j^{DX}), v_2(U_j^{DX})] \end{cases}$$

(4)

3.2 The Quantitative Performance Evaluation of Ideological and Political Education for College Students

From Table 1 it can be seen that there are still quantitative indexes in the system. The quantitative indexes could have different dimensions and could be positive or negative. So to generate a unified quantitative measurement standard, all the quantitative indexes should be standardized into positive.

If quantitative evaluation index P_i^{DL} is positive then its corresponding magnitude is $V(P_i^{DL}) = [v_1(P_i^{DL}), v_2(P_i^{DL})]$. If $v_1(P_i^{DL}) \leq v_2(P_i^{DL})$, then the corresponding magnitude after it is transformed into positive is $C(P_i^{DL}) = [c_1(P_i^{DL}), c_2(P_i^{DL})]$ as:

$$C(P_i^{DL}) = [c_1(P_i^{DL}), c_2(P_i^{DL})] = \left[\frac{v_1(P_i^{DL})}{\max_{1 \leq j \leq n} (v_2(U_j^{DL}))}, \frac{v_2(P_i^{DL})}{\max_{1 \leq j \leq n} (v_2(U_j^{DL}))} \right]$$

(5)

Correspondingly, the classical field of evaluation orders U_j^{DL} turns into $C(U_j^{DL}) = [c_1(U_j^{DL}), c_2(U_j^{DL})]$:

$$C(U_j^{DL}) = [c_1(U_j^{DL}), c_2(U_j^{DL})] = \left[\frac{v_1(U_j^{DL})}{\max_{1 \leq j \leq n} (v_2(U_j^{DL}))}, \frac{v_2(U_j^{DL})}{\max_{1 \leq j \leq n} (v_2(U_j^{DL}))} \right]$$

(6)

If quantitative evaluation index P_i^{DL} is negative then its corresponding magnitude is $V(P_i^{DL}) = [v_1(P_i^{DL}), v_2(P_i^{DL})]$. If $v_1(P_i^{DL}) \leq v_2(P_i^{DL})$, then the corresponding magnitude after it is transformed into positive is $C(P_i^{DL}) = [c_1(P_i^{DL}), c_2(P_i^{DL})]$:

$$C(P_i^{DL}) = [c_1(P_i^{DL}), c_2(P_i^{DL})] = \left[\frac{\min_{1 \leq j \leq n}(v_1(U_j^{DL}))}{v_1(P_i^{DL})}, \frac{\min_{1 \leq j \leq n}(v_2(U_j^{DL}))}{v_2(P_i^{DL})} \right]$$

(7)

Correspondingly, the classical field of evaluation orders U_j^{DL} turns into $C(U_j^{DL}) = [c_1(U_j^{DL}), c_2(U_j^{DL})]$:

$$C(U_j^{DL}) = [c_1(U_j^{DL}), c_2(U_j^{DL})] = \left[\frac{\min_{1 \leq j \leq n}(v_1(U_j^{DL}))}{v_1(U_j^{DL})}, \frac{\min_{1 \leq j \leq n}(v_2(U_j^{DL}))}{v_2(U_j^{DL})} \right]$$

(8)

The extension distance between the quantitative evaluation indexes P_i^{DL} of target and the evaluation orders U_j^{DL} is $\rho_{ij}^{DL}(V(P_i^{DL}), V(U_j^{DL}))$:

$$\begin{aligned} & \rho_{ij}^{DL}(V(P_i^{DL}), V(U_j^{DL})) \\ &= \frac{\rho_{ij}^{DL}(c_1(P_i^{DL}), C(U_j^{DL})) + \rho_{ij}^{DL}(c_2(P_i^{DL}), C(U_j^{DL}))}{2} \\ &= \frac{\left| c_1(P_i^{DL}) - \frac{c_1(U_j^{DL}) + c_2(U_j^{DL})}{2} \right| - (c_2(U_j^{DL}) - c_1(U_j^{DL})) + \left| c_2(P_i^{DL}) - \frac{c_1(U_j^{DL}) + c_2(U_j^{DL})}{2} \right|}{2} \end{aligned}$$

(9)

