

A Study of Teaching Evaluation Based on Network: P.E. Majors' Evaluation of the Theory Course of College Teachers

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Abstract

Two questionnaires (Students Evaluation of Education Quality, SEEQ and Self-esteem Scale, SES) are used to explore the influence produced by the factors like the students' self-esteem, urban and rural status, and gender difference on the sports majors' evaluation when they evaluate the teaching effects of theory course teachers. The findings revealed: 1. The questionnaire SEEQ has a high reliability and validity when it is used in the teaching evaluation based on network. 2. In the evaluation, the interaction of the students' self-esteem and their gender reaches a significant level. The students with low self-esteem score the teachers low, and girls from the groups with high and middle self-esteem have a higher evaluation of the teachers than boys. 3. The scores of the students from rural areas are significantly higher than those who come from cities.

Keywords: Evaluation based on web, Teaching of PE, College students, Self-esteem

1. Introduction

In the environment of network-based evaluation, to have an objective and a scientific teaching evaluation is one of the important pre-conditions to perfect the quality management of PE teaching in higher schools. The previous studies revealed that the students' evaluation on their teachers' teaching effect could greatly improve the teaching activity. In 1994, Chinese psychologist Qingmao Meng adapted the SEEQ originally made by Marsh in 1986, Many later studies claimed it had a high reliability. Liping Mi (2005) developed the computer software system which can help to employ SEEQ in the evaluation based on network As to the evaluation of PE teaching, Kai Zhang (1999) and others explored the dimensionality of college students' evaluation of the teaching of PE skill course teachers However, further research needs to be conducted to see the PE majors' evaluation of the theory course teachers using SEEQ. This program is to find whether the factors, like students' urban and rural status, self-esteem and gender difference, will produce significant difference on the results of teaching when the PE majors evaluate the theory course teachers' teaching effects. Therefore, it may serve as a reference to understand more comprehensively the results of web-based teaching evaluation.

2. Research subjects and methodology

2.1 Subjects

The subjects are teachers from the department of physical education of two universities. They all have more than three years of teaching experience, and they are younger than 50. All of them teach theory courses, and the study hours are more than 30. There are 10 teachers altogether, with male and female equal in number. 400 students are chosen as participants by stratified sampling, and they are asked to conduct the teaching evaluation on the internet.

2.2 Instruments

2.2.1 SEEQ(for students) are adapted by Professor Qingmao Meng and others in Beijing Normal University, it includes seven factors: sense of study value(B1), teaching enthusiasm and organization (B2), the teacher-students community interaction(B3), the teacher-students interpersonal relationship(B4), the breadth of teacher's knowledge (B5), test and evaluation/assignment/reading material(B6), quantity and difficulty of

lessons(B7). In the present study, the split-half reliability of the SEEQ is 0.93.

2.2.2 SES is made by Rosenberg and aims to evaluate the general feeling of one's self-value and self-acceptance. The questionnaire is made up of ten items. The scores range from 10 to 40, higher score means higher self-esteem. Previous studies claimed that the retest reliability is 0.82 one week later, and it had a good differential validity.

2.3 Method

Group testing. The students are asked to finish SEEQ and SES in turn to know the level of their self-esteem. Among all the questionnaires, 367 are valid. Statistical analyses were carried out using SPSS13.0.

3. Results and discussion

3.1 The analysis of the structure of SEEQ

Correlation coefficients of all items' score and the total score are higher than 0.5 when the PE majors evaluate the theory course teachers using SEEQ. This means all items have a good discriminability, and the questionnaire has a high internal consistency.

Principal component analysis was carried out in order to know the stability of the factors of SEEQ in web-based teaching evaluation. The KMO coefficient is 0.96, and the p value is 0.00 in the Bartlett globular test. This means the questionnaire meets the requirement of factor analysis and can be used. After the varimax rotation and cancelling the numbers smaller than 0.40, the result showed that 7 factors could explain 67.38% of the total variance. The factor loading of most items is over 0.5, and generally the item grouping accorded with the seven original dimensions, thus SEEQ could be said to have good construct validity.

3.2 The influence produced by the students' self-esteem and their gender on the evaluation

According to the students' scores in the SES, the present study chose the top 27% and last 27% as the top esteem group and low esteem group, the rest being the middle esteem group. Table 2 reports the students' scoring of their teachers using SEEQ.

The total score of SEEQ being the independent variable, $2 \times 3 \times 2$ three-factor analysis of variance was carried out. The result showed that the interaction of student's gender and their esteem reached a significant level (Table 1). The analysis of the interaction revealed that girls in the top and middle esteem groups score the teachers higher than the boys, while as for the low esteem group, the evaluation of girls and boys are quite similar (Fig. 1).

Insert Table 1 Here

Insert Figure 1 Here

The findings of the present study revealed that the main effect of the factor self-esteem got to a significant level ($p < 0.01$). It is manifested in the fact that the students in the low esteem group scored teachers very low, while the difference between the scores of the other two groups were not significant. A possible explanation for this is that it was influenced by the negative self-evaluation of the students in low esteem group. For example, they often feel themselves to be noting, and generally they tend to be unsatisfied with themselves. This negative self-evaluation may influence their evaluation of the teachers.

American scholar Basow (1995) claimed that when evaluating the teachers' teaching effects, college students would be influenced by the gender match relationship between teacher and students. However, the present study revealed that the interaction of the teachers' and students' gender did not reach a significant level, even though the main effect of both the teachers' and the students' gender reached a significant level. The average of teachers scored by girls was higher than that scored by boys, and the male teachers got higher scores.

