Analysis of the Application of SPSS Software on the Evaluation of Teaching Quality of Higher Vocational Teacher

Rongfang Zhang, Yanbin Du, Jun Zhao

Gansu Agriculture Technology College, Lanzhou, Gansu, 730000, China

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Abstract: SPSS's powerful statistical analysis function provides a good platform for teaching quality evaluation. Taking the evaluation data of the teaching quality of a university teacher as a research case, using SPSS software to process and analyze the evaluation results, deeply explore and reveal the teaching rules after the huge data, and study how to better play the diagnosis, guidance and motivation of the evaluation. , has a certain application and promotion value.

1. Introduction

Monitoring the quality of classroom teaching is an important part of the teaching quality monitoring system of colleges and universities. The quality of classroom teaching is reflected by the quality of teaching by each course. As an important means to measure the quality of classroom teaching, a scientific evaluation system for teaching quality has been established. There has been broad consensus in various universities. The research results on teacher quality evaluation have been many in China and abroad. However, how to explore valuable teaching information in a large number of evaluation data, there are not many molding methods available for reference. This paper takes a college teacher's teaching quality evaluation system and data as a case study, and uses SPSS software to process and analyze the evaluation results, and deeply explore and reveal the teaching rules after the huge data, in order to better play the evaluation diagnosis, guidance, Incentive effect.

The essence of career planning for higher vocational teachers is to improve the internal knowledge and quality of individual teachers, and thus to improve their professional level. To improve the level of individual development of teachers, it is very important to enable teachers to inspire teachers' self-satisfaction and sense of accomplishment on the basis of objectively understanding themselves, and then to experience occupational self-satisfaction and sense of achievement. The power of development and creativity. According to Maslow's theory of demand development, only when individuals have control over self-development, will they realize the value of them and actively participate in them. It is undoubtedly a good way to formulate career planning for higher vocational teachers. Career career planning is a series of contradictions that arise from economic development, occupational differentiation and economic cycles. The product of efforts to solve the employment problem was originally produced in the United States and introduced to China in the 1990s. The initial career planning is mainly used for human resource management of enterprises. The users are mostly mature enterprises. The research of researchers is mostly aimed at the career planning of enterprise employees, and the career planning of college teachers. There are very few studies. The researchers' interpretation of their connotations is only scattered in the research on human resource management, employee management, career planning, teacher professional development planning, employee career planning, etc., and there are fewer researchers who can explain their opinions very deeply and accurately. . From the point of view of the specific operation and use of the above terms by the researcher, there is currently no clear definition and difference between the terms and the scope of the terms. Therefore, in order to deeply study the career planning of higher vocational teachers, we must first define the following concepts, especially to distinguish the difference between "teacher career planning" and "teacher professional development planning". On this basis, we can accurately grasp The connotation of career planning for higher vocational teachers.

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2. Teaching Quality Analysis Tools SPSS Introduction

Descriptive statistical analysis is a basic analysis of the various characteristics of a set of data. It is generally used to understand the overall characteristics of a set of numbers. It is the basis for complex statistical analysis. For example, the highest and lowest scores of a set of data are obtained through analysis. Points, average scores, variance and standard deviation, median, normal or skewness, etc., can be achieved through the "Analyze-Descriptive Statistics" in SPSS. Descriptive statistical analysis is divided into 2 categories, one is Descriptive, Used for general descriptive statistics; the other is Explore Exploratory Analysis, which provides some simple test results and graphs in addition to the Descriptive function.

SPSS correlation analysis is used to test whether there is a certain correlation and the degree of association between variables. There is no difference between independent variables and dependent variables in correlation analysis. The correlation coefficient can be used to see the degree and direction of correlation between two variables, which can be used in SPSS. The implementation of "Analyze-correlate". SPSS provides three correlation coefficients for users to choose from: Pearson, Kendall, Spearman, we can choose different analysis methods according to the characteristics of parameters and variables. Among them, Spearman correlation analysis is suitable for analyzing data. The case of disobeying the bivariate normal distribution or the unknown overall distribution is consistent with the analysis of the data in this study. Therefore, the Spearman method is used for correlation analysis. One-way ANOVA is used to test multiple samples of completely random design. For comparison between numbers, it is inferred whether the population averages represented by each sample are equal. Generally, the data of the subjects are randomly assigned to different groups, and different groups represent different levels of independent variables. Although there is only one independent variable, Variables can have two or more, available in SPSS Analyze-compare means one-way anova", if one-way ANOVA can be used to analyze whether there is a difference in the teaching quality of teachers with different titles. The T test is used to compare whether there is significant difference between the two groups. The T test is divided into 3 categories, one sample. The T test, two independent sample T test and two paired sample T test can be achieved by “Analyze-compare means” in SPSS, and One-sample T Test is used for one-sample T test, such as comparing the math scores of a college entrance examination and the national college entrance examination. There is a significant difference in the average score of 90 in the mathematics. The Independent-sample T Test is used for two independent sample T tests. For example, if there is a difference in the math scores of the college freshmen in A and B, the Baired-sample T Test is used for the two paired samples. T test for differential testing of two related samples.