And the extension correlation coefficient γ_{ij}^{DL} is:

$$\gamma_{ij}^{DL} = \begin{cases} \frac{\rho_{ij}^{DL}(C(P_i^{DL}), C(U_j^{DL}))}{|c_1(U_j^{DL}) - c_2(U_j^{DL})|} & [c_1(P_i^{DL}), c_2(P_i^{DL})] \in [c_1(U_j^{DL}), c_2(U_j^{DL})] \\ 0 & \rho_i^{DL}(C(P_i^{DL}), C(U_j^{DL})) - \rho_{ij}^{DL}(C(P_i^{DL}), C(U_j^{DL})) = 0 \\ \frac{\rho_{ij}^{DL}(C(P_i^{DL}), C(U_j^{DL}))}{\rho_i^{DL}(C(P_i^{DL}), V(U_j^{DL})) - \rho_{ij}^{DL}(C(P_i^{DL}), C(U_j^{DL}))} & [c_1(P_i^{DL}), c_2(P_i^{DL})] \notin [c_1(U_j^{DL}), c_2(U_j^{DL})] \end{cases}$$

(10)

3.3 The Performance Evaluation Model and the Algorithm Implementation

If there are n_s evaluation indexes under one evaluation criterion layer, and the number of qualitative evaluation indexes P_r^{DX} is n_{sx} , then the sequence of the corresponding qualitative evaluation index weigh is $W_{n_{sx}}^{DX}$:

$$W_{n_{sx}}^{DX} = (w_1^{DX}, \dots, w_r^{DX}, \dots, w_{n_{sx}}^{DX})$$

(11)

The sequence of the corresponding quantitative evaluation index weigh is $W_{n_s-n_{xx}}^{DL}$:

$$W_{n_s-n_{xx}}^{DL} = (w_1^{DL}, \dots, w_t^{DL}, \dots, w_{n_s-n_{xx}}^{DL}) \quad (12)$$

Under the criterion layer i , the extension superiority φ_{ij} between the qualitative evaluation index P_r^{DX} , quantitative evaluation index P_t^{DX} of the evaluation target and the evaluation orders U_j^{DL} is:

$$\varphi_{ij} = \sum_{t=1}^{n_s-n_{xx}} (w_t^{DL} \times \gamma_{ij}^{DL}) + \sum_{r=1}^{n_{xx}} (w_r^{DX} \times \gamma_{ij}^{DX}) \quad (13)$$

If the number of the evaluation criterion layers is m and the corresponding weigh of criterion layer i is w_i , then the extension superiority between all the criterion layers of the evaluation targets and the evaluation orders U_j^{DL} is:

$$\kappa_j = \sum_{i=1}^m (w_i \times \varphi_{ij}) \quad (14)$$

According to the size of the extension superiority κ_j , the levels of the performance of ideological and political education for college students are acquired. The selection principle is as follow:

$$\kappa_{max} = \max(\kappa_1, \dots, \kappa_2, \dots, \kappa_n) = \kappa_z \quad (15)$$

The corresponding evaluation level z of κ_z is the current level of the performance of ideological and political education for college students.

4. Example Verification

This paper takes the performance evaluation of quality-oriented education in a provincial main college as an example in order to explain and verify the model and the algorithm proposed. Table 3 demonstrates relevant data of the performance evaluation of ideological and political education for students in this college.

Table3. The Performance Evaluation Data of Ideological and Political Education for College Students

Criterion layer	weigh	index layer	weigh	magnitude	category	Performance level		
						I	II	III
Input capacity of ideological and political education P_1	0.15	rationality of institution setting p_{11}	0.20	85-90	qualitative	0-60	60-85	85-100
		rationality of personnel allocation p_{12}	0.20	80	qualitative	0-60	60-85	85-100
		Input capacity of educational fund p_{13}	0.30	80	qualitative	0-60	60-85	85-100
		construction capacity of	0.30	85-90	qualitative	0-60	60-85	85-100

		discipline base p_{14}						
Planning capacity of ideological and political education P_2	0.15	scientificity of development plan p_{21}	0.40	70	qualitative	0-60	60-85	85-100
		systematicness of executive operation p_{22}	0.30	70	qualitative	0-60	60-85	85-100
		rationality of system installation p_{23}	0.30	80-85	qualitative	0-60	60-85	85-100
Practical capacity of ideological and political education P_3	0.15	creativity of practical method p_{31}	0.20	60	qualitative	0-60	60-85	85-100
		functionality of practical content p_{32}	0.30	80-85	qualitative	0-60	60-85	85-100
		frequency of practical activities of moral education p_{33}	0.20	3	quantitative	0-2	2-4	4-6
		advancement of practical method p_{34}	0.30	80	qualitative	0-60	60-85	85-100
Quality of professional teacher P_4	0.18	number of well-edited textbooks of moral education p_{41}	0.10	15	quantitative	0-10	10-20	20-30
		average number of articles published in core journals per person p_{42}	0.10	3	quantitative	0-2	2-6	6-10
		percentage of highly educated teachers p_{43}	0.10	0.86	quantitative	0-0.6	0.6-0.8	0.8-1.0
		average number of educational reform project of moral education per person p_{44}	0.15	1.6	quantitative	0-1	1-2	2-5
		quality of classroom teaching of moral education p_{45}	0.20	85	qualitative	0-60	60-85	85-100
		innovation capacity of educational	0.15	60-70	qualitative	0-60	60-85	85-100

