

Correlation Studies of High School Class Style of Study Construction and College Students' Employment Quality

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Abstract. Fresh graduate employment has become a national problem in the social development of our country in recent years, the difficult employment is not only related to national policy, social development pattern, also may be associated with class style of study construction of institutions of higher learning. So this article wants to the construction of class collective study style as the main body Angle, by field survey and pluralistic regression model as the basic theory, the employment of colleges and universities of our country and class study style construction of colleges and universities in index detailed study of the correlation between, in order to get to the college students employment quality planning and improvement.

Introduction

Style of study on behalf of the students in the learning process of gradually formed a relatively stable culture atmosphere, it can directly reflect the quality of student learning. In colleges and universities, the style of study is a kind of impact on student learning ability and the quality will be invisible forces. If I can in university classes as the research object, the class collective study style construction and student employment quality, which can use multiple regression analysis method to study the correlation between them. Research results can be directly applied to colleges and universities school tradition construction and management of the class, also can improve the quality of college students' employment, kill two birds with one stone.

Investigation and data collection

Object of study

In order to guarantee real accuracy of research, this study choose to come to the Anhui Hefei university school of management, the college class of 2015 graduates in the investigation. Students in a total of 550 people, including six major is information management and information systems, e-commerce, logistics management, accounting, business management and marketing, the professional has in 13 natural class, each class has about 50 people, all samples used for students to investigate statistical [1].

Investigation and preparation

Considering the class style of study is a long-term to embody the intangible reference object, so the survey of its object of study also to have certain persistent effect. So the survey took seven consecutive term follow-up evaluation form, from the class in the school study style reflect the students' employment quality, but the employment quality of inspection data is not in the traditional sense of the employment for the first time, but is chosen in the months after graduation in early April school one's deceased father grind the work after the admission of the data. So choose for two reasons, first, one's deceased father grind work has ended, this time can reflect some students one's deceased father grind condition, so the employment situation more real, it reflects the class to reflect the students' employment and study the relationship between the building of more favorable; Second, the employment is drawing to a close at this time, choose the graduation work or continue to graduate students have the dust settles, so at this time also can reflect the relationship between the employment rate and class style of study construction. To ensure comprehensive investigation, specifically for the class's and grade's management system, quality development, learning atmosphere and academic

planning four aspects has made an investigation, and subdivide each aspect. In respect of employment quality indicators respectively chose the employment, graduate rate and the rate of signing three important indicators to survey.548 survey questionnaires, investigate the situation such as table 1 and table 2.

Table 1. Questionnaire information statistics

Professional class	Questionnaire	Recycling questionnaire	recovery	valid questionnaires	effective rate
Information management class 11-1	46	43	93.47%	43	86.96%
Information management class 11-2	40	39	97.50%	36	90.00%
Electronic commerce class 11-1	39	39	100%	35	89.74%
Electronic commerce class 11-2	41	38	92.68%	38	92.68%
Logistics management class 11-1	42	42	100%	38	90.48%
Logistics management class 11-2	42	40	95.24%	37	88.09%
Accounting class 11-1	47	47	100%	45	95.74%
Accounting class 11-2	48	45	93.75%	41	85.41%
Accounting class 11-3	48	48	89.58%	41	85.41%
Industrial and commercial management class 11-1	38	37	97.37%	37	97.37%
Industrial and commercial management class 11-2	42	41	97.62%	38	90.48%
Marketing class 11-1	37	36	97.28%	35	94.59%
Marketing class 11-2	38	35	92.11%	32	84.21%

Table 2. Anhui Hefei style construction assessment indicators and computer technology management school class students employment quality related data statistics

Professional class	managem ent system	climate for learning	Quality Developm ent	course arrangement s	employm ent rate	postgradu ate qualifyin g examinati on rate	Signing rate
Information management class 11-1	4.47	4.33	4.36	4.48	80.43%	32.61%	47.82%
Information management class 11-2	3.70	3.85	3.82	3.56	52.50%	29.30%	23.20%
Electronic commerce class 11-1	3.98	4.13	4.04	3.93	66.67%	22.50%	44.17%
Electronic commerce class 11-2	3.92	4.15	4.08	4.37	73.17%	26.83%	46.34%
Logistics management class 11-1	3.67	3.8	3.59	3.88	78.57%	28.57%	50.00%
Logistics management class 11-2	3.79	3.53	3.99	3.70	80.95%	19.05%	61.90%
Accounting class 11-1	4.12	4.24	4.12	4.24	76.60%	29.79%	46.81%
Accounting class 11-2	3.54	3.56	3.68	3.98	64.58%	20.80%	43.78%

