Construct the competency characteristic model and empirical research of basketball professional teachers based on the perspective of "curriculum ideological and political affairs"

Siyu zhang

Bozhou college,Bozhou City, Anhui Province 236800,China;

269467801@qq.com

Abstract: Improving the ideological and political ability of basketball teachers is a key topic of China's higher education reform.The potential of ideological and political competence of college basketball teachers requires the establishment of certain evaluation and guidance mechanism to standardize.Relevant basketball professional universities teachers and experts behavior event interview and design questionnaire survey, establish the influence of college basketball teachers competency characteristic index, using spss exploratory factor analysis to confirm the factor, using AMOS software of factor and its correlation between validation analysis, explore the model construction level.The results show that college basketball professional teachers course education ability competence characteristic model by four dimensions, 18 features, respectively are professional skills dimension contains scientific research ability, guide students, coordination, learning and promotion, competition and development of five characteristic indicators, knowledge ability dimension contains the teaching concept, insight, prestige,Organize five characteristic indicators of ideological and political courses of professional education and innovation. Personal charm characteristics include five characteristic indicators of teaching plan formulation, emotional incentive, communication, achievement motivation and emotional control, and three characteristic indicators of professional content courses: ideological and political organization, on-site organization and problem solving.Through exploratory factor analysis and verification factor analysis, the four-dimensional model has a high level of fit and model verification level, which meets the requirements of this research, and also constructs the work performance evaluation system of university basketball teachers to provide an important value basis.

Keywords: curriculum thinking and politics; basketball; teacher; competence characteristics

1. Introduction

The implementation of ideological and political courses in China is an important issue to promote China's education reform in China.Cultivating college teachers with curriculum ideological and political education ability is the key link of implementing curriculum ideological and political education reform.Using iceberg model and onion model, combined with the key events interview and exploratory factor analysis to build college basketball teachers course ideological competence characteristic model, is the competent characteristic theory and research method into the university basketball teachers course ideological ability research, build meet the requirements of ideological course college basketball teachers competency characteristic model, to cultivate the national needs of basketball teachers to provide benchmarking reference characteristics.

2. Object and method

2.1 Object

Research through the research in Anhui province related colleges and universities basketball teachers and experts, collect related characteristics of basketball course ideological teaching indicators, using the questionnaire method, exploratory factor analysis and confirmatory factor analysis construction course under the horizon of college basketball professional teachers competent characteristic model, for basketball professional teachers ability to provide important theoretical basis.

2.2 Method

2.2.1 Key event interview and questionnaire survey method

The study selected 80 basketball teachers in universities in Anhui province as interviewees.Through the key events and technology combined with the professional characteristics of the curriculum, the key events in the teaching of basketball teachers are reviewed, so as to obtain the information of the relevant characteristics of the ideological and political implementation of basketball teachers, so as to explore the ideological and political affairs of university courses

The characteristic element of basketball teacher.

2.2.2 Questionnaire

The competency characteristics of ideological and political basketball teachers were designed into a questionnaire. The questionnaire was designed using the Likert 5-level scale, and the university teachers conducted self-evaluation according to their own teaching process.A total of 80 questionnaires were distributed, and 80 questionnaires were recovered. The invalid, wrong and missing questionnaires were removed, and 78 valid questionnaires were obtained.

2.2.3 Exploratory factor analysis

The questionnaire survey method and the key event interview method were used to obtain the characteristic index (characteristic value of the curriculum ideological and political teaching ability (> 1), which was used as the basis of exploratory factor analysis.The obtained characteristic indicators are made into questionnaires, distributed to college basketball teachers and recovered.Principal component analysis was conducted through the data of the statistical recovery questionnaire, KMO test and common factor variance analysis were conducted respectively. The number of acquired factors was judged by observing the total variance interpretation rate, and the number of extracted common factors was determined combined with the gravel map.

2.2.4 Confirmatory factor analysis

Study feature model path map construction and validation factor analysis using AMOS software.The obtained data were imported into AMOS, and the data were corresponding to the observed variables, and the pre-model was verified by the maximum likelihood method to observe the belonging variable relationship between each common factor and fit the model.After fitting, the model was evaluated and analyzed by chi-square test, ratio of degree of freedom test, modified goodness-of-fit index and goodness-of-fit index.

