A Study on Constructing Competency Models for Teachers in Higher Education Unions

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Abstract: As the connecting hub between the school and the staff, the trade union of colleges and universities plays a key role, so the competency of college trade union teachers has gradually been paid attention to and divided into different dimensions for consideration. Based on this, this paper interviews the trade union teachers of a certain college in Sichuan Province, and utilizes the introduction of the Zagan theoretical method and the atlas coding software for auxiliary analysis to construct a competency model of the college trade union teachers with the dimensions of basic knowledge and skills, core competencies, and personal characteristics as the dimensions. The competency model of college union teachers is constructed with the dimensions of basic knowledge and skills, core competencies and personal characteristics, which is used to guide the college union teachers to adhere to the center of teaching staff and conscientiously perform the basic duties of human rights protection and service, and at the same time, to continue to deepen the reform and innovation of trade unions and stimulate the vitality of the grassroots trade unions to create good conditions for the development of trade unions in universities.

1. Introduction

With the deepening of educational reform, the role of college unions in school management is becoming more and more prominent: college unions not only undertake the important tasks of safeguarding the rights and interests of teachers and staff, coordinating labor relations, and promoting campus harmony, but also involve in the democratic management of the school and the construction of culture. The capacity building of college union teachers is becoming more and more important. Hockey (2002) found after interviews and questionnaire surveys of college administrators that college administrators consider themselves as a marginalized group, and are regarded as only auxiliary personnel at work, so their professional roles are difficult to be effectively undertaken, and their competence is insufficient. Zhou Quan (2023) suggests that the academic qualifications and years of work of university academic affairs administrators are linked to their competence and show a positive correlation [2]; Wang Jingyi (2023) indicates that the competence of current university administrators is constrained by the lack of professional identity, insufficient incentive system, and narrow channels for promotion, making it difficult to improve [1]; Ju Lin et al. (2021) point out that the competence level of the current university administrative staff

is affected by the level of specialization and implicit factors, of which implicit factors include responsibility, dedication, cultural identity and global awareness [3]. It can be seen that the research on the competency of college union teachers is becoming more and more important. This paper analyzes the competency of college union teachers and constructs a competency model of college union teachers using competency theory [4].

How to develop the competence of college union teachers? The National Federation of Trade Unions (NFTU) revised the Constitution of Chinese Trade Unions in 2023, which made overall requirements for the knowledge, ability and quality that trade union personnel should have: the basic duty is to safeguard the legitimate rights and interests of workers and serve the workers and masses with all their heart, on the basis of which, they should master the knowledge of politics, economy, culture, law, science and technology as well as basic trade union know-how and skills, be well acquainted with the Law of the People's Republic of China on Labor Unions, the Law of the People's Republic of China on Labor Law of the People's Republic of China, communication and coordination ability, written expression ability, organization and mobilization ability, innovation ability, at the same time, should enhance the ability to participate in labor relations disputes, conflict resolution ability, political leadership ability, the ability to protect the internal weak forces, and then enhance their sense of the overall situation, service consciousness, to build a high level of staff home as the goal, firm political willpower, and take up the responsibility of the important social pillar of state power [5]. At present, the above competencies are expressed in general terms, and professional development tools are needed to construct competency models [6].

How can professional development tools be used to construct a competency model for college unionized teachers? American psychologist McClelland's theory of competency provides a perspective that can be drawn upon. In 1973, he proposed the concept of "competence" for the first time in the article "Testing for Competency rather than for Intelligence", and believed that competence refers to the sum of the ability characteristics of a certain position, including knowledge, skills, attitudes and values, etc., which is used to measure the competence of teachers in universities and colleges, Attitudes and values, etc. It is used to measure the difference between mediocre performers and high performers [7]. According to McClelland's competency theory, the competency of college union teachers can be divided into three dimensions of "knowledge and skills, core competencies and personal qualities", and the corresponding indexes are selected according to each dimension to form the final index system [8]. Therefore, by choosing scientific measurement tools and refining the standard questions of competence, this paper turns the abstract conceptualized competence of college union into operable and measurable indexes, so as to decipher the "what and why" of the competence of college union teachers.

In summary, this paper presents the following research propositions:

Proposition 1: Competency for unionized teachers in higher education has a range of behaviors that can be identified as key behaviors that make up an observable, measurable, and structured tool called a "competency model."

Proposition 2: The teacher competency model for unionized teachers in higher education is verifiable and can be verified for its scientific validity and applicability through interviews and questionnaires.

Proposition 3: There is a correlation between the level of competency of unionized teachers in colleges and universities and demographic variables. These demographic variables include: gender, age, ethnicity, education, political affiliation, nature of position, level of position, and years of service.

