

Analysis on Influencing Factor of Teaching Team Construction in University

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Abstract With the continuous development of higher education, the quality of higher education is more and more emphasized. As one of crucial measures to improve the quality of teaching, the construction of university teaching team has been attracted much attention. Based on the relevant literatures review at home and abroad, this paper first analyzes correlation theory of university research team and its construction influencing factor. Then through the survey data and SPSS 16.0 software, the main influencing factors of university teaching team construction are quantitatively analyzed from the perspective of empirical analysis. At last, this paper put forwards some suggestions to improving the university teaching team construction.

Key words Teaching team; Influencing factor; University; Regressing analysis

1 Introduction

Team is a group that consists of many mutual individuals to achieve a goal (Stephen Robbins, 1994). (Hong Wenliu 2008) thinks a teaching team is a group that is aimed at educating and made up of professions in a certain field or instructors in a certain course who clear division of labor, cooperate with each other and shoulder the responsibilities together with the goal on completing a certain teaching task and improving the quality of teaching. (Huang Xingshuai 2008) defines the university teaching team is a formal group with clear development objective, good cooperation spirit and reasonable echelon. (Wang Qian 2009) thinks that the teaching team is a group which consists of teachers with reasonable structure and complementary advantages. To improve the teaching quality, they should jointly participate in teaching and research, actively explore new teaching style, and solve problems in teaching and research depending on team effort. (Liu Baocun 2007) think a good teaching team generally has characteristics of a common goal, clear division of labor, complementary knowledge expertise, good communication and efficient lead.

Many scholars have discoursed from multiple perspectives on main influence factors of university teaching team construction. (Tian Enshun 2007) think restricting factors of university teaching team are included two aspects: ideas and systems. Restricts ideas bring about are mainly displayed as constraints on the essence understanding of university teaching. Individual autonomy of university teaching has been over-emphasized for a long time; in fact, university professors' working is of collaboration, besides autonomy. The personnel's training is a systematic project; any professor cannot accomplish it alone without cooperation, such as cooperation of teachers in teaching and research department or the liaison with teachers working on the same or allied problems. Because of the large proportion of scientific research achievements in the faculty evaluation system, those who spend more time and energy on the teaching and have less scientific research achievements are in a disadvantaged position. The assessment is often linked to bonus and promotion, which further force faculty to scorn teaching and unwillingly devote more energy to teaching. In short, teaching team construction does not attract teachers. (Huang Xingshuai etc. 2008) believe that some professors lack in teamwork spirit, some leaders of university teaching teams cannot lead the whole team efficiently, and evaluation system overweighs individual research performance, and inside and outside circumstances of university teaching team construction are not strong enough to influence the superior position of team. (Wang Zhiwei etc 2010). point out some universities haven't done adequate foundation work; they do not change correctional system and staff arrangement but only change the name from teaching and research department to teaching team. It leads to many problems such as team members improper role distribution, and affects the efficiency of teaching team construction. In addition, imbalanced benefits distribution among team members can give rise to conflicts among them.

2 Sample and Data Analysis

Based on existing literature with regard to analysis in the aspects of connotation, characteristics, and influence factors of universities teaching team establishment, this paper considers that the main

factors are team objective, structure, incentive, communication and leadership. Questionnaire design and survey is conducted in those five aspects, and the main influencing factors of university teaching team construction and their effect degrees will be analyzed from the perspective of empirical analysis.

A total of 18 university teaching team was investigated and from 200 questionnaires distributed, 171 validated questionnaires were reclaimed. Examinees with a bachelor degree or above account for 75.6% of the total number of people, and 30.3% at doctoral level. SPSS 16.0 is applied as the tool of statistical data analysis.

(1) Validity and reliability analysis

Through KMO value observation and Bartlett's test, variables in the questionnaire will be tested whether they are qualified for factorial analysis. The value of KMO is equal to 0.754, greater than 0.7, which means it is suitable for factorial analysis. There are 5 major factors after deleting some by factorial analysis which are included in 24 projects finally. These 5 factors explain 71.343% of the total variance. An improvement has been made after deleting 6 projects while the KMO is 0.813 to some extents which reflecting the efficiency of the questionnaire.

The Cronbach alpha of the questionnaire is 0.890 by testing credit of projects which means the accordance is in good condition.

(2) Statistic of individual variable describing

For making a further understanding in relationship between the individual variable of university teaching team and team construction, variance analysis of individual factor is based population statistic and team construction. The numerical value of Table 2 means the variance of different teams. The mean value is reflecting the efficiency of team construction acknowledged by interviewee.

According to Table 1, there is no apparent difference between sexual and academic background for team construction. But there are obvious variances between age and years for working under the signature value of 0.05. The acknowledge of crowd of 25 to 35 and the crowd above 35 to team construction is obvious while the crowd above 35 years old have higher sense of acknowledge(3.795). The crowd working for less than 2 years has higher sense than the ones which work for 2 to 5 years (3.767). But there is obvious difference between the crowd of 2 to 5 years working and the ones who worked more than 10 years.

Table 1 The Influence of Population Statistic to Team Construction

Basic information		Means	F	Sig.
sexual	male	3.587	0.182	0.641
	female	3.557		
age	Below 25	3.817	4.035	0.017
	25 to 35	3.510		
	Above 35	3.795		
academic	Bachelor	3.474	1.678	0.172
	Master	3.675		
	PhD	3.568		
Working Experience	Less than 2 years	3.767	3.379	0.018
	2 to 5 years	3.445		
	5 to 10 years	3.784		
	More than 10 years	3.931		

(3) Correlations

SPSS 16.0 is selected for two variables correlation to balance the five factors and test whether there is apparent relationship. Pearson analysis and assumption are selected to test.

