



Case Report

Analysis of Factors Affecting Chinese College Students' Teaching Evaluation Behavior

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Abstract: Based on reviews of 1431 Chinese college students on teaching, this paper analyzes from the two aspects of evaluation behavior, namely evaluation pressure and evaluation cognition. Results showed an influence from the combination of both, making suggestion to improve students' cognition on this issue as well as to use two differentiated teaching assessment systems to standardize students' evaluation behavior.

Keywords: Teaching Evaluation Behavior, Regression Analysis, Reliability, Validity

1. Introduction

Teaching evaluation is a teaching management method used by great number of colleges in China, and some colleges take the teaching evaluation results as a basis for rewards and punishments, promotion and demotion, and the employment of people. The authenticity and objectivity of teaching evaluation result are the critical factors to decide whether the teaching evaluation can be used as an effective means to manage teacher. The cognition of teaching evaluation directly affects the teaching evaluation behavior of students, correct cognition will guide college students to rationally participate in teaching evaluation, while inadequate cognition will mislead the teaching evaluation behavior, thus the teaching evaluation results cannot effectively reflect the teaching process, nor as a basis for teacher management. Based on facts and statistics, this paper analyzes the deviation resulted from both lack of evaluation cognition and too much pressure in class, giving advice on how to straighten this deviation and standardize students' evaluation behavior.

This paper takes the college students as research object, using face-to-face interview and the network survey to collect first-hand information, to study college students' cognition of teaching evaluation and teaching evaluation behavior. 1500 questionnaires were issued to three colleges' in Beijing from February to April 2016. There were 1431 valid questionnaires

and the valid rate was 95.4%. The composition of sample schools: college A accounted for 26.83%, college B accounted for 37.95%, college C accounted for 35.22%. Male and female students accounted for 28.9% and 71.1% respectively.

Table 1. Sample composition.

classification		Number of students	Percentage (%)
sex	male	414	28.9
	female	1017	71.1
college	college A	384	26.8
	college B	543	37.9
	college C	504	35.2
grade	freshmen	165	11.5
	sophomores	183	12.8
	juniors	909	63.5
	seniors	117	8.2
	postgraduates	27	1.9
	others	30	2.1

2. Scale Analysis

The survey evaluated the use of teaching cognitive and behavioral scales measure and the behavior of college students teaching evaluation participated in teaching evaluation. Before the formal investigation, interviews, focus groups and other means were carried out as pre-investigation and revised the questionnaire. To ensure the reliability of the results and the follow-up study of effectiveness, according to the survey

data scale item analysis, validity and reliability testing to ensure that the scale has high reliability and validity. Specific methods are as follows.

2.1. Item Analysis

Make item discrimination analysis based on survey data. Teaching cognitive and behavioral evaluation scale includes

Table 2. 15 questions of the score and total score correlation coefficient.

questions	correlation	P-value
A1 I can clearly remember school teaching evaluation	0.587	0
A2 I know that teaching evaluation score calculation method	0.552	0
A3 I know school teaching evaluation has been revised	0.505	0
A4 All courses can use the same set of teaching evaluation	0.447	0
B1 teachers teaching evaluation results can be used as basis for job promotion	0.506	0
B2 teaching quality evaluation can promote teachers to improve teaching quality	0.539	0
B3 teaching evaluation scores truly reflect the level of teaching	0.605	0
C1 Students pay more attention to teaching required courses Assessment	0.594	0
C2 high attendance of students results in more objective teaching evaluation	0.578	0
C3 good students are more objective at evaluation of teaching	0.579	0
C4 I seriously mark score on teacher in teaching evaluation	0.507	0
C5 should cancel malicious raters evaluate eligibility to participate in teaching	0.439	0
D1 the harder the course, the lower the scores	0.531	0
D2 the stricter the teacher is, the lower the scores	0.456	0
E1 I do not want others to know that was teaching evaluation score	0.388	0

