A Method of Faculty Evaluation that Promotes Individual Development and Reflects Fairness and Impartiality

Liang-Fa XU[1,a], Wei ZHANG[2,b], Bing-Kun JIANG[3,c]

[1,2,3]Aviation Maintenance NCO Academy, Air Force Engineering Univercity, Xinyang, Henan, China

[a,b,c]ps20021119@qq.com

Keywords: Faculty Evaluation, Talent, Evaluation Criterion.

Abstract. In the process of past faculty evaluation, there were some deficiencies such as the adoption of single evaluation standard for the same level teachers and the evaluation results were easy to be effected by human factors. With the help of modern management science theory, this paper provides a method to evaluate faculty from five aspects: political performance, workload, teaching quality, scientific research achievements and academic achievements. It not only fully reflects the fairness and impartiality, but also allows the evaluated teachers to decide the evaluation criteria according to their own characteristics, to fully affirm the individual development of the teachers, so that the evaluation can better mobilize the enthusiasm of the majority of teachers, which is not only conducive to strengthen the management to the faculty, but also conducive to display the faculty's talents.

Introduction

Faculty evaluation refers to the institution and method that schools or other education institutions regularly inspect teachers to determine the teaching level of teachers in accordance with the content, standards, procedures and methods of evaluation, which according to the standards established and the authorities to manage teachers. The evaluation to the overall work of teaching staff has been strengthened, which is an important content in management to teachers and a powerful measure to strengthen the management and construction to teaching staff.

Over the years, the faculty evaluation became the normalization. But after every evaluation, always somebody complains: the same evaluation standard was used to teacher of same level, which demands every teacher is all-around, their teaching, scientific research, academic were demanded to keep the same pace, and the difference of teacher individual ability is objective existence, more effort is useless; Evaluation can not truly reflect fairness and justice, evaluation results were susceptible to human feelings, administrative factors and other factors.

Description of Faculty Evaluation Methods

In faculty evaluation, there is not only "quantity" evaluation, but also "quality" evaluation. Of course, to consider that teacher's jobs are very complex brainwork, its' labor mode, time domination, achievement form are different with general laborer, it is very hard to define completely, accurately and reflect the specific quality standard adequately that the teacher completed a certain job. Here, with the help of modern management science theory, a mathematical model is provided to describe the evaluation of faculty's jobs.

On the basis of the faculty's actual job performance, it might as well to evaluate the faculty's job in the following five aspects: political performance (score P), its' weight coefficient λ_P; Workload (score W), its' weight coefficient λ_W; Teaching quality or effect (score T), its' weight coefficient λ_T; Scientific research result (score S), its' weight coefficient λ_S; Academic outcome (score C), its' weight coefficient λ_C.

To a specific teacher, due to the ability and quality of different aspects, his corresponding weight coefficients are also different. However, for teachers, equal emphasis should be placed on teaching and scientific research, which promotes each other. The weight coefficient data for reference are shown in the following table:

Table 1, Weight coefficient data

		1	2	3	4	5
		political performance (P)	Workload (W)	Teaching quality (T)	Scientific research result (S)	Academic outcome (C)
1	Partial to teaching	**0.2**	**0.2**	0.4	0.1	0.1
2	Partial to Scientific research	**0.2**	**0.2**	0.1	0.4	0.1
3	Partial to Academic	**0.2**	**0.2**	0.1	0.1	0.4
4	Pure in teaching	**0.2**	**0.2**	0.6	0	0
5	Pure in Scientific research	**0.2**	**0.2**	0	0.6	0
6	Pure in Academic	**0.2**	**0.2**	0	0	0.6
7	average in teaching, scientific, academic	**0.2**	**0.2**	0.2	0.2	0.2
…….	Equal in teaching and scientific research	**0.2**	**0.2**	0.3	0.3	0
m	…….	**0.2**	**0.2**	…….	…….	…….