Accounting class 11-3	3.97	3.76	3.78	4.04	75.00%	20.83%	54.17%
Industrial and commercial management class 11-1	4.03	3.85	3.72	3.60	71.05%	18.42%	52.63%
Industrial and commercial management class 11-2	4.02	4.22	4.19	4.04	80.95%	23.80%	57.15%
Marketing class 11-1	4.42	4.44	4.62	4.57	81.08%	18.90%	62.18%
Marketing class 11-2	3.31	3.32	3.29	3.60	68.42%	7.89%	60.53%

The basic theory research class study style construction in university and college students' employment quality related

This paper adopted their generation are the obvious difference of employment and contract rate to Anhui Hefei the school's graduates employment quality index correlation and study style construction, mainly using the multivariate linear regression model is analyzed. Multiple linear regression analysis is from the famous British statistician Galton theory in the middle of the 19th century, it mainly through a simple equation to reflect the causal relationship between things. One of the most simple regression theory is the sole, regression, it can reflect the linear relationship between the dependent variable and independent variables, and as the increasing of the number of the independent variables, the relationship between the dependent variable and independent variables will also develops to respect of pluralistic regression equation. In this article, the employment of college students quality of internal cause and external cause is known as the dependent variable and independent variable, according to the design variables can be their multiple linear regression model.

Multiple linear regression model

In this paper, the multiple linear regression models of the dependent variable and independent variable is set to Y and X_1, X_2, \dots, X_n , respectively, linear relationship between them, so they are between the expressions of formula is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \varepsilon$$

In the formula, at the time $\varepsilon \sim N(0, \delta^2)$, $\beta_0, \beta_1, \beta_2, \dots, \beta_n$ and σ^2 are the unknown parameters, and at that time $n \geq 2$, it can be said for the multivariate linear regression model. But in the actual process, the general investigation are variables and represented by the population sampling survey, so they can use matrix to represent the following:

$$Y = \beta X + \varepsilon$$

$$X = \begin{bmatrix} 1 & x_{12} & \dots & x_{1k} \\ 1 & x_{22} & \dots & x_{2k} \\ \vdots & \vdots & \vdots & \vdots \\ 1 & x_{n2} & \dots & x_{nk} \end{bmatrix}, \beta = \begin{bmatrix} \beta_1 \\ \beta_2 \\ \vdots \\ \beta_n \end{bmatrix}, \varepsilon = \begin{bmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \vdots \\ \varepsilon_n \end{bmatrix}.$$

In the matrix, the error vector β should meet three points:

$$1: E(e_i) = 0, i = 1, 2, \dots, n.$$

$$2: \text{Var}(e_i) = \sigma^2, i = 1, 2, \dots, n.$$

$$3: \text{Cov}(e_i, e_j) = 0, i \neq j.$$

Estimate of the collected parameters is derived

After determine the multivariate linear regression model in this paper to the collected survey data and parameters estimation is derived, the parameter combination to the multiple linear regression models is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \varepsilon$$

According to the above equation in deriving the corresponding regression equation should be as follows:

$$Y = \hat{\beta}_0 + \hat{\beta}_1 X_1 + \hat{\beta}_2 X_2 + \dots + \hat{\beta}_n X_n$$

In the process of estimate of the parameter is deduced, there are two main methods are most effective and least square method and maximum likelihood method. In this paper, the choice of is the least square method. Least-square method should be used to sample value and fitting value between the sum of the squares of the, to the minimum residual error is the most hours, it corresponds to the results derived from the estimator which to want .If you choose $\hat{\beta}_0, \hat{\beta}_1, \hat{\beta}_2, \dots, \hat{\beta}_n$, then will have the formula as follows:

$$Q(\hat{\beta}_0, \hat{\beta}_1, \hat{\beta}_2, \dots, \hat{\beta}_n) = \min \sum (y_i - \hat{y}_i)^2 = \min \sum e_i^2$$

At this point and then based on the extremum theorem of multivariate function, can to partial derivatives on the type of the parameters $\beta_0, \beta_1, \beta_2, \dots, \beta_n$, make its return value is 0, then get the following equations:

$$\begin{cases} \sum (y_i - (\hat{\beta}_0 + \hat{\beta}_1 x_{1i} + \hat{\beta}_2 x_{2i} + \dots + \hat{\beta}_k x_{ki})) = 0; \\ \sum x_{1i} (y_i - (\hat{\beta}_0 + \hat{\beta}_1 x_{1i} + \hat{\beta}_2 x_{2i} + \dots + \hat{\beta}_k x_{ki})) = 0; \\ \vdots \\ \sum x_{ki} (y_i - (\hat{\beta}_0 + \hat{\beta}_1 x_{1i} + \hat{\beta}_2 x_{2i} + \dots + \hat{\beta}_k x_{ki})) = 0; \end{cases}$$

So, the corresponding matrix representation should be as follows:

$$X' e = 0$$

If the matrix expression of multivariate linear regression model on both ends times X' at the same time, there are:

$$\hat{\beta} = \begin{bmatrix} \hat{\beta}_0 \\ \hat{\beta}_1 \\ \vdots \\ \hat{\beta}_n \end{bmatrix} = (X' X)^{-1} X' Y$$

This type can be compared with a yuan linear regression model, considering the parameter estimate of multivariate linear regression model with linear properties, so the type should be unbiased and minimum variance [2].