		reform p_{46}						
		number of awards acquired in the educational reform p_{47}	0.20	8	quantitative	0-5	5-10	10-20
Quality of student cultivation P_5	0.25	cultivation percentage of student Party member p_{51}	0.25	0.3	quantitative	0-0.15	0.15-0.25	0.25-0.50
		percentage of excellent students among Party members p_{52}	0.20	0.85	quantitative	0-0.60	0.60-0.85	0.85-1.0
		number of articles published by student Party member p_{53}	0.10	1.20	quantitative	0-1	1-3	3-8
		pass rate of students p_{54}	0.25	0.98	quantitative	0-0.80	0.80-0.90	0.90-1.0
		comprehensive quality and ability of students p_{55}	0.20	80-85	qualitative	0-60	60-85	85-100
Social profitability P_6	0.12	employment rate of students p_{61}	0.35	0.95	quantitative	0-0.80	0.80-0.90	0.90-1.0
		situation of service for west construction p_{62}	0.15	70-80	qualitative	0-60	60-85	85-100
		participation situation of "three supports and one assistance"(support education, agriculture and medical service plus assistance for the poverty) p_{63}	0.15	80-85	qualitative	0-60	60-85	85-100
		social satisfaction p_{64}	0.35	85-90	qualitative	0-60	60-85	85-100

Through analyzing the qualitative evaluation indexes and quantitative evaluation indexes above in the table by adopting the model and method, the extension distances and correlation coefficients between different indexes of the target and performance orders can be acquired, results are shown in Table 4:

Table4. The Extension Distances and Correlation Coefficients of the Performance Evaluation of Ideological and Political Education for College Students

Criterion layer	Extension distance					
	Level I		Level II		Level III	
rationality of institution setting p_{11}	27.5	-0.688	2.5	-0.167	-2.5	0.167
rationality of personnel allocation p_{12}	20	-0.500	-5	0.200	5	-0.200
Input capacity of educational fund p_{13}	20	-0.500	-5	0.200	5	-0.200
construction capacity of discipline base p_{14}	27.5	-0.688	2.5	-0.167	-2.5	0.167
scientificity of development plan p_{21}	10	-0.250	-10	0.400	15	-0.333
systematicness of executive operation p_{22}	10	-0.250	-10	0.400	15	-0.333
rationality of system installation p_{23}	22.5	-0.563	-2.5	0.100	2.5	-0.125
creativity of practical method p_{31}	0	0	0	0	25	-0.385
functionality of practical content p_{32}	22.5	-0.563	-2.5	0.100	2.5	-0.125
frequency of practical activities of moral education p_{33}	1	-0.250	-1	0.500	1	-0.250
advancement of practical method p_{34}	20	-0.500	-5	0.200	5	-0.200
number of well-edited textbooks of moral education p_{41}	5	-0.250	-5	0.500	5	-0.250
average number of articles published in core journals per person p_{42}	1	-0.250	-1	0.250	3	-0.500
percentage of highly educated teachers p_{43}	0.26	-0.650	0.06	-0.300	-0.06	0.300
average number of educational reform project of moral education per person p_{44}	0.6	-0.273	-0.4	0.400	0.4	-0.200
quality of classroom teaching of moral education p_{45}	15	-0.500	0	0	0	0
innovation capacity of educational reform p_{46}	5	-0.125	-5	0.200	20	-0.364
number of awards acquired in the educational reform p_{47}	3	-0.273	-2	0.400	2	-0.200

cultivation percentage of student Party member p_{51}	0.15	-0.429	0.05	-0.200	-0.05	0.200
percentage of excellent students among Party members p_{52}	0.15	-0.500	0	0	0	0
number of articles published by student Party member p_{53}	0.2	-0.143	-0.2	0.100	1.8	-0.600
pass rate of students p_{54}	0.18	-0.900	0.08	-0.800	-0.02	0.200
comprehensive quality and ability of students p_{55}	22.5	-0.563	-2.5	0.100	2.5	-0.125
employment rate of students p_{61}	0.15	-0.750	0.05	-0.500	-0.05	0.500
situation of service for west construction p_{62}	15	-0.462	-2.5	0.100	2.5	-0.125
participation situation of “three supports and one assistance”(support education, agriculture and medical service plus assistance for the poverty) p_{63}	22.5	-0.563	-2.5	0.100	2.5	-0.125
social satisfaction p_{64}	27.5	-0.688	2.5	-0.167	-2.5	0.167