3.　Organization of the Text

3.1 Construction of the competency characteristic evaluation scale of the course ideological and political basketball teachers

In the early stage of the research, the ideological and political basketball teachers were designed through the way of expert consultation questionnaire.The expert questionnaire adopts the Delphi method for three rounds of expert consultation, according to the concentration degree of expert opinion (mean index score: Mn≥0.4) And coordination degree (coefficient of variation V n 0.25), the calculation formula is: $M_n = \frac{1}{m}\sum_{k=1}^{m} X_{nk}$ Mean of the n th indicator:, Standard deviation of the n th indicator: $S_n = \sqrt{\frac{1}{m}\sum_{k=1}^{m}(X_{nk}-M_n)^2}$, $V_n = \frac{S_n}{M_n}$ Mean value of the n th index:.The competency characteristic evaluation scale of the course ideological and political basketball teachers was finally determined, as shown in Table 1:

Table 1   Model model of ideological and political basketball Teachers

order number	feature	order number	feature
A1	teaching idea	A10	Coordination and overall planning
A2	insight	A11	communicate
A3	ability to research	A12	prestige
A4	Professional content courses, ideological and political affairs	A13	Organize professional ideological and political courses
A5	Teaching plan formulation	A14	achievement motivation
A6	On the spot organization	A15	bring forth new ideas
A7	solve the problem	A16	Learning and promotion
A8	direct student	A17	emotional control
A9	emotion encouragement	A18	Competition and development

3.2 Establishment of the competency characteristic model of ideological and political basketball teachers

3.2.1   Confirmation of the competency characteristics of ideological and political basketball teachers

A questionnaire survey and recovery were conducted on 78 college basketball teachers, and the survey results were determined by critical ratio method. The determination value (CR value) of 18 competent characteristic indexes was calculated. CR <0.05 showed that this index could be used as the evaluation standard to measure ideological and political basketball teachers in excellent courses, but could not be deleted[1].

Table 2   Descriptive statistical results of the high-and low-order measurement questions

metric	group	mean	standard error	metric	group	mean	standard error
A1*	1.00	4.22	0.8372	A10*	1.00	4.53	0.6135
	2.00	2.79	0.3832		2.00	3.47	0.4828
A2*	1.00	4.34	0.5051	A11*	1.00	4.37	0.4731
	2.00	2.96	0.2917		2.00	3.69	0.3707
A3*	1.00	4.74	0.8023	A12*	1.00	4.53	0.7221
	2.00	3.78	0.4092		2.00	3.55	0.7013
A4*	1.00	4.53	0.7693	A13*	1.00	4.08	0.5636
	2.00	3.26	0.6896		2.00	3.14	0.4383
A5*	1.00	4.31	0.4917	A14*	1.00	4.60	0.6628
	2.00	2.95	0.2528		2.00	3.68	0.3792
A6*	1.00	4.29	0.6419	A15*	1.00	4.35	0.8255
	2.00	2.83	0.3073		2.00	3.67	0.5419
A7*	1.00	4.53	0.5502	A16*	1.00	4.29	0.6493
	2.00	3.68	0.3265		2.00	3.39	0.5832
A8*	1.00	4.34	0.6740	A17*	1.00	4.60	0.5381
	2.00	3.47	0.4002		2.00	3.53	0.6228
A9*	1.00	4.73	0.7564	A18*	1.00	4.62	0.8314
	2.00	3.67	0.4327		2.00	3.54	0.7860

Using spss, the independent sample T test was used to calculate the significant difference level of each competency index of high and low order groups, and judge the CR situation. The results showed that the 18 competency characteristic indicators showed differences, which could be used as the evaluation standard to evaluate the competency characteristics of ideological and political basketball teachers in the course.

3.2.2 Exploratory factor analysis

Table 3 KMO and Bartlett spherical tests

KMO detection system values		.758
Bartlett Sphicity Test	Approximate chi square	8586.431
	free degree	2059
	conspicuousness	.000

According to the Kaiser metric, the KMO test coefficient =0.758> 0.6, ranging between 0.7 and 0.8, has little correlation between variables, and is suitable for factor analysis.Bartlett Spherical Test X2=0.00 <0.05, indicating that there is a correlation between the original variables, and it is suitable for factor analysis.