The empirical research of class study style construction in university and college students employment quality correlation

According to the above theoretical research and the collection of data analysis, this paper based on theory of multiple linear regression in order to establish the mathematical model of the college students employment quality indicators, reflect the class style of study in colleges and universities for the construction of the index, with employment and contract rate for important parameters.

The employment rate and class style of study construction index of linear regression analysis

As shown in table 2, the classes study including the class management system, building of learning ethos, four 'diathesis and academic planning, the following will analyze one by one.

The regression analysis of employment and class management system

Management system is the key to class study style construction, no good management system is difficult to guarantee the good style of study, it also directly affect the students future employment prospects. Add the management system and employment to the regression analysis model, and through the analysis of MATLAB can be seen from the beta and P values, both are < 0.1. Employment at this time in order to more intuitive test, management system, the regression equation of fitting degree, this article specifically drawn between employment and management system of linear fitting indicator diagram, as shown in figure 1.

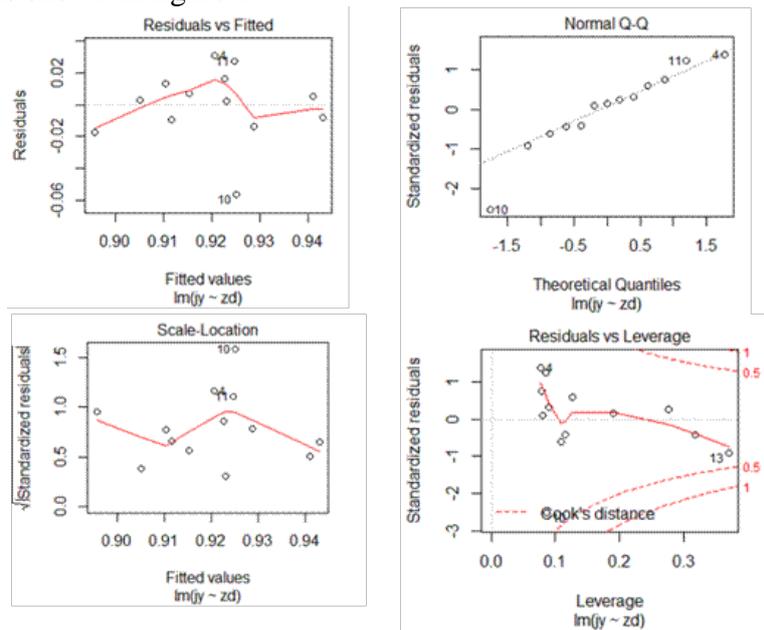


Fig. 1 The employment and management of linear fitting index figure in Anhui province, Hefei institute of computer management system

According to the MALTAB software analysis, the Residual part of the above almost distributed in both sides of the $Y = 0$, especially the Residual vs fitted figure is more obvious highlights this point. In the Normal QQ - the plot in figure, almost all the data points distribution or diagonal line, this suggests that the error of the random expressed by regression linear analysis can basically meet the normality assumption of multivariate linear regression analysis. While in Scale - the Location map, it shows the standardization of the square root of the residual distribution. Finally Cook 's distance short figure more obvious, it analyses the regression of image points, and the influence of some of the points of the model is larger [3].As shown in figure 2

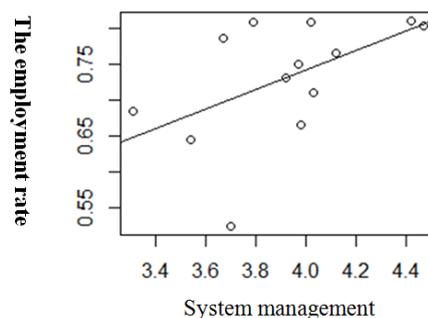


Fig. 2 University classes between employment and management system of linear fitting

According to the above can see, more intuitive university employment class and class style of study is show significant positive correlation between management system.

The employment rate and class style of study of regression analysis

Style of study is the study ethos, the employment rate and learning ethos into the regression analysis model, again use MALTAB software is analyzed, which shows that the proportion of β , P two numerical still < 1 . It can be more intuitive test of employment and regression equation, the fitting degree between the employment and learning atmosphere rendering into linear fitting indicator diagram, as shown in figure 3.

