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Study on the Discipline Reputation of Agricultural Colleges and Universities

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Abstract This paper first studies the main factors affecting the reputation of colleges and universities, and then uses the analytic hierarchy process to analyze the discipline reputation of colleges and universities from student scale, quality of teaching, school site, and achievements in scientific research. Finally, this paper makes the following recommendations: strengthening specialty construction in agricultural colleges and universities; establishing the competitiveness assessment system for colleges and universities based on discipline competitiveness; scientifically choosing the suitable discipline when students choose colleges and universities and discipline; consolidating the basic position of undergraduate teaching; improving the teaching level and teaching ability of young teachers; creating a good academic research atmosphere based on agriculture.

Key words Agricultural colleges and universities, Discipline, Reputation

1 Introduction

Like many foreign universities, China's agricultural colleges and universities are currently facing many challenges arising from combination and reform of colleges and universities, college expansion plan, "211" project, institutional autonomy reform or internal environment of university. Faced with these challenges, how to change challenges into opportunities and further consolidate source of students, is in large part related to the discipline reputation. According to the survey of agricultural college students, when most college-bound students choose the colleges and universities and discipline, the main consideration is about the reputation of colleges and universities and discipline reputation. A good reputation of colleges and universities reflects preservation of excellent traditional culture over a long period of time and advance with the times. Discipline is the fundamental unit of the university, and the discipline competitiveness is the basis of university competitiveness, therefore, the modern university regards the discipline building as the key to university development^[1]. If the discipline competitiveness is improved, the discipline reputation will be enhanced, and thus the reputation of colleges and universities will be better. The blind cognition of colleges and universities and discipline can reduce the student's interest in learning and cause the inner conflict of students. So the scientific selection of colleges and universities and discipline is of important significance to the development of students and universities.

2 The factors that affect the discipline reputation of colleges and universities

With the increasing development of the national economy, the state investment in agriculture has increased year by year. The reputation of university is the attractiveness of one university's

identity elements to the public such as its past, present and foreseeable future university spirit, university behavior, school conditions and social contribution compared with other universities^[2]. There are many factors responsible for the formation of the reputation of colleges and universities, and this paper performs comprehensive comparison from student scale, teaching quality, achievements in scientific research and school site.

2.1 Student scale According to the survey, some students are affected by traditional ideas and believe that for some disciplines with too small student scale, the source of students is not good and the reputation may not be good, so they are unwilling to choose the disciplines with small student scale.

2.2 Quality of teaching Higher education is the important point of integration of science and technology productivity and human resources. The management on quality of teaching is to carry out quality supervision and control of the school teaching activities. Like the education quality management, it is comprehensive, dynamic and normative.

2.3 Achievements in scientific research The research capability reflects the core competitiveness of colleges and universities, and it is an important condition for the integrated strength of colleges and universities.

2.4 School site Due to experimental fields and other factors, the school site of agricultural colleges and universities is remote. Although some students are interested in agriculture, the remote school site makes them hesitate.

3 Evaluation of the discipline reputation of agricultural colleges and universities

In the choice of discipline, it is necessary to objectively understand the university, consider various factors according to the actual conditions, and avoid the blind choice. The blind cognition of colleges and universities and discipline will bring down the students' interest in learning, cause the students' inner conflict,

and even seriously affect the students' school life. Therefore, the scientific selection of colleges and universities and discipline is of important significance to the development of students and school. The analytic hierarchy process can be used to help to choose suitable colleges and universities and discipline.

3.1 Evaluation method The analytic hierarchy process (AHP) is a structured technique for organizing and analyzing complex decisions, based on mathematics and psychology. It was developed by Thomas L. Saaty in the 1970s and has been extensively studied and refined since then. It has particular application in group decision making, and is used around the world in a wide variety of decision situations, in fields such as government, business, industry, healthcare, shipbuilding and education. Rather than prescribing a "correct" decision, the AHP helps decision makers find one that best suits their goal and their understanding of the problem. It provides a comprehensive and rational framework for structuring a decision problem, for representing and quantifying its elements, for relating those elements to overall goals, and for evaluating alternative solutions.

3.2 Basic steps of the analytic hierarchy process (i) Establishing a hierarchical model. The hierarchy includes goal, criteria and alternatives. (ii) Establishing the pairwise comparison matrix. From the second layer, the pairwise comparison matrix and 1-9 scale are used. (iii) Calculating the single weight vector and doing the consistency test. For each pairwise comparison matrix, the maximum eigenvalue and the corresponding eigenvector are calculated; the consistency test is done using the consistency index, random consistency index, and consistency ratio. If the test is passed, the eigenvector (normalized) is the weight vector; if the test is not passed, there is a need to re-construct pairwise comparison matrix. (iv) Calculating the total weight vector, performing the consistency test and calculating the total weight vector.

Table 1 Total ranking results of the reputation of colleges and universities

| Comprehensive evaluation of the reputation of colleges and universities | Student scale F_1 | Quality of teaching F_2 | School site F_3 | Achievements in scientific research F_4 | Total ranking |
|---|---------------------|---------------------------|-------------------|---|---------------|
| Weighting factor | 0.0774 | 0.2518 | 0.0439 | 0.6269 | |
| P_1 | 0.5816 | 0.4286 | 0.4 | 0.0880 | 0.2256 |
| P_2 | 0.3090 | 0.1428 | 0.4 | 0.6694 | 0.4968 |
| P_3 | 0.1095 | 0.4286 | 0.2 | 0.2426 | 0.2775 |

Note: $CI_{\text{total}} = 0.006$, $CR_{\text{total}} = 0.003 < 0.10$.