Table 4 The total variance breakdown table for the factor analysis

factor	characteristic root	Contribution rate of variance	Variance cumulative contribution rate
1	12.148	68.997	67.997
2	3.393	7.914	76.911
3	1.671	4.761	81.672
4	1.329	3.351	85.023
……	……	……	……
16	0.085	0.305	100.00

The criterion determines the number of factors by eigenvalue greater than 1 or cumulative variance contribution greater than 80%.According to the size of the factor load to determine the attribution of the factor, the identification of the absolute value of the load load is greater than 0.4 is generally more significant, the identification of greater than 0.5 is very significant, and the consideration of lower than 0.4 is deleted[2]. According to the PCA, the first four ewith envalues greater than 1 have the cumulative variance interpretation value of81.672%, more than 60%, indicates that 81.672% of the information in 18 analysis items, with interpretation rates of 67.997%, 76.911%, 81.672% and 85.023%, respectively.

The main factor with high steep rate is selected in the eigenvalue gravel diagram, which indicates that the factors explain the variation greatly. As can be seen from the results of the fourth factor, the steep slope gradually slopes, which indicates that the first four factors contribute the most to the interpretation of member variables, so it is appropriate to retain four factors.
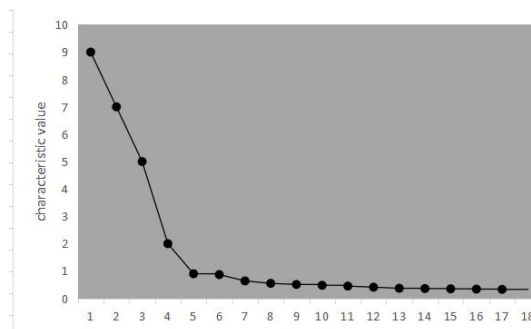

Figure 1 Eigenvalue gravel plot

The results show that: factor 1 contains the scientific research ability, guide students, coordination, learning and promotion, competition and development five characteristic indicators, factor 2, teaching concept, insight, prestige, organization professional ideological curriculum, innovation, factor 3 includes teaching planning, emotional motivation, communication, achievement motivation, emotional control, factor 4 contains professional content course ideological organization, field organization, problem solving three characteristic

indicators.According to the various factor characteristic indicators and the suggestions of relevant experts, factor 1 is named as professional skill, factor 2 is knowledge level, factor 3 is personal charm trait, and factor 4 is classroom management ability.

Table 5 Factor load coefficient after rotation[a]

|	F1	F2	F3	F4
A3	0.748	0.158	0.147	0.202
A8	0.637	0.129	0.117	0.345
A10	0.634	0.237	0.179	0.151
A18	0.611	0.231	0.188	0.205
A16	0.551	0.263	0.251	0.125
A15	0.172	0.526	0.208	0.165
A13	0.204	0.608	0.215	0.156
A12	0.238	0.656	0.222	0.156
A2	0.193	0.658	0.139	0.277
A1	0.191	0.712	0.139	0.277
A5	0.331	0.216	0.763	0.207
A9	0.331	0.191	0.662	0.179
A17	0.177	0.241	0.641	0.133
A11	0.245	0.241	0.551	0.163
A14	0.197	0.293	0.515	0.158
A7	0.276	0.322	0.326	0.541
A6	0.201	0.203	0.297	0.637
A4	0.284	0.161	0.133	0.792
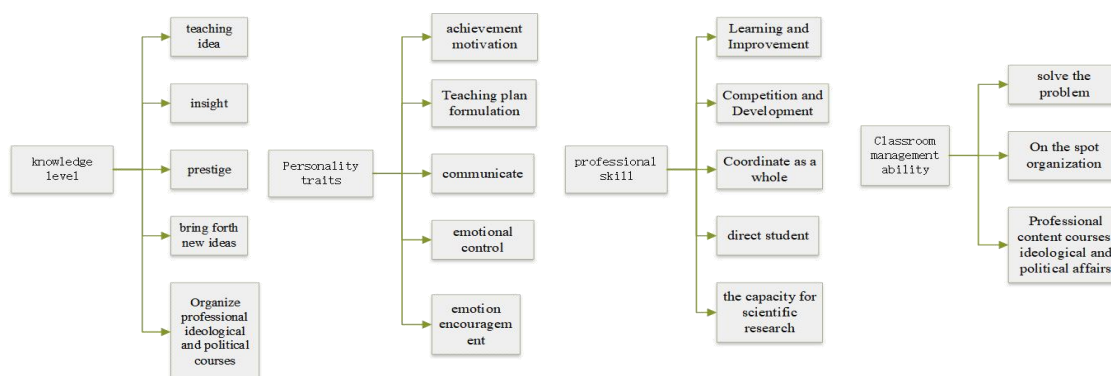
Figure 2 Characteristics of basketball teachers in ideological and political universities