5. Conclusions

This paper proposed an improved performance evaluation system to solve existing deficiency and limitations in the traditional evaluation process of ideological and political education for college students and furthermore a model based on extension theory which can dispose qualitative and quantitative evaluation indexes at the same time. This system is constructed from the perspective of integrity and completeness. It evaluates the performance of ideological and political education scientifically and objectively. Meanwhile, the calculation based on extension superiority theory is not only simple and reliable but also has clear physical significance and is able to present the performance levels clearly. This model offers a new way and methodology of evaluating the performance of ideological and political education for college students.

References

- [1] G. Qian, “Discussion of ideological and political education method for college students in new period”, Time Education, vol. 12, (2006), pp. 121-122.
- [2] J. Can, “Study of evaluation index system of procedural for ideological and political course”, Science and Technology Innovation Herald, vol. 18, (2014), pp. 229-230.
- [3] S. Yong-jiu, “Thoughts of construction of evaluation system of college ideological and political theoretical lectures”, Journal of National Academy of Education Administration, vol.11, (2011), pp. 53–56.
- [4] Z. Ya-dan, H. Hui-ning, “Discussion of connotation and method of performance evaluation of ideological and political education for college students from the perspective of expansibility”, Xuexiao Dangjian Yu Sixiang Jiaoyu, vol. 6, (2013), pp. 43-46.
- [5] C. Hai-sheng, G. Xu, Z. Xue-ling, “Discussion of the performance evaluation system of college ideological and political education”, Jiangxi Agricultural University Journal (social science version), vol. 4, no. 2, (2005), pp. 93-95.
- [6] Y. Xia, W. Haiyun, “Evaluation System of Ideological and Political Education Performance Based on Analytic Network Process”, Journal of Kunming University of Science and Technology, vol. 10, no. 1, (2010), pp. 85–90.
- [7] C. Xuewen, “The Application of Fuzzy Comprehensive Evaluation Method in Ideological and Political Education of College”, Journal of Tangshan Teachers College, vol. 2, (2009), pp. 129-130.

- [8] Z. Ji-guang, "Design thoughts of performance evaluation indexes of college ideological and political education", *Xuexiao DAngjian Yu Sixiang Jiaoyu (GAOJIAOBAN)*, (2010) vol. 3, pp. 41-42.
- [9] Q. Yongzhong, "The New Performance Evaluation Method of Ideological and Political Education in Universities", *Heilongjiang Researches on Higher Education* (2007), vol. 6, pp. 55-58.
- [10] C. Wen, Y. Chun-yan, "Basic theory and methodological system of extenics", *Science Bulletin*, vol. 58, no. 13, (2013), pp.1190-1199.
- [11] Y. Chun-yan, C. Wen, "Research Progress of Extension Concentration Correlation Coefficient", *Guangdong University of Technology Journal*, (2012), vol. 29, pp. 7-14.
- [12] T.C. Wang, A.J. Yang, S. S. Zhong. Multi-attribute Extension Fuzzy Optimized decision-making Model of scheme Design. *Tehnički vjesnik/Technical Gazette*, vol. 21, no. 2, (2014), pp. 239-247.
- [13] T-C. Wang, A.J. Yang, L. F. Bu, "Mechanism scheme design based on multi-attribute extension gray relevant optimized decision-making model", *Systems Engineering-Theory & Practice*, (2013), vol. 33, no. 9, pp. 2321-2329.
- [14] Z. Yanwei, S. Nan, Z. Feng, *et al.*, "Configuration Design Method for Product Family Based on Extension Case Reasoning", *Journal of Mechanical Engineering*, 2010, vol. 46, no.15, pp. 146-154.
- [15] Z. Hong-sheng, S. Zhi-gao, "Quick product configuration design based on extension classification analysis model", *Southwest University Journal (natural science version)*, vol. 36, no. 5, (2014), pp. 201-208.