To know the influence of the teachers' gender on the factors in teaching evaluation, T-test was administered. The T-test indicated that the difference in five factors and the total score was significant, and the students scored the male teachers higher than female ones. Some people tend take the teachers' teaching ability as the only explanation for this, while it is also necessary to note the problem of the stereotyped image of men and women. The study of Fidel indicated that as to the evaluation of materials with the same academic career of an individual, it was usually lower when the materials were said to belong to girls than when they were said to be the boys'. Therefore, whether the differences in the factors like the college students' sense of study value reflect the teachers' teaching ability, or to some degree reflect the difference of their perception of different genders, or both? This is a question calling for further research.

3.3 Differences in the urban and rural status when college PE majors evaluate the teachers

The results of T-test also indicated that the students from rural areas scored the teachers higher than those from urban areas (table2). We believe that this difference is mainly caused by different social and cultural environment in which the groups of subjects live, and their different living experience. Even though there has been great development of the economy and culture in the rural areas, generally speaking a big gap still exists compared with the urban areas. When the students from the rural areas come into universities with strong cultural atmosphere, the quality of the university teachers makes a big contrast with that of the previous teachers in the underdeveloped areas. In contrast, those students from the urban areas have been living in a relatively superior cultural and educational environment, and they have a higher expectation for the university teachers. The reality may not be the same as they have expected, therefore, their evaluation of the teachers would not be as high as that of the students from rural areas.

Insert Table 2 Here

4. Conclusions

4.1 The questionnaire SEEQ has a high internal consistency and good construct validity as well as a nice applicability when the college PE majors employ it to evaluate theory course teachers in the environment of web-based evaluation.

4.2 The web-based teaching evaluation will be influenced by the students' urban and rural status. Students from the rural areas score the theory teachers significantly higher than those from urban areas.

4.3 The interaction of the college PE majors' self-esteem and their gender reached a significant level. Therefore, a comprehensive analysis is needed to analyze the results of the web-based teaching evaluation.

References

- Basow, S. A. (1995). Student Evaluations of College Professors: When Gender Matters. *Journal of Educational Psychology*, 87(4), 656-665.
- Li, Wei & Li, De-gang. (2009). Network-Based College Class Evaluation. *Journal of Harbin University*, 30(8): 132- 133.
- Mi, Li-ping. (2005). Developing and Designing University Teacher's Teaching Effectiveness Evaluation System. *Journal of Shanxi College for Youth Administrators*, 13(4):73-75.
- Wang, Xiangdong. (1999). A handbook of mental health measuring scale. *Chinese Mental Health Journal*, 12, 318-320.
- Zhang, Kai, Meng, Qingmao & Liu, Lixin. (2002). Study On The Structure Of Evaluating The Teaching Quality Of P.E Teachers. *Teacher Education Research*, 14(1): 41-46.

Table 1. the influence of PE majors' gender and self-esteem in teaching evaluation

Main effect	<i>F</i>	<i>p</i>	interaction	<i>F</i>	<i>p</i>
Gender of students (A)	35.906**	0.000	A×B	10.247**	0.000
esteem of students (B)	6.154**	0.002	A×C	1.880	0.171
Gender of teachers (C)	10.099**	0.002	B×C	0.039	0.962
			A×B×C	0.280	0.756

Table 2. the influence of teachers' gender and students' urban-rural status on the scoring of SEEQ (*t*-test)

	B1	B2	B3	B4	B5	B6	B7	total
Teacher male	22.3±3.5	15.4±2.2	6.9±1.6	7.5±1.3	7.6±1.3	9.3±1.6	5.8±1.0	74.7±10.0
female	20.6±4.3	14.9±3.1	6.7±1.8	7.2±1.6	7.2±1.7	9.0±1.9	5.4±1.3	70.9±14.0
<i>t</i> -test	4.30**	2.00*	1.08	2.20*	2.84**	1.58	3.50**	3.15**
student urban	20.5±4.9	13.8±3.2	6.0±1.6	6.5±1.8	6.8±1.5	8.3±2.0	5.2±1.2	67.0±14.1
rural	21.7±4.1	15.4±2.7	6.9±1.8	7.4±1.4	7.5±1.6	9.3±1.8	5.6±1.2	73.9±12.7
<i>t</i> -test	1.86	3.80**	3.42**	3.77**	3.35**	3.49**	2.55*	3.56**

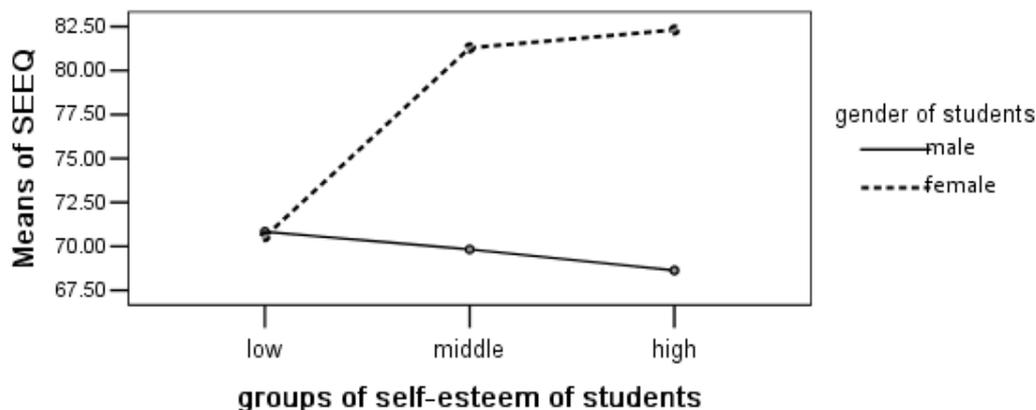


Figure 1. The interaction of the college students' gender and self-esteem in teaching evaluation