dimension	know-how	specialized skill	Personal charm	Classroom management ability	Total amount of table
Cronbach·α	0.741	0.787	0.763	0.811	0.855

Table 6 Results of internal consistency reliability statistics within the questionnaire

The study used spss software to test the internal consistency of the questionnaire, and the results showed that the questionnaire as a wholeCronbach,For 0.855, while the four dimensions of the Cronbach,The coefficients were 0.741,0.787,0.763, and 0.811, respectively, and the overall coefficient is above 0.8, and the reliability is relatively good, and the coefficient of each subscale is above 0.7, which represents a relatively good reliability[3].

3.2.3 Confirmatory factor analysis

According to the analysis of exploratory factors, the paper shows that the structural model of college basketball teachers' competence characteristics under the ideological and political

perspective can be well supported by data.In order to verify the reasonable structure of the model, AMOS software was used to analyze the questionnaire data[4].

Table 7   Model parameter estimates

metric	Is the standard regression coefficient	standardized regression coefficient	SE	CR	p
Professional Skills (A3)	1.000	0.853			
Professional Skills (A8)	0.918	0.842	0.068	11.604	**
Professional Skills (A10)	0.992	0.858	0.082	10.873	**
Professional Skills (A18)	1.062	0.897	0.087	11.069	**
Professional Skills (A16)	0.997	0.857	0.079	11.326	**
Knowledge Ability (A15)	1.000	0.874			
Knowledge Ability (A13)	0.934	0.887	0.052	12.017	**
Knowledge Ability (A12)	0.915	0.913	0.055	12.289	**
Knowledge Ability (A2)	0.847	0.893	0.063	11.442	**
Knowledge Ability (A1)	0.977	0.899	0.069	12.611	**
Personal charm (A5)	1.000	0.869			
Personal charm (A9)	0.965	0.907	0.069	11.329	**
Personal charm (A17)	0.978	0.879	0.065	11.584	**
Personal charm (A11)	0.969	0.871	0.061	10.856	**
Personal charm (A14)	0.963	0.895	0.071	11.447	**
Classroom Management Ability (A7)	1.000	0.878			
Classroom Management Ability (A6)	0.943	0.838	0.721	9.211	**
Classroom Management Ability (A4)	1.049	0.832	0.771	9.789	**

Table 8   Parameter estimation value judgment criteria

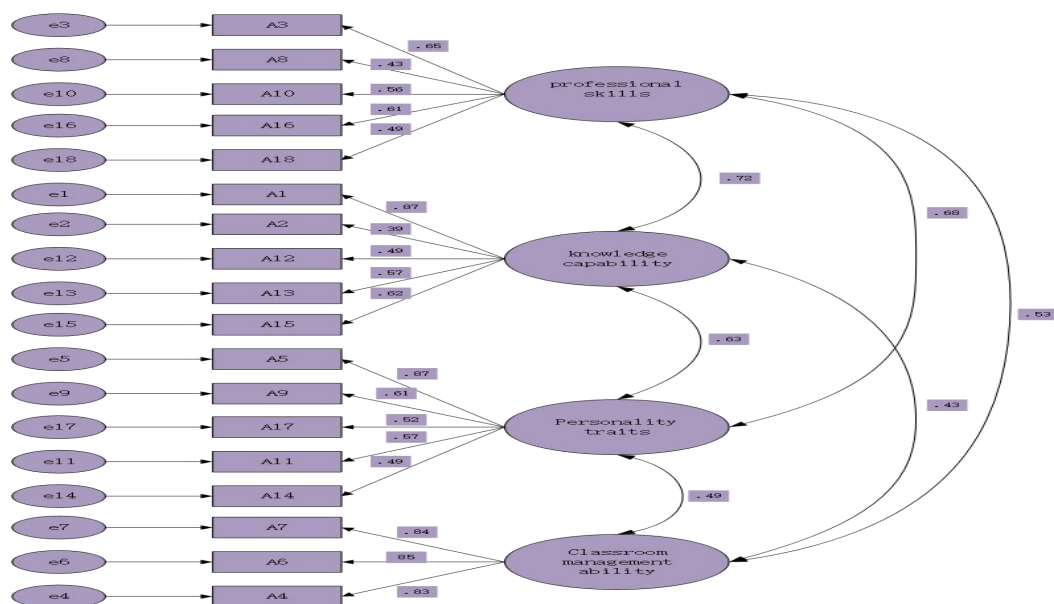| index of standard	Standard content	Parameters of this model
Error variance (no standard regression coefficient)	All are positive numbers	All are positive numbers
standardized regression coefficient	0.5-0.95	0.837-0.913
The t-test (p-value)	Below 0.05	** representation p<0.01
standard error	The smaller the better	0.051-0.077