From Table 2, we can conclude that there are 4 factors have positive relationship with construction result under 0.01 of signature value. And the correlation factors reach 0.543, 0.688, 0.675 and 0.215. But the fourth factor has the positive relationship with construction results under the signature value 0.05, the correlation value is 0.157.

Table 2 Correlations

Factors	Leader	Motivation	Communication	Goal	Structure	Construction
Leader	1					
Motivation	.437**	1				
Communication	.468**	.511**	1			
Goal	.122	.124	.049	1		
Structure	.146	.195**	.205**	.037	1	
Construction	.543**	.688**	.675**	.157*	.215**	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

(4) Regression analysis

Take a further step to use multiple linear regressions to analyze the influence of the changes of the 5 factors on the effect of the construction, trying to figure out the possible relationship among them. Set the effect of the construction of university teaching team as the dependent variable TB (team building) and set the 5 latitudes which are team leadership, motivation, communication, team goals and team composition as independent variables. Choose Forcing Input Method to insert all variables into the linear regression equation, and the results are as follows:

Table 3 ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1703.364	5	340.672	63.111	.000 ^a
Residual	890.733	165	5.398		
Total	2603.096	170			

a. Predictors: (Constant): Leader, Spark ,Communication, Target, Structure

b. Dependent Variable: Construction results

Table 4 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.809a	.654	.644	2.234

a. Predictors: (Constant): Leader, Motivation, Communication, Aim, Structure

Table 5 Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.732	1.658		2.854	.005
Leader	.162	.055	.171	2.945	.003
Motivation	.397	.057	.411	6.965	.000
Communication	.387	.064	.373	6.047	.000
Goal	.153	.110	.072	1.391	.137
Structure	.039	.073	.026	.534	.593

In the regression model, the significance of the three factors leadership, motivation and communication are all 0.000 and they all have remarkable ability of forecasting the dependent variable TB (Construction Effect) under the significant level of 0.05. However the two factors of team goals and team composition are both not significant under the level of 0.05, meaning these two factors have a relatively weak ability to explain the dependent variable TB. Table 4 demonstrates the fitness of the regression model. The multiple correlation coefficient R=0.810 in the table, indicating a strong relationship between the joint effect and construction result of the 5 factors and that the 3 independent variables with stronger explanatory power can explain 65.6% of the variability of the dependent

variable.

According to the statistics above, we can build up a multi-factor linear regression equation about the university teaching team.

$$TB=4.732 + 0.162 \times \text{leader} + 0.397 \times \text{motivate} + 0.387 \times \text{communication} \quad (1)$$

The regression coefficient represents how the independent variable affects the dependent variable. The larger the regression coefficient is, the higher the importance and the deeper the effects. Through the regression coefficient in the table 5, “motivate” plays a significant role in construction effect (0.397), “communication” ranking the second (0.387) and “leader” the third (0.162). The team target’ regression coefficient and team structure’ regression coefficient is 0.153 and 0.039 respectively, which cannot involve in the regression equation.

When it comes to the “motivate”, the analysis process to the substance incentive and spiritual drive is the same as it above. The results show that constant number is 15.306 and the regression coefficient of substance incentive is 1.521 which is little larger than the regression coefficient of spiritual drive (1.283). Therefore, the effects of substance incentive and spiritual drive are significant to the team construction.

$$TB=15.306+1.521 \times \text{substance incentive}+1.283 \times \text{spiritual drive} \quad (2)$$

3 Conclusions and Suggestions

Through the positive analysis of the questionnaires, we can get: The main factors affecting the university teaching team construction are inspection incentive, communication atmosphere and team leader. The team target affects less. Although the team structure affects the team construction insignificantly, yet it affects indirectly through “motivate” and “communication”. (2) the individual variables such as age variation of the university teaching team members and the variation of working year will have some certain impacts on the team construction. The gender, education level, etc. affect the construction not obviously. (3) in the terms of the university teaching team, substance incentive is the main mean of promoting team construction. However, the four measures in spiritual drive are playing more and more important roles nowadays. And this has some relations with members’ high education levels. These members pursuit more spiritual comfort than others. So it is suggested that:

(1) More attention on the incentive

On the basis of ensuring the external competition of payment and internal fairness, we should construct reasonable, effective and individualized salary system. At the meantime, we should change the hierarchical management mode, establish teaching and academic authority’s position and expand the right of self management in the team. Through the emotion incentive, it can unify the team strength and reflect humane care and use of personnel.

(2) Construct good communication system

Effective communication can eliminate people’s differences and misunderstandings and promote the cooperation between the team members. Therefore, smooth channels of communication and frequent information exchange are very important to the team construction. The communication between members will be encouraged, the feelings will be cultivated and the relationships will be built up through variable activities.

(3) Select the proper team leader

Among the teaching team led by a outstanding leader, members will help each other, learn from each other, share the information and shoulder the responsibility together. To reach the goal, we should increase the leader’s education level, strengthen the cooperation between leader and the team, and improve the leader system construction in the university teaching team.

(4) Empower

We should give the leader the right of deciding team member structure according to the teaching needs, and the rights of controlling internal fund, personnel employment, profit distribution and assessment evaluation.

(5) Improve the team structure and clarify the team goal

Choosing the major, courses, labs, training bases and etc. as the medium to construct the teaching team will realize the effective integration of teaching resources and show the team strength. Meanwhile, we should improve the flowing between the team members and keep the scale of the team to make the age structure, knowledge structure and character constitution more reasonable.

The same target is to specify the same willing in the university’ object environment. To build up ownership and sense of responsibility between the team members and stimulate the motivation of the cooperation, we should clarify the team’s target.

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