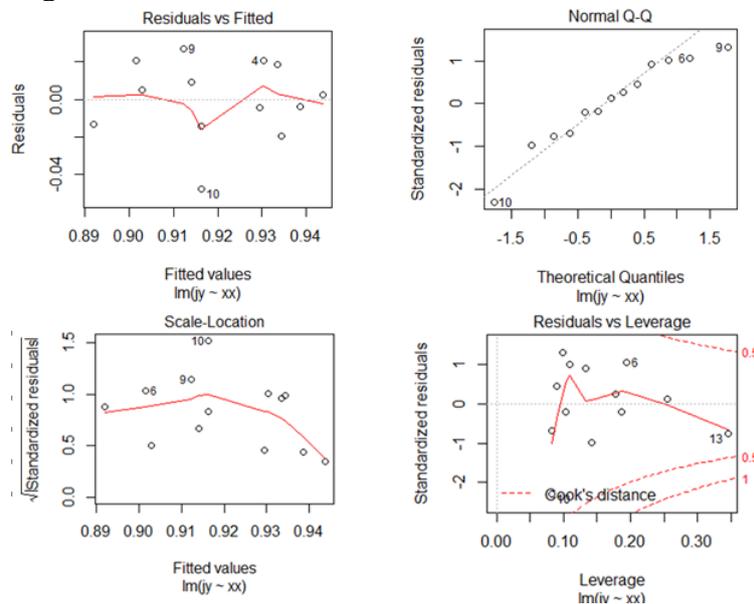


Fig. 3 Anhui Hefei institute of computer management of employment and learning ethos linear fitting index figure

Analysis of employment and learning the wind correlation index of linear fitting figure, Residual vs fitted, its Residual mostly distributed in both sides of the $Y = 0$; While Normal QQ - plot performance several sites, mostly on the diagonal line that illustrates the random error can still meet the normality assumption of regression analysis; In Scale - Location, standardized residual square root of the distribution of high expressed the points of maximum residual error; Finally see the Cook's short drawings show the regression analysis of the impact point, its effect on the model is the largest. As shown in figure 4.

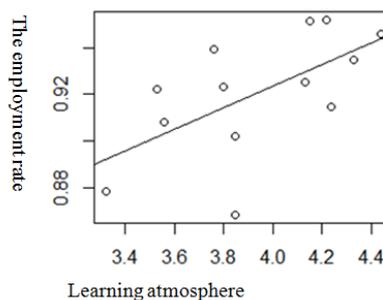


Fig. 4 University classes of linear fitting between employment and learning atmosphere

As shown in figure 4, the employment rate and also show significant positive correlation relationship between learning atmosphere

Similarly also has carried on the employment and quality development and regression analysis on the academic planning both intuitive showing and the fitting degree between the employment rate, and the employment rate and quality development, academic planning revealed a significant positive correlation.

The analysis of signing rate and class style of study construction index of linear regression

Compared in terms of employment, in the same way with the above four factors for signing rate after fusion of multiple linear regression model analysis, it found the signing rate and management system, learning atmosphere, the development of quality and academic planning there is no

significant positive correlation between four. So through to the employment contract rate, the two important factors affecting the employment quality of multivariate linear regression analysis can be seen, employment and management system, learning atmosphere, the development of quality and academic planning are significant positive correlation, while signing rate, on the other hand, with four didn't show significant positive correlation between [4].

Conclusion analysis

This paper discusses the employment of college students' employment quality and the correlation analysis between the class study style construction, including employment and signing rate presents the correlation of different results. Employment, signing rate and class management, the development of learning ethos, quality, and a program to present a more significant positive correlation, it reflects the class the right and the rationality of the study style construction of colleges and universities, objective said before and after they achieve a unified effect, has become a strong theoretical basis for the college students employment quality improvement. So if you want to improve the college students employment quality, you should consider starting from the daily class study style construction, in class study style management system should be established in order to establish the students a good learning atmosphere, help them expand quality and form a good academic ability in the future.

Conclusion

This article analyzes the style construction of colleges and universities and the relationship between the quality of university students' employment, using the multivariate linear regression analysis model, the employment rate of college students' employment quality and signing rate has a more complete understanding. Although said like signing rate and the style construction of class study atmosphere, quality extension and so on factors of no significant positive correlation, but can't say it fully reflect the students' overall employment trend of the future, because in the social environment, different individual students to seek jobs and job requirements are also different. But it also shows a problem from the side, is that college students should be in during the period of school to all-round development, improve their comprehensive quality, it will for their future employment prospects are good.

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