Figure 3 Standardized path model of competency characteristic structure of college basketball teachers under the ideological and political perspective

This study references the model criteria of Bogozzi and Yi[4]To evaluate the model fit, the standardized regression coefficient is in the acceptable range, knowledge ability, professional skills, personal charm and classroom management ability before the correlation coefficient is higher than 0.6, shows the knowledge and professional skills and classroom management ability and personal charm characteristics of four factors can better explain the competence of basketball teachers.

Table 9 Fitting result of competency characteristic model of college basketball teachers N=78

Inspection index	X²	df	X²/df	AGFI	GFI	IFI	CFI	RMSEA
Inspection value	359.167	187	1.934	0.873	0.927	0.926	0.919	0.0068

The results indicate $X^2 / df = 1.934 < 2$, indicating good model fit[5]. The AGFI and GFI are the absolute fit index, with the two indices greater than 0.9, respectively, indicating a good model fit[6]. GFI, IFI, and CFI as the relative fit indicators, the closer to 1, the better the fit, the results of this study show that the model fit is better[7]. RMSEA as the absolute fit error, the smaller the data, the higher the fit, 0 represents a complete fit, this study indicates a model fit of 0.0068, close to the fit[8].

To sum up, the index level of the competency characteristic thinking model of the university basketball teachers reaches the standard relatively high and is relatively ideal, and the model verification results are good.

4. Conclusion

This research through the practice survey and data statistics, build the curriculum civic horizon college basketball teachers competent characteristic model, the model is divided into four dimensions, 18 features, respectively are professional skills dimension contains scientific research ability, guide students, coordination, learning and promotion, competition and development of five characteristic indicators, knowledge ability dimension contains the teaching concept, insight, prestige,Organize five characteristic indicators of ideological and political courses of professional education and innovation. Personal charm characteristics include five characteristic indicators of teaching plan formulation, emotional incentive, communication, achievement motivation and emotional control, and three characteristic indicators of professional content courses: ideological and political organization, on-site organization and problem solving.Through exploratory factor analysis and verification factor analysis, the four-dimensional model has a high level of fit and model verification level, which meets the requirements of this research, and also constructs the work performance evaluation system of university basketball teachers to provide an important value basis.

Acknowledgments

Reference

[1] National Sports College Teaching materials Committee Chen Hezhi.sports statistics.[M].Beijing: People's Education Press.2008（06）

[2] Sun Xiaojun, Zhou Zongkui.Exploratory factor analysis and its major problems in its application [J].Psychological Science, 2005 (06): 162-164 + 170.

[3] https://baike.baidu.com/item/%E4%BF%A1%E5%BA%A6%E5%88%86%E6%9E%90/9170373

[4] Bogozzi and Yi.Most frequent value‑based factor analysis of direct‑push logging data[J].Geophysical Prospecting,2003,66(3).

[5] Hou Jietai.Wen Zhonglin et al.The Structural Equation Model and its Application.[M].Beijing: Education Science Press, 2005.

[6] Bentler P M.Comparative fit indices in structural models [J].Psychological Bulletin,1990,(107).

[7] Karin S E,Helfried M.Evaluating the structural equation models :tests of significance and descriptive

[8] Pearl J.Fusion,Propagation,and structuring in belief networks .[J].Artificail Intelligence ,1987,30(3).