2. Analysis of Ideas

According to the competency theory, the competency model of college union teachers is constructed according to the construction path of "goal-sub-dimension-sub-indicator", as follows:

2.1. General Objective

The general objective of this paper is to construct a competency model for college union teachers. The model should reflect the "common characteristics and individual characteristics" of college union teacher competence. According to the Constitution of the Chinese Trade Union of the National Federation of Trade Unions, the "common characteristics" are based on the requirements of the Chinese Federation of Trade Unions in the four aspects of "organizational ability, innovation, communication and coordination ability, political quality". The "individual characteristics" are based on the service objects of college union teachers. Colleges and universities, as their primary service object, should firmly safeguard the interests of colleges and universities while aligning with the interests of the country and the society, and the work objectives of trade unions should be compatible with the development objectives of colleges and universities; teachers and staff, as the other object of their service, should become one of the indicators of their personality traits in terms of their service proactively or not, and their precise personalities or not, and their contradiction solving ability, specific knowledge and skills, and their ability to educate and guide them should all be used as criteria for judging their personality traits. The conflict resolution ability and specific knowledge and skills, education and guidance ability are also used as criteria for judging their personality traits.

2.2. Sub-dimension

According to the general competency model, competency is divided into a number of dimensions for operation, generally no less than three, mainly including "knowledge and skills, core competencies and personal attributes", and then design a number of factors for each dimension. The competency of teachers of college union can be analyzed and studied by referring to the general competency model and deconstructing their competency into three dimensions.

2.3. Sub-indicators

Competency theory divides competencies into "benchmark competencies" and "discriminating competencies". Its composition criteria are: ① Benchmark competencies, like "icebergs floating on the water", is the epiphenomenal competencies, easy to obtain and training, but the acquisition of this type of competencies is not able to distinguish between excellent and mediocre performance, therefore, the need for sustained attention to the core competencies and personal characteristics of the two dimensions of the competency indicators generated. ② Discriminative competencies are like "icebergs under the surface of the water", which are hidden competencies, and they are the key factors distinguishing excellent performers from mediocre performers. Therefore, the essence of competency modeling lies in identifying discriminative competencies based on clear benchmark competencies and generating actionable indexes. The key to constructing a competency model for college union teachers lies in identifying discriminative competencies on the basis of baseline competencies. In this paper, through interviews with 12 college union teachers, the initial selection of competency index system is derived, as shown in the following Table 1.

Table 1: Initial selection index system of competence of teachers of labor unions in higher educational institutions

Top-level indicators	Level 1 indicators	Secondary indicators	Interpretation of indicators
Indicators of Teacher Competence in Higher Education Unions	service consciousness	Service to School Development	Alignment of personal development with school development goals
			Personal interest vs. school interest
		Service to faculty and staff	Initiative, motivation
			Precision and personalization
	democratic decision-making	Inclusiveness in decision-making	Interests of all parties taken into account
			Transparency of decision-making results
		Quality and effectiveness of decision-making	Quality of decision-making (scientific, rational, feasible)
			Efficiency of decision-making
	education and guidance	Policy advocacy	National policy advocacy
			School Policy Advocacy
		Work of Civic and Political Affairs	Ideological and political education of trade unionists themselves
			Ideological and political education for university staff
	Organizational coordination	Organizational mobilization	Mobilizing staff to commit to school development
			Mobilizing faculty and staff for solidarity
		resource integration	Utilizing people and property to achieve goals
			Sharing of resources with unions of universities
	conflict resolution	Conflict resolution at work	Conflict resolution between academic staff and administrative and labor staff
			Faculty and staff vs. school, regulatory conflicts
		Labor Conflict Resolution	Conflicts in contracting of teaching staff
			Conflict over termination of faculty contracts
	communication and coordination	clarity	Clear understanding of the claim
			Clarity of expression
		strategic choice	Targeted communication
			Degree of integration of jurisprudence and reasoning
	Innovation at work	Team Activity Innovation	Integration with current hotspots
			Integration with faculty and staff needs
		Innovative forms of work	Online Intelligent Trade Union Platform Creation
			Establishment of working platforms with trade unions of social organizations other than universities and colleges
	knowledge and skills	Knowledge of trade unions	Trade Union Law of the People's Republic of China Labor Law of the People's Republic of China
			History of the Chinese Workers' Movement
		Mastery of basic knowledge in each specialty	Knowledge of various disciplines in various specialties within higher education
			Socio-political, economic, cultural, scientific and technological knowledge

3. Research Design

Responding to research proposition 1, the generation of a model of competency of college union

teachers was conducted using the interview method, specifically the rooted theory method to extract and analyze the indicators of competency of college union teachers.