Explanation:

(1) To reflect fairness and justice, the sum of the weight coefficients of 5 assessment items for any teacher are 1, that is: $\lambda_P+\lambda_W+\lambda_T+\lambda_S+\lambda_C=1$;

(2)To each teacher evaluated, the requirements of their political performance and workload are unified, the 2 items are unified affirmed by teaching research office, which reflecting in weight coefficients is: to each teacher evaluated, their $\lambda_P=\lambda_W=0.2$;

(3) In order to adapt to the actual situation of different types of teachers, to encourage faculty with expertise, to avoid that all people are the same model, not stick to only one kind of talents, under the premise of (1) (2) explanations, before the evaluation, the teacher evaluated can decide the weight coefficients of latter three items (teaching quality and effect, scientific research results, academic outcome) by himself in advance. It also allows faculty to have specialty, such as to teacher of pure teaching type, his $\lambda_T=0.6$, but $\lambda_S=\lambda_C=0$;

(4) In order to reflect the orientation of talent cultivation of the teaching research office, department or school, the unit may specify the lowest value of the weight coefficients of one or more of the following three items (teaching quality and effect, scientific research results, and academic outcome). For example, in order to encourage everyone to actively carry out academic research, the weight coefficient of academic item can be stipulated as $0.1\leq\lambda_C\leq0.6$ for each teacher evaluated.

Concrete Implementation of Faculty Evaluation

Evaluation of Faculty's Political Performance

The evaluation of political performance includes: the attendance score in political studies at ordinary times is P1 and its weight coefficient is λ_{P1}; The score in the examination in the period to learn the party's line, principles and policies is P2 and its weight coefficient is λ_{P2}; The attitude score in political studies at ordinary times is P3 and its weight coefficient is λ_{P3}; The score to be strict with themselves and obey the organization's arrangement is P4 and its weight coefficient is λ_{P4}; The score to observe the organizational discipline is P5 and its weight coefficient is λ_{P5}; The score to check political study notes is P6 and its weight coefficient is λ_{P6}. So the score of political performance is $P=\lambda_{P1} P1+\lambda_{P2} P2+\lambda_{P3} P3+\lambda_{P4} P4+\lambda_{P5} P5+\lambda_{P6} P6$.There into, $\lambda_{P1}+\lambda_{P2}+\lambda_{P3}+\lambda_{P4}+\lambda_{P5}+\lambda_{P6}=1$; P1, P2 use results of attendance and exam directly; P3, P4 and P5 are scored directly by the director and deputy director of the teaching research office according to the teacher's performance in ordinary, and then the average value of the two is obtained. The reason why two leaders score separately is to try to be fair and just.

Evaluation of Faculty's Workload

The evaluation of workload includes the statistics of teaching, scientific research, academic, experiment, business trips, support troops and other work. The work except for teaching is converted into class hours according to the standards predetermined and publicized, which is for convenience to account. For example: the workload to publish a national core journal article =100 class hours, corresponding supporting materials should be provided in the evaluation, otherwise it is invalid. However, to ensure to outstanding complete the tasks for which high confidentiality or other special needs are required, the teaching and research office has the right and responsibility to designate the most suitable teacher to undertake the tasks.

After the work of each teacher has been quantified according to quantitative standards, the workload of each teacher's work can be summed up to get a sum S_{um}, so the teacher's workload score is $W=100S_{um}/\max(S_{um})$. There into, $\max(S_{um})$ is the value of the workload of the teacher who has the largest workload among all teachers. Which means the instructor's score is 100 points.

Evaluation of Faculty's Teaching Quality or Effect

The score of faculty's Teaching quality or effect is T, its weight coefficient is λ_T. Including: teaching contents are in line with the requirements of the teaching outline, the key points, difficult points stand out; teaching methods are appropriate; board writing is standard; language is concise; specifically divided into:

Class TC: teaching and educating, be a good teacher, and be strict to require; the degree of effectiveness of students after their learning. Experiment TT: appropriate topics have been selected; the teacher is proficient in experimental principles and whose guiding methods are suitable; the degree of effectiveness of the students after the experiment. Tutorship TL: the quality of problems set in class; Answer the questions and mark the homework. Guidance organization TF: close to actual combat, good guidance method.