2.2. Validity

Construct validity was investigated by exploratory factor analysis. To test whether the data suitable for factor analysis, the first sample of the data obtained by sampling appropriateness test. KMO value is 0.793, Bartlett test of sphericity value of 6318.306 ($P < 0.001$), suitable for factor analysis. Analysis of 14 items after exploratory factor analysis using principal component analysis to extract factors orthogonal rotation method to generate a feature value is greater than a factor of four, the cumulative variance explained was 63.01%. According rotated factor load factor (Table 3),

the four factors were named: "Cognitive teaching evaluation system" factor "teaching evaluation of cognitive function" factor "teaching evaluation behavior" factor, "teaching evaluation pressure" factor. According to the rotated factor loading coefficient matrix table will total 14 questions divided into four sub-item questionnaire. Teaching Assessment System cognitive subscale contains 4 items: A1, A2, A3, A4; teaching evaluation of cognitive function subscale consists of three items: B1, B2, B3; teaching evaluation behavior subscale contains 4 items: C1, C2, C3; teaching evaluation stress subscale contains two items: D1, D2.

Table 3. Factor load factor after rotation.

Item	Teaching Evaluation Factor	Teaching Evaluation System	Teaching Evaluation stress	Teaching evaluation cognition
A1	0.028	0.839	0.159	0.047
A2	-0.029	0.765	0.16	0.066
A3	0.281	0.675	-0.084	0.207
A4	0.034	0.615	0.142	0.042
B1	-0.003	0.171	0.133	0.833
B2	0.329	0	0.055	0.727
B3	0.148	0.515	-0.019	0.583
C1	0.832	0.08	0.112	0.009
C2	0.732	0.155	0.258	-0.009
C3	0.709	0.076	0.299	0.096
C4	0.614	0.134	-0.276	0.295
C5	0.572	-0.084	-0.112	0.268
D1	0.153	0.248	0.831	0.058

2.3. Reliability Analysis

Cologne Bach α coefficient is a reflection of the scale

Cronbach common indicators. Total scale α coefficient was 0.807, a high reliability; teaching assessment of cognitive function subscale α coefficient of 0.687, is comparatively

good reliability; teaching evaluation coefficient α behavior subscale and teaching evaluation system of cognitive subscale 0.761 and 0.744, respectively belonging to high channel; α coefficient teaching evaluation subscale pressure is 0.804, belong to high reliability. Overall, the scale has good reliability.

3. Teaching Evaluation Behavior Situation

Teaching evaluation mainly reflects whether students can conduct an objective and treat cognitive teaching evaluation. Students teach behavior assessment is to determine the validity of the results of teaching, the key to fairness. Although the overall survey results show that college students can teach comment seriously, but with grade promotion, teach students how serious commentary show a downward trend.

First, more than half of student teaching evaluation seriously, there is a close relationship between students' academic performance and teaching evaluation behavior, good students more seriously. 52.6% of students agree that they will take seriously the teaching evaluation, only 12.5 students admit that they do not take seriously the teaching evaluation. 54.7% of the students agreed to cancel malicious raters participate in the assessment of teaching qualifications. 45.3% of the students agreed with the high attendance of students will be more seriously involved in teaching evaluation, 34.2% of the students agreed with the good students will learn a more objective evaluation of teaching. Compared with elective courses, students are more inclined to take seriously the required course teaching evaluation, 43.8% of the students agree compulsory course teaching evaluation more attention, 20.3% of students do not agree to a compulsory course teaching evaluation more attention.

Second, the differences in behavior between teaching evaluation interscholastic is significant. Table 4 chi-square test results show that the school and the teaching evaluation behavior subscale five questions of corresponding significance levels were less than 0.05, that is, schools have a significant impact on the teaching evaluation behavior, there are significant differences between different school student teaching evaluation behavior. Teach students the commentary behavior C College serious lowest, 9% of students opposed to the abolition of malicious scoring is to participate in teaching

assessment, the extra five percentage points higher than A Colleges and B College; 6.5% of the students that they will very carefully to teachers teaching evaluation score, higher than the a and B of University College 2 percentage points; C College against high attendance, students will learn more seriously and objectively to evaluate the proportion of teachers are also significantly higher than the other two universities. B Universities teach students the most serious behavioral assessment, 58% of students consider themselves seriously to teachers teaching assessment scoring higher than the other two schools two percentage points; 22% of students are very high attendance agreed to participate in teaching students more objective assessment, A and C, respectively, higher school school 4 percentage points and 8 percentage points.