Responding to the research proposition 2, the validation of the competency model of college union teachers mainly adopts the questionnaire method, constructs the questionnaire of college union teachers' competency, and analyzes the scientificity and applicability of the competency model.

Responding to research proposition 3, the empirical analysis of the demographic characteristics of college unionized teachers' competencies was conducted using mathematical statistics to analyze the specific performance of college unionized teachers based on demographic characteristics and their correlations.

(1) Interview method - extraction of indicators for competency modeling

Based on the interview method, we extracted the indicators from the interview data of the teachers of the trade unions in colleges and universities, and we introduced the Root Theory Method and Atlas.ti coding software to assist in the analysis of the indicator extraction here. The main method of indicator extraction is "initial coding-focused coding-theoretical coding". In order to enhance the objectivity and scientificity of the indicator extraction process, Atlas.ti coding software was introduced, the main function of which is to code and extract all the interview data, and then sort them according to the frequency of the competency characteristics, and finally come up with the top 25 core indicators, as shown in the table 2 below:

Table 2: Competency indicators

	dimension (math.)	norm
A Competency Model for Unionized Teachers in Colleges and Universities (A)	Basic knowledge and skills (A1)	Knowledge of the Trade Union Act and the Labor Act
		"Knowledge of the History of the Workers' Movement in China
		Knowledge of specialties established in higher education
		Ability to use office software
		Written expression
		Trade Union Business Processing Capability
		Innovative trade union capacity
	Core competencies (A2)	Capacity to participate in the coordination of labor disputes and controversies
		Educational leadership capacity
		Precision and personalized service capabilities
		Organize and mobilize university staff capacity
		Enhancing the quality capacity of trade unions
		Communication and coordination skills
	Personal attributes (A3)	Hardworking and enduring hardships
		Impartial and selfless
		Big-picture awareness
		Sense of responsibility
		Empathy
		Emotional Management and Stress Resilience

It should be noted that the above initial selection of competency indicators is still a theoretical indicator before empirical analysis, and it is necessary to operate the theoretical indicators as questionnaire items, use mathematical statistics to empirically analyze the theoretical indicators, to further prove its scientific and rationality, and to construct a competency model on this basis.

(2) Questionnaire method - validation of competency model indicators

The validation of the competency model indicators adopts the questionnaire method. According to the above derivation, the competency model of college union teachers consists of three dimensions: "basic knowledge and skills, core competencies and personal attributes", and then the three dimensions are empirically analyzed, and the validation method mainly adopts the exploratory factor analysis method. Before exploratory factor analysis, KMO (Kaiser-Meyer-Olkin) and Bartlett spherical test are carried out firstly, only when these two values are above 0.7, it is more suitable for factor analysis; KMO value gives the measure of sampling adequacy, and tests whether the bias correlation coefficient between the variables is too small; Bartlett spherical test tests whether the correlation coefficient matrix is a unit array, and if the correlation coefficient between the variables is too small, the correlation coefficient between the variables is too small. Bartlett's spherical test tests whether the correlation coefficient matrix is a unit array, if the variables are independent of each other, the common factor cannot be extracted and is not suitable for factor analysis. The results of SPSS test show that the KMO value is greater than 0.7, and the Sig value of Bartlett's spherical test is less than 0.05, which is suitable for factor analysis, and next, the three dimensional factors are analyzed respectively.

① Basic Knowledge and Skills Dimension

Table 3: KMO and Bartlett's test

KMO and Bartlett's test		
	Kaiser-Meyer-Olkin metrics with sufficiently large samples	.714
Bartlett's test of sphericity	approximate chi-square (math.)	648.347
	Df	65
	Sig.	.000

Table 4: Total variance explained

Total variance explained						
ingredient	Initial eigenvalue			Extract the sum of squares and load		
	add up the total	% of variance	Cumulative %	add up the total	% of variance	Cumulative %
1	5.661	51.460	51.460	5.661	51.460	51.460
2	1.644	14.946	66.406	1.644	14.946	66.406
3	1.055	9.592	75.999	1.055	9.592	75.999
4	.846	7.695	83.694			
5	.508	4.616	88.310			
6	.442	4.022	92.331			
Extraction method: principal component analysis.						

As known from Table 3 and Table 4, the KMO value is 0.814, the Bartlett's test of sphericity value of P is 0.000, and the cumulative contribution rate is 75.999%, which indicates that these 10 items belong to the same basic knowledge and skills dimension.