To facilitate the solution of TC, TT, TL and TF, U= {excellent, good, medium and poor} is given as the evaluation combination. To facilitate quantification, which are stipulated as: Excellent: 90 points; Good: 80 points; Middle: 70; Poor: 60 points. To be fair and just, people at different levels were asked to score them. Taking TC as an example, the assessment results of students, experts and leaders are set as TC1, TC2 and TC3, and the corresponding weight coefficients are λ_{TC1}, λ_{TC2}, λ_{TC3} respectively, then $TC=\lambda_{TC1} TC_1+\lambda_{TC2} TC_2+\lambda_{TC3} TC_3$. TT, TL, TF are obtained by the same method.

Suppose that the weight coefficients of TC, TT, TL and TF are λ_{TC}, λ_{TT}, λ_{TL}, λ_{TF} respectively, which are determined by the expert group or assessment group, then $T=\lambda_{TC}TC+\lambda_{TT}TT+\lambda_{TL} TL+\lambda_{TF}TF$.

In this way, the scores of scientific research achievements and academic outcomes can be obtained, and then the total personal scores $S=\lambda_P P+\lambda_W W+\lambda_T T+\lambda_S S+\lambda_C C$ can be obtained by using the weighted evaluation model. That is, the actual score of each teacher's daily work in the evaluation period. Arrange them by order from high to low, and then evaluation of faculty's daily work has been finished.

In order to well solve the problem of appraisal and evaluation of faculty's daily work, an evaluation group may be composed of several teachers, who had been elected by the entire faculty for them with teaching experience, high level knowledge, integrity and decency. The evaluation group listen to public opinions, and the lecture, problem sets, experimental classes, counseling and other aspects among the actual teaching process had been formulated into the corresponding score indicators, compare people to people, the inspection result of faculty's daily work had been got, which promote the teaching work and quality management of teaching and research section to well develop.

Summary

In this assessment method, the score of a specific achievement is evaluated by multiple representatives elected by democracy, and then the average value is taken, and multiple score

branches are juxtaposed, moreover, the sum of the weight coefficients of 5 assessment items for any teacher is 1, which fully reflects fairness and justice; for a specific teacher, according to his own strengths and high level, the weight coefficients of the assessment items had been determined by himself to suit for his own characteristics, which avoid the same level people are evaluated according to the same assessment standard, encourage talent non-stick to one pattern, highlight personal advantages.

In addition, the evaluation results should be well used to reward the diligent and punish the lazy, to eliminate the inferior and choose the excellent. To the outstanding teachers evaluated, especially those who have made outstanding contributions to teaching, to give priority to appraise one's merits, priority, promotion and professional title, so as to create a good atmosphere with clear air and positive atmosphere and to mobilize the enthusiasm of teachers. Through assessment, can get an objective understanding and evaluation to teachers, so that each teacher can better play their strengths and levels, promote their good points and avoid his shortcomings, which both conducive to work, and conducive to the development of teachers. Only in this way, the management level can be continuously improved, so as to optimize the faculty team, improve the education level and the teaching benefits of the academy.

References

[1] Wang Jisheng. Education evaluation of higher education development in China. Development and evaluation of higher education, 2014, 30 (4): 19-28.

[2] Li Baobin. Empirical study and reflection on the imbalance of teaching and scientific research in the evaluation of university teachers. Education Research of Higher Engineering, 2011 (2): 76-81.

[3] Yuan Yimin. Evaluation of institutions concerned with internal quality assurance. Development and evaluation of higher education, 2015, 21 (3): 10-16.

[4] Ma Tingqi. Logic of operation of quality assurance system of higher education. China higher education, 2014, 9 (18): 16-19.