Third, teach the seriousness of the behavior assessment with grade decline. Table 4 chi-square test results show grades and teaching evaluation behavior subscale four questions of the corresponding significance levels were less than 0.05, grades have a significant impact on the teaching evaluation behavior. Freshmen are taught to treat the most serious assessment groups, most seniors are not serious. 59% of freshmen agree that they will seriously teach commentary, significantly higher than other grades, not a freshman thinks he will not be taken seriously teach comment. 42% of seniors agree that they will take seriously the teaching evaluation, significantly lower than other grades, 22% of seniors think they are not serious about teaching assessment, higher than other grades. At the beginning of school, freshmen were told teaching evaluation is an important means of school management, more emphasis on teaching evaluation, with the increasing participation of teaching assessment times, gradually found himself on the evaluation results insignificant seriousness decreased. While most students agree more attendance, learning to teach good students are more objective treatment of the commentary, but the dissenting share it with grade showed a gradual upward trend, freshman to senior students learn good against a more objective assessment of the proportion of treated sequentially teach as follows: 1.8%, 4.9%, 7.3%, 10.3%. Although more than half of the students agreed that it should be canceled by the malicious scoring PARTICIPATING qualifications, but the dissenting students with grade upward trend in the proportion of freshman to senior opposition were: 9.09%, 11.48%, 15.51%, 17.95%, Description with grade increases, students' attitudes on the importance of teaching evaluation gradually into contempt.

Table 4. School, grade and teaching commentary behavior subscale chi-square test.

Comment teaching cognitive behavioral subscale	college			grade		
	Chi-square value	DF	P-value	Chi-square value	DF	P-value
C1	27.593	8	0.001	63.082	20	0.000
C2	29.579	8	0.002	64.791	20	0.000
C3	23.995	8	0.000	74.349	20	0.000
C4	44.538	8	0.000	124.770	20	0.000
C5	31.66	8	0.000	57.920	20	0.000

4. Revision on the Impact of Pressure on the Teaching and Assessment of Cognitive Behavior Taught

Comment teach cognitive and behavioral assessment by teaching teach commentary pressure on the two aspects, in order to further explore the interaction between them, according to the four subscales designed four indicators are: teaching degree objective assessment behavior, teach comment function awareness, awareness of the teaching assessment system, teaching assessment of the impact pressure by using correlation coefficient and regression studies teach cognitive assessment, teaching impact assessment pressure on teaching behavior. Teaching evaluation behavior subscale scores representatives teach comment conduct an objective level, the higher the score the more acts on behalf of student teaching evaluation objective, serious; teaching evaluation of cognitive function subscale teach comment function on behalf of awareness, the higher the score on behalf of students teach more comprehensive assessment of cognitive function, higher awareness; teaching evaluation system on behalf of the cognitive subscale teach awareness assessment system, the higher the score on behalf of students to teaching content and methods of cognitive assessment more comprehensive, more awareness high; teaching evaluation subscale pressure representative of the pressure to teach Review the degree of influence, the higher the score on behalf of academic pressure to teach higher impact assessment. The study found the cognitive function of teaching and teaching behaviors most relevant commentary, teaching and assessment of cognitive function teach commentary pressure combined effect of teaching assessment behavior.

4.1. Teaching and Teaching Assessment of Cognitive Function Most Relevant Behavior

Objective assessment of teaching behavior and teaching functions comment awareness, awareness teaching assessment system, the correlation coefficient teach

commentary pressure degree of influence between the three are: 0.384, 0.223, -0.23. Objective assessment of teaching behavior and teaching assessment system are weakly related to awareness, to teach students the higher cognitive assessment system, which teaches behavior assessment higher degree of objectivity; teaching and teaching assessment conduct an objective assessment of the degree of cognitive function moderate related to teaching students the commentary feature recognition is higher, the higher their teaching behavior assessment objectivity; teaching and teaching assessment conduct an objective assessment of the degree of pressure on the moderate correlation indicates that when students believe that learning pressure from teachers and curriculum to teach Review the greater the influence that teaching behavior assessment objectivity lower.

4.2. To Teach and to Teach Cognitive Function Assessment Commentary Pressure Combined Effect of Teaching Behavior Assessment

The regression equation can be further reveal teach cognitive assessment and teaching Comments on teaching assessment degree of pressure behavior. Teaching objective assessment of the behavior referred to as y, teach comment function awareness, awareness teaching assessment system, teaching assessment of the impact pressure were recorded as x1, x2, x3. Stepwise regression fit regression equation y and x1, x2, x3 between teaching assessment system due recognition x2 at significance level of 0.05, did not pass the significance test, regression equation was removed to give the final return equation is:

y = 13.78 + 0.576x1-0.32x3

Table equation estimated 5 regression results can be seen at 0.05 level of significance, the regression equation there is a significant linear relationship as a whole, a single regression coefficient averages significantly, residuals of the regression equation no autocorrelation, the argument of the Room does not exist multicollinearity. Therefore, the regression equation estimation results is ideal.

Table 5. Regression equation estimation results.

variation	coefficient	standard	error	P-value	VIF	R ²	Durbin-Watson	F	P-value
Constant	13.780	.544	25.33	.000	—				
x ₁	0.576	.040	14.42	.000	1.04	0.17	2.01	149.71	0.00
x ₃	-0.320	.048	6.64	.000	1.04				

According to the estimated results of the regression equation can be seen: learning pressure and teaching assessment of cognitive function significant impact on the evaluation of the teaching behavior, teaching assessment of cognitive function assessment greatest impact on teaching behavior. When the pressure on the teaching of the same, if taught comment function to improve the awareness of every 1 minute, teach behavior objective assessment of the increase 0.576 cents, equal to the objective of improving 3.36

percentage points; when teaching students awareness of the same function if the pressure on the assessment of teaching every 1 minute, teach behavior objective assessment was reduced 0.32 points, equivalent to the objective of reducing 1.87 percentage points. Therefore, to improve students' cognitive assessment teach, teach commentary pressure control is an effective way to improve teaching behavior degree of objectivity.

5. Conclusion

There is a significant relationship between teaching and teaching cognitive and teaching Comment Comment pressure behavior. If students think that learning pressure, teach behavior assessment will be distorted; if the student can fully understand and teach functional assessment system, the more objective assessment to teach behavior. Therefore, the following two amendments to teach comment deviant behavior, behavior norms teach comment.

First, to increase students' awareness of the teaching assessment. Education plays a positive impact on the assessment of cognitive behavioral teaching assessment to enhance student awareness and teach teaching assessment system assessment functions help improve teaching evaluation behavior objectivity. Students of content and functionality of cognitive deficiencies teaching evaluation system, is bound to affect the behavior of teaching assessment objectivity, academic departments should work harder on improving students' awareness to enable students to teaching content and assessment of the role of a clear and comprehensive knowledge to enable students to recognize the results of the evaluation of teaching in the promotion of teaching level, teachers and other management plays an important role in prompting them to seriously teach comment.

Second, the use of differentiated teaching assessment system. Teach Comment pressure plays a negative impact on teaching behavior assessment, curriculum and faculty difficulty stringent requirements will increase the pressure of learning, teaching assessment result in behavioral problems, strict or difficult to teach courses will be faced with the plight of low scores way teachers teach. In the assessment system should be designed to teach breaking the traditional "one size fits all" way of teaching assessment, the teachers' teaching style and curriculum to teach the degree of difficulty of these factors into the assessment system, in accordance with the curriculum and teaching style ease of classification and evaluation.

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Biography



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