② Core Competency Dimension

Table 5: KMO and Bartlett's test

KMO and Bartlett's test		
	Sampling a sufficiently large Kaiser-Meyer-Olki metric	.698
Bartlett's test of sphericity	approximate chi-square (math.)	710.707
	Df	66
	Sig.	.000

Table 6: Total variance explained

Total variance explained					
	Initial eigenvalue			Extract the sum of squares and load		
ingredient	add up the total	% of variance	Cumulative %	add up the total	% of variance	Cumulative %
1	7.779	64.823	64.823	7.779	64.823	64.823
2	1.248	10.403	75.226	1.248	10.403	75.226
3	.785	6.542	81.769			
4	.551	4.589	86.358			
5	.362	3.017	89.375			
6	.338	2.814	92.189			
7	.218	1.818	94.007			
Extraction method: principal component analysis.						

From Table 5 and Table 6 above, it can be introduced that the KMO value is 0.888 and the Bartlett's test of sphericity value P is 0.000. The cumulative contribution rate of 75.226% indicates that these 12 items belong to the same core competency dimension.

③ Personal trait dimensions

Table 7: KMO and Bartlett's test

KMO and Bartlett's test		
	Sampling a sufficiently large Kaiser-Meyer-Olki metric	.790
Bartlett's test of sphericity	approximate chi-square (math.)	816.563
	Df	66
	Sig.	.000

It can be introduced from Table 7 and Table 8 above that the KMO value is 0.892 and the Bartlett's test of sphericity value P is 0.000. The cumulative contribution rate of 82.437% indicates that these six items belong to the same personal trait dimension.

④ Total explanatory power of the three dimensions

The explanatory power of the above three dimensions on the competency model of unionized teachers in colleges and universities is shown in Table 9, which leads to the conclusion that the total explanatory power of the three dimensions on the competency model is 73.514%
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Table 8: Total variance explained

ingredient	Initial eigenvalue			Extract the sum of squares and load		
	add up the total	% of variance	Cumulative %	add up the total	% of variance	Cumulative %
1	4.946	82.437	82.437	4.946	82.437	82.437
2	.406	6.760	89.198			
3	.285	4.756	93.954			
4	.157	2.625	96.578			
5	.121	2.023	98.601			
6	.084	1.399	100.000			
Extraction method: principal component analysis.						

Table 9: Total variance explained

ingredient	Initial eigenvalue			Extract the sum of squares and load		
	add up the total	% of variance	Cumulative %	add up the total	% of variance	Cumulative %
1	2.941	73.514	73.514	2.941	73.514	73.514
2	.445	11.136	84.650			
3	.323	8.069	92.719			
4	.291	7.281	100.000			
Extraction method: principal component analysis.						

Therefore, based on the above analysis, a competency model for unionized teachers in colleges and universities was derived as shown in Figure 1:
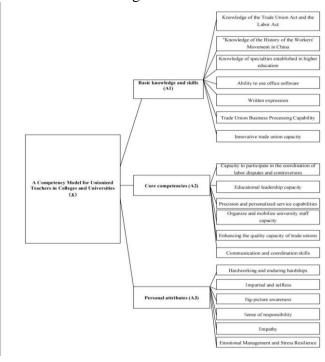

Figure 1: Competency Model for Unionized Teachers in Colleges and Universities

4. Conclusion

The empirical analysis of this paper shows that the competency model of college union teachers consists of three dimensions: basic knowledge and skills, core competencies, and personal traits. (1) The basic knowledge and skills dimension consists of seven indicators: "knowledge of the Trade Union Law and the Labor Law, knowledge of the history of the Chinese Workers' Movement, knowledge of the majors established by the universities, ability to use office software, ability to express themselves in writing, ability to handle trade union business, and ability to innovate trade union co-organization. (2) The core competence dimension consists of 6 indicators: "ability to participate in coordinating labor disputes and controversies, education and guidance, precise and personalized service ability, ability to organize and mobilize university staff, ability to improve the quality of trade union work, and ability to communicate and coordinate"; (3) The personal trait dimension consists of 6 indicators: "hard-working and enduring, impartiality and selflessness, awareness of the overall situation, sense of responsibility, empathy, emotion management, and stress resistance". Finally, a competency model of university unionized teachers with 3 dimensions and 19 indicators was formed.

From the perspective of competency, college union teachers are essentially focused on serving the whole university, and the development and cultivation of "competency" will enrich the human capital of college union teachers, help to improve the ability of college union teachers to serve the whole staff, and help to develop the ability and quality of the union group. With the mastery of competence, college union teachers will not only be teachers, but also teachers who serve the whole university at the same time. Competence requires college union teachers to focus more on all teachers in the whole school on the basis of completing their own work and tasks, starting from the actual needs of teachers and other needs, and truly realizing the functions of college union teachers as required by the National Federation of Trade Unions (NFTU) , which are "mastering all-around knowledge and skills, possessing the ability of professional qualities, truly penetrating into the workers, understanding the workers and being brave in innovation", and realizing the stable development of schools. The function of the university union is to realize the stable development of the university.

Acknowledgement

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