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FAC model in university management system for teachers conduct research incentive function

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ABSTRACT

college management system building the FAC model, analyze the elements of effective teacher behavior to conduct the corresponding research ways to motivate their corresponding elements. Behavior of teachers from various elements related experiments, the combination of FAC algorithm compared the behavior of its original elements, in order to highlight the FAC model building process for teachers conduct scientific motivation. From the perspective of teacher development, the behavior is an important factor of teacher's development direction in the future. From the establishment and improvement of university management system perspective, comprehensive management for teachers can be further improved. FAC model building and calculation improved the teachers' behavior incentive function, to achieve for its further study to lay the solid foundation of theory and experiment.

KEYWORDS

University management system; Fac model; Excitation function; Algorithm assessment.

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INTRODUCTION

From the teachers' personal capacity long-term development perspective, the behavior of teachers in-depth study and exploration means for teachers to fully tap their own potential ability. From the construction and improvement process in terms of efficient management system, FAC model building management system can be made with the calculation process to be fundamentally sound theory and data support. In order for teachers conducting targeted incentives, make the teachers continue to inspire inner potential of university management's "effectiveness" continues to increase.

Firstly, this paper analysis combined with FAC model in university management system elements, and then the FAC model for targeted discussion process to ensure this paper in the research process more solid theoretical foundation. The second is that FAC model for the behavior of university teachers incentives to stimulate construction and related methods discussed, specific description of its intrinsic relationship between stimulus and incentives. Finally, compare the similarity of its original elements and FAC model assessment algorithm behavior incentive for teachers to reflect the accuracy of FAC model building process of teacher behavior motivation. Through research and discussion in this paper, fully reflected the importance of college FAC model building management system, gave further theoretical and experimental support for the use of teachers and dig their incentive function.

FAC MODEL ELEMENT MANAGEMENT SYSTEM IN COLLEGES AND UNIVERSITIES IN THE ANALYSIS:

In college management system, the incentive for university teachers must follow function studies launched six elements, which elements are six areas for teachers responsibilities, analysis, relevant experience, self-testing, training, and long-term strategy. This is an important part of the evaluation factors for effective teacher behavior and motivation of lies. Concrete analysis and factor structure diagram (Figure 1) as follows:

Teachers responsibilities

Teacher responsibilities as a potential factor in teacher behavior is itself an inherent sense of responsibility to study teachers. From the FAC model building process can fully reflect the importance of this factor, which is the first part of model building factor. From the perspective of teachers, teacher responsibilities is an important manifestation of their own sense of responsibility, but also it is the management activities of university teachers conducting internal factors critical to their ability to teacher assessment. So FAC model building should make this behavior as a priority, but also be able to play the maximization incentives.

Analysis

In college management system, the teacher's own analysis of the ability determined the ability of scientific and effective solution for students problems. In teaching and management in colleges and universities playing a role can get accurate conclusion. FAC model building for teachers in this regard accurate analysis of the behavior of elements, combined with the teacher's own thinking analysis ability for accurate judgment. On the analysis of teachers' ability to effectively improve give corresponding incentives, the effective work of teacher management in colleges and universities to provide a solid scientific foundation, are able to maximize the role.

Relevant experience

Relevant management experience of more and less decided to teachers' adaptability in the efficient management system of strong and weak, it is constitute an important part of effective management system. From the university management, conduct effective assessment of their management experience, in order to inspire the conduct of teachers to achieve the fundamental goal of FAC model building. However, the FAC model building can be an effective evaluation of teachers that behavioral factors through FAC algorithm behavior of teachers original elements of similarity comparison, the conclusions of teachers can have some incentive.

Self Test

Self testing as the necessary part of their own experience, is the important factors of teachers' responsibility and relevant ability consciousness improving. From the perspective of teacher development, self testing can be effective on their own behavior feedback. For the purposes of university management system construction is a reflection of the ability to form self-improvement of teachers. Management system in colleges and universities of science build a positive impact. FAC model building as the teacher of this essential component of behavioral factors, behavioral factors can give teachers the correct evaluation.

Training

Teacher training is an important way to improve the ability of teachers themselves, but also is the effective method of the teachers' teaching and management concepts positive change. In the management system of colleges and universities for teachers training emphasis is the prerequisite for effective management of teachers. Teachers to actively participate in training is the inevitable requirement to improve their business skills. From key elements of FAC model construction, it is

possible to see the importance of this element of training for model building[1], but also be able to conduct an effective teacher incentives.

Figure 1 : Key element of FAC management

Long-term strategy

      Long-term strategic is teacher's own goal of long-term development planning, it also as the ideological basis of efficient management system construction. FAC model for teachers themselves can build long-term strategic objectives for effective evaluation, combined scientific computing elements similar to the original behavior than the right. To get more accurate evaluation conclusion, enables the teachers' behavior evaluation process to a more scientific, at the same time the corresponding incentive for teachers.

UNIVERSITY TEACHERS' BEHAVIOR INCENTIVE FAC MODEL BUILDING AND INSPIRING

University teachers' behavior incentive FAC model building

      Through the effective management system in the process of building FAC model can intuitively understand the ability of systematic analysis of the factors of teachers' behavior. In turn, it makes the evaluation results to the corresponding positive impact on teachers' behavior, and achieve the ultimate goal of optimizing the teachers' behavior. Through the effective use of college administrators to FAC model, make managers operating steps in the process of efficient management system to run more targeted, the various behavior of different teachers' effective evaluation. In the traditional teachers' behavior evaluation and incentive exists partial can be avoid further, this article mainly through to the management of university teachers' behavior motivation, for example, the science building FAC model, as shown in Figure 2.

      First, the majority of teachers and the pursuit of knowledge as an important way to achieve targets, but in this there are some differences among other management objects. Here about the job is not simply refers to the pursuit of knowledge, and referring to is the pursuit of truth, ability and consciousness. This is the teacher's own career embodied soul, among this has a certain rationality. This is also the teachers themselves personality important part.

Second, it is the teachers' respect, understanding and support of the pursuit. University teachers' professional characteristics are that they can be easily understood, respect by society. Even in the era of rapid social economic development, the position of teachers in the community can get a wider range of knowledge and trust, so as to ensure teachers this pursuit can maintain long-term.

      Third, it is the pursuit of the teacher's own sense of accomplishment[2]. From the psychological perspective, a sense of accomplishment as a person to complete the internal dynamics one thing. However, it remains the same university teachers. Whether in teaching or management work, as long as they get the appropriate sense of accomplishment, then the teacher's own pride and honor will follow.

      Fourth, for freedom, democracy will inevitably pursue relationships exist. University teachers from their own work environment, it is easy to see that everyone around each teacher has a high quality. Free and democratic ideas naturally highly concentrated, which for teachers of freedom, democracy, build relationships and provide a natural soil environment, and its pursuit of the degree is rising.

      Finally, it is a matter of vital interest to the security needs. In today's social development and environment, the level of demand for the material interests of the people always have maximized, while at the same time you need to get to meet

appropriate security as a guarantee, while university teachers is no exception. However in the process of from the above mentioned 6 elements with the aspects of process and form the efficient management system FAC model elements. These elements will build their scientific model.