3. SPSS Application in Analysis of Teaching Quality Evaluation Results

The overall situation analysis can help us understand the overall level of teacher quality in the whole school, including data distribution patterns, concentration trends, degree of difference, etc., in order to provide a basis for teaching management decisions. Copy the original data to the SPSS data area, use SPSS to explore the analysis process Explore The results are shown in Tables 1 and 2. It can be seen that the total score of teachers' teaching quality evaluation in 2013 is between 91.42 and 99.37, with an average score of 95.97, a variance of 2.395, and a normality test of sig=0.041<0.05. The standard normal distribution, but because the amount of data is large enough (n=313), and the data skewness Skewness=|-0.414|<1, it can be concluded that the data approximates a normal distribution, and the kurtosis is negative, that is, the whole is right Partial, indicating that the data distribution is more gradual than the standard normal curve.

Similarly, using SPSS to explore the analysis process Explore, we can get the statistics of the evaluation results of each evaluation subject in Table 3 and the statistics of the number of participants in the evaluation scores in Table 4. It can be seen that the results of student evaluation are between 96.9-99.95, with an average of 98.79. The variance is small, indicating that the scores are more concentrated and the discrimination is lower. From the distribution of the scores, the students' evaluation of teaching, peer evaluation and total scores are more concentrated in the

95-100 scores, members' evaluation and unit evaluation. Teaching more concentrated in the 90-95 score segment. In fact, many colleges and universities have problems in students' evaluation of teaching results, which are “high” and the grade gradient is not reasonable. On the one hand, it reflects that students are very recognized by teachers, so the overall score is On the other hand, it is also not serious about scoring with students, perfunctory evaluation, and not afraid to offend teachers.

Using the SPSS correlation analysis Speraman method, the correlation between the scores of the sub-items and the total scores is shown in Table 5. It can be seen that the correlation between the scores of the sub-items and the total scores from high to low is: Member Evaluation (0.872)> Unit Evaluation (0.746)> Peer Review (0.413)> Student Evaluation (0.236), that is, the greatest impact on the total score is the evaluation of members, the smallest is the student evaluation, and our school The total score of teachers' teaching quality is reconstructed into students (40%)> members (30%)> units (20%)> peers (10%). Ideally, the impact on the total score should also be this order, but the actual The situation is that the student evaluation has the lowest correlation with the total score. The student evaluation has no influence on the expected weight of the total score. According to the above analysis, the scores of students are very concentrated, ranging from 96.9 to 99.95. Did not open the grade, which also directly led to the student's evaluation of the major, but the impact on the total score is very small. In addition to the student evaluation data is not reasonable, the committee: unit: peers on the total score impact ratio ≈ 2.5: 2:1 ,versus The weights are basically consistent. Differences in the quality of classroom teaching of teachers with different professional titles The evaluation data is divided into three groups according to the teacher's title. The SPSS one-way analysis of variance is used to analyze whether there is a difference in classroom teaching quality of teachers with different professional titles. See Table 6. The quality of classroom teaching of teachers with different professional titles is significantly different ($P<0.05$). Under the condition of homogeneity of variance, the multiple comparison results LSD method is used to further compare and match the mean values of each group, and the data of Table 7 is obtained. The significance value can be seen that there is a significant difference between the evaluation scores of teachers with junior and intermediate titles and the teachers with senior professional titles. The scores of teachers with senior professional titles are higher than those for junior and intermediate teachers, while the scores for teachers with intermediate and junior titles are not significantly different. Methods: The teachers were divided into three groups according to their ages of 30 years old, 30-45 years old and 45 years old. The SPSS one-way ANOVA analysis showed that there was a significant difference in the quality of classroom teaching among teachers of different ages ($P<0.05$). The scores of teachers aged 30-45 and over 45 are significantly higher than those under the age of 30. Teachers, 30-45 and 45-year-old teachers have no significant difference in evaluation results. Teachers over the age of 30 are mostly the teachers who have been trained before the expansion of colleges and universities. The basic teaching skills are solid and the teaching experience is rich. Most of them have middle and senior professional titles, so the quality of teaching Relatively good. The teachers under the age of 30 are young and have a short working time. They also need to accumulate the necessary teaching experience. It is normal for the teachers to score lower than the senior teachers.

4. Conclusion

Through the above analysis, we can see that SPSS's powerful statistical analysis function provides a good platform for the analysis of teachers' teaching quality. By analyzing the evaluation data, we have obtained a lot of valuable information, which is beneficial to the teaching management department. Decision reference, in order to better carry out teacher teaching quality evaluation. In addition to the SPSS analysis methods mentioned in this study, SPSS also provides other mathematical statistics methods such as principal component analysis, factor analysis, regression analysis, etc., which can be based on Analysis needs to be applied to the analysis of teaching quality. Teaching quality evaluation is a very complicated project. How to use SPSS's powerful statistical analysis function to support the scientific evaluation of teaching quality, we still

need to continue research.

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References

[1] Zhao Xiang, Jin Ai skirt. Research and Analysis of Classroom Teaching Quality [J]. Journal of Anhui University of Technology, 2002 (03): 119-121.

[2] Yu Wei,Liu Shan. Application of SPSS Software in Establishing Classroom Teaching Quality Evaluation[J]. Science and Technology Plaza,2005(05):74-77.

[3] Zhao Qiuyong, Deng Hongxia. Application of SPSS in Teaching Quality Monitoring System[J]. Journal of Taiyuan University of Technology,2004(06):732-734+738

[4] Zhao Xiang, Jin Ai skirt. Research and Analysis of Classroom Teaching Quality [J]. Journal of Anhui University of Technology, 2002 (3): 119-121.

[5] Yu Wei, Liu Shan. Application of SPSS Software in Establishing Classroom Teaching Quality Evaluation[J]. Science and Technology Plaza,2005(5):74-77.