4 Recommendations

In face of the increasingly fierce international competition in the field of education, the uncertainty of the environment for the Chinese colleges and universities is becoming increasingly prominent. Good reputation can help the colleges and universities to smoothly weather various crises, integrate education resources to varying degrees, and play a competitive advantage^[4]. Reputation, as the proof of colleges and universities' past behaviors, not only provides important information to the others related to colleges and universities and offers continued protection for future cooperation, but also

If it is passed, the decisions can be made based on the total weight vector results, otherwise, it needs to be reconsidered.

3.3 Empirical analysis If a student wants to choose the same discipline of university P_1 , P_2 and P_3 , and judge the reputation of these universities, the analytic hierarchy process can be used to analyze and conclude. According to the analytic hierarchy process, the factors that affect the reputation of colleges and universities are summarized, and the hierarchy is shown in Fig. 1. Here, we establish judgment matrix, carry out consistency test, and finally get total ranking results (Table 1). As can be seen from the table, the comprehensive evaluation result of P_2 's discipline is best, with the evaluation value of 0.4968, higher than that of P_1 's discipline and P_3 's discipline, so the reputation of P_2 's discipline is highest, followed by P_3 's discipline, and the reputation of P_1 's discipline is lowest. Using the scientific method, we can choose the reputation of different disciplines in the same colleges and universities. Only by using the scientific method to choose the majors with high discipline reputation of colleges and universities can we reduce the blindness of choosing majors, and improve the learning enthusiasm of the students in agricultural colleges and universities.

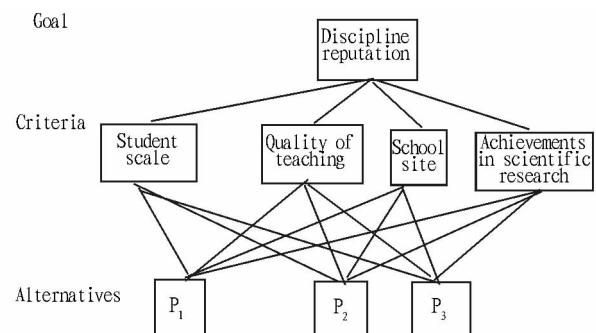


Fig. 1 Hierarchy of discipline reputation judgment

has strategic importance to one college or university's dominant position in competition^[5].

4.1 Strengthening specialty construction in agricultural colleges and universities With overall planning, structural optimization, advantage enhancement and characteristics highlighting as the construction idea, it is necessary to control the total amount of majors, explore the comprehensive major reform with talent training system reform as the core, and support the construction of the characteristic majors and the majors related to strategic emerging industries. Social evaluation of school will affect the students'

learning. When the reputation of the school is high, the students' learning enthusiasm will be high, and they will have good learning habits and gain a strong sense of achievement in the learning process^[3].

4.2 Establishing the competitiveness assessment system for colleges and universities based on discipline competitiveness

There is a need to regulate the relevant assessment, and prohibit the release of unauthorized evaluation ranking of various universities^[1]. The colleges and universities should take the undergraduate teaching as the most basic work, improve the quality of undergraduate teaching, and strengthen discipline construction, to improve discipline reputation. The agricultural colleges and universities should cultivate the inter-disciplinary talents who are well versed in various agricultural skills.

4.3 Scientifically choosing the suitable discipline when students choose colleges and universities and discipline

Only by selecting the suitable discipline will the students never regret their choice after being admitted to the university and achieve satisfactory results in every aspect of the future college life.

4.4 Consolidating the basic position of undergraduate teaching

Undergraduate teaching should be based on "students' all-around development". It is necessary to take undergraduate teaching as the school's most basic work, and make leadership energy, teacher resources, resource allocation, funding arrangement and job evaluation oriented by the teaching.

4.5 Improving the teaching level and teaching ability of young teachers

Relying on "Teaching Development Center", it is necessary to vigorously strengthen the training of young teachers' teaching ability, and purposefully carry out career planning guidance, teacher training, teaching counseling and teaching evaluation.

(From page 81)

namely connection between major and industry; connection between achievement and occupation; combination of on-campus and off-campus teachers' evaluation; combination of process and results evaluation; combination of course evaluation and professional skill appraisal; combination of students' self-evaluation and teachers' evaluation; combination of examination paper and non-examination paper evaluation; combination of group and individual evaluation. An appropriate students' course achievement evaluation mode can help to establish modern higher vocational college management system, improve the higher vocational education quality, enhance vocational students' employment competitiveness, and promote the sustainable development of gardening industry.

4.6 Creating a good academic research atmosphere based on agriculture It is necessary to strengthen discipline construction and disciplinary orientation, integrate the disciplines with features and advantages, and build the discipline bases and academic team, so that the school's academic research has a solid foundation. At the same time, the establishment of disciplines with features and advantages will inevitably lead to the continuous gathering of discipline resources and produce spillover effect, which is not only conducive to attracting more talents, but also conducive to the application of a variety of research projects and especially major national research projects. Academic research is a symbol of the university, also the key to core competitiveness of the university, and it is based on the discipline construction^[6].

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