Multi-Paths of Colleges’ Performance Appraisal and Comparison

Hui PENG¹,a, Lian-Sen WANG²,3,4,b,*

¹Department of Foreign Languages, Shandong Vocational College of Foreign Affairs Translation, P.R. China, 250100
²Institute of Higher Education, Shandong Women’s University, Jinan, P.R. China, 250300
³School of Tourism, Shandong Women’s University, Jinan, P.R. China, 250300
⁴Research Center for Higher Education, Shandong University, Jinan, P.R. China, 250100

a pengpennyhui@sina.com, b liansen@sdu.edu.cn
*Corresponding author

Keywords: Two-level administration system, Performance appraisal, Higher education management.

Abstract. Under the two-level administration system, the appraisal and comparison of colleges’ performance is supposed to be an important way for universities to strengthen macro-control and colleges to consolidate self-management. The subjects, perspectives, scope, ways, means and techniques are the key considerations when appraising the college’s performance, and each of them also has many dimensions which decide the multi-paths of colleges’ performance appraisal and comparison.

Introduction

Universities undertake many social functions such as talents cultivation, scientific research and social service; inside, they have many disciplines and majors. Therefore, university is a complex social organization for its complicated structure and heavy task. What’s more, every college has different professional backgrounds and characteristics of teaching and research, so the uniform management mode is not conducive to the colleges' development. In order to conveniently and effectively manage the university, the two-level administration system should be adopted. In the two-level administration system, a very necessary research is put forward, which is the appraisal and comparison of colleges’ performance. What is the purpose of the appraisal and comparison, who organizes the appraisal and comparison, and compare with who, what to compare, how to appraise and compare, etc., are worthy of in-depth study.

Key Considerations and Multiple Choices of Colleges’ Performance Appraisal

Appraising Objectives and Purpose

(1) The university appraises colleges. Under the two-level administration system, the university exercises macro-control over colleges, and the key work is to identify and ensure the overall developing direction of the university to promote the colleges’ independent development. It is necessary for the university to appraise the colleges especially in terms of performance so as to get to know the colleges’ development level, promote the competition between colleges and decide the allocation of human, financial and material resources.

(2) Colleges’ self-appraisal. Under the two-level administration system, while colleges are enjoying considerable autonomy they should meet the obligation of self-development. Meanwhile, they are also facing various competition pressure insider and outside the university. In this case, the college itself also needs appraisal and comparison to get know its strength, experience, problems, shortcomings as well as the comparative advantages and disadvantages over its peers so it can identify the current development level and the future direction.
Comparison Perspectives

(1) Comparison between “aims & results”. It refers to the comparison between the actual results and the planned aims. Through it, the college can get to know the internal operational efficiency and find out the strength or problems to improve its performance; the university can check the college’s development situation, adjust the allocation of resources and take supervision measures; the university and college can find out the rational parts in the plan as the reference and basis for next stage plan.

(2) Longitudinal comparison of the college. It refers to comparison between the current performance and the past. It can help the college to know its developing trend and pace to keep the moderate developing rhythm, and is convenient for the university to check the college’s development.

(3) Horizontal comparison between colleges in the university. It compares the performance of colleges’ in the university. It helps the college get know the developing situation comparing to other colleges and its position in the university so that it can take appropriate measures to enhance its position and gain more resources. It is also an easy way for the university to grasp each college’s performance and efficiency and take relevant information as a basic ground for further resources allocation.

(4) Horizontal comparison between peer colleges in different universities. It means the comparison between the college and its peer colleges home or abroad so that the university and college can get to know theirs schooling level in the nation or in the world and find out their strengths and weaknesses.

Appraising and Comparison Scope

(1) Single appraisal and comparison. This means taking an aspect or a factor of this aspect for appraisal and comparison, for example, we can compare teaching, research and social service respectively or individually, or more specifically the “undergraduate cultivation” and “postgraduate cultivation” of teaching.

(2) Comprehensive appraisal and comparison. It refers to the comprehensive appraisal and comparison of the college’s performance including teaching, research and social service according to several “bundled” single indexes.

Appraising Ways

(1) Effectiveness appraisal. It appraises and compares the “output” of the college which in one aspect or comprehensively reflects the school size and strength and includes graduates, works, teaching materials, academic theses and patents.

(2) Efficiency appraisal. It appraises not only the output but also the input (human, financial and material resources), and the ratio between them which reflect the efficiency and the college’s strength.

Appraising Means

Means of appraisal can be classified into “quantitative evaluation” and “qualitative evaluation”. It’s normal for both of them to coexist in any index system. Colleges output “intellectual products” more than “material products”, which have “active effect” and “lagging effect”. Not all the indexes evaluating intellectual products can be quantized directly. Some of them need second quantization and some can not be quantized. If we insist on quantizing all the indexes, the appraisal will lose its objectivity, authenticity and practical significance. So in practice, appraisers should choose the appropriate means according to the content of appraisal.

Appraising Techniques

The appraisal of colleges’ performance must resort to appraisal techniques. The development of mathematics, computer technology and modern information technology provide advanced tools for appraising colleges’ performance. Appraisers can adopt scientific, appropriate and workable
techniques according to the purpose and requirement of the appraisal. The common techniques for educational evaluation include analytic hierarchy process, fuzzy evaluation method, mathematical statistical method and various mathematical models for appraisers to choose from.

Multi-Paths of Colleges’ Performance Appraisal

As mentioned, the subjects, perspectives, scope, ways, means and techniques are the key considerations when appraising the colleges’ performance, and each of them also has many dimensions which decide the multi-paths of colleges’ performance appraisal and comparison, as shown in Fig. 1.

![Figure 1. Multi-paths of colleges’ performance appraisal.](image)

X: the university appraises colleges;  
Y: colleges’ self-appraisal;  
a<sub>1</sub>: comparison between “aims & results”;  
a<sub>2</sub>: longitudinal comparison of the college;  
a<sub>3</sub>: horizontal comparison between colleges in the university;  
a<sub>4</sub>: horizontal comparison between peer colleges in different universities;  
b<sub>1</sub>: single appraisal;  
b<sub>2</sub>: comprehensive appraisal;  
b<sub>11</sub>: teaching;  
b<sub>12</sub>: research;  
b<sub>13</sub>: social service;  
c<sub>1</sub>: effectiveness appraisal;  
c<sub>2</sub>: efficiency appraisal;  
d<sub>1</sub>: qualitative evaluation;  
d<sub>2</sub>: quantitative evaluation;  
e<sub>1</sub>: analytic hierarchy process;  
e<sub>2</sub>: fuzzy evaluation method;  
e<sub>3</sub>: mathematical statistical method;  
e<sub>4</sub>: mathematical models

As shown in Fig. 1, from the left appraising objectives to the right appraising purpose, there are several paths showed by the arrows and every path stands for a set of appraising means. For example, the path X→a<sub>1</sub>→b<sub>1</sub>→b<sub>12</sub>→c<sub>1</sub>→d<sub>2</sub>→e<sub>2</sub> shows that the university compares the college with peer colleges on research’s effectiveness and the appraising ways and techniques are quantitative fuzzy evaluation method. In the real practice, appraisers can choose the most appropriate one or several paths according to specific purpose of appraisal and comparison.
A Good Appraising and Comparison Path

Some university in Taiwan carry out “departments performance appraisal” to appraise and rank the departments’ (equal to college discussed here) efficiency and take it as basic basis to decide the allocation of resources. The practice brings about good effect, so the paper will give an introduction of its basic idea (modified here). The appraising and comparison path adopted by the university is as shown in Fig. 2.

![Figure 2. Departments performance appraisal and comparison.](image)

X: the university appraises colleges;

a3: horizontal comparison between peer colleges in the university;

b2: comprehensive appraisal;

c2: efficiency appraisal;

d2: quantitative evaluation;

e4: mathematical model

The path in figure 2 clearly indicates the university’s choice of appraising content.

Appraising objectives: the university appraises colleges. Through the comparison of each college’s work efficiency, the university gets information about resources, input and achievements, find out the strength and weakness of each college, clarify the key points to improve and developing direction, and allocate more human, financial and material resources to colleges with higher efficiency.

Appraising perspectives: horizontal comparison between colleges in the university

Appraising scope: comprehensive appraisal and comparison. The college’s performance is comprehensively appraised and compared including the factors as teaching, research and social service.

Appraising ways: efficiency appraisal. The ratio between the output (teaching hours, amount of works, scientific research funds and generated revenue) and the input (number of teachers, expenditure and the space of the college) indicates the efficiency.

Appraising means: quantitative evaluation.

(Appraising techniques: collect the relative data and set up mathematics models to process the data as follows:

1) Collecting the relative data. The data collected can be classified into two categories: the data of the output- teaching hours (multiply the credits by the number of the students), the amount of works (SCI/SSCI/AHCI, etc.) and the data of the input-scientific research funds, the revenue generated, the number of teachers, the amount of funds used, the space of the college.

2) Calculate the work efficiency of each college, $E_i$.

$E_i = \text{Max}(\text{gross value of output}/ \text{gross value of input})$

gross value of output = u_{i1}(\text{teaching hours}/ \text{the average of each college})$
### Conclusion

Under the two-level administration system, the appraisal and comparison of colleges’ performance is supposed to be an important way for universities to strengthen macro-control and colleges to consolidate self–management. According to specific appraising purpose, the university and the college should choose the appropriate appraising and comparison path complying with the principle of scientific, objective and feasible. For specific purpose, the problems such as which path is the best and what appraising techniques should be used need meticulously considering and designing in the future research.

### Acknowledgement

This research was financially supported by Independent Innovation Foundation of Shandong University (Grant No. IFW12116), Humanities and Social Science Research Project of Ministry of Education (Grant No. 15YJA880069), and Research Project of China Academic Degrees & Graduate Education Society (Grant No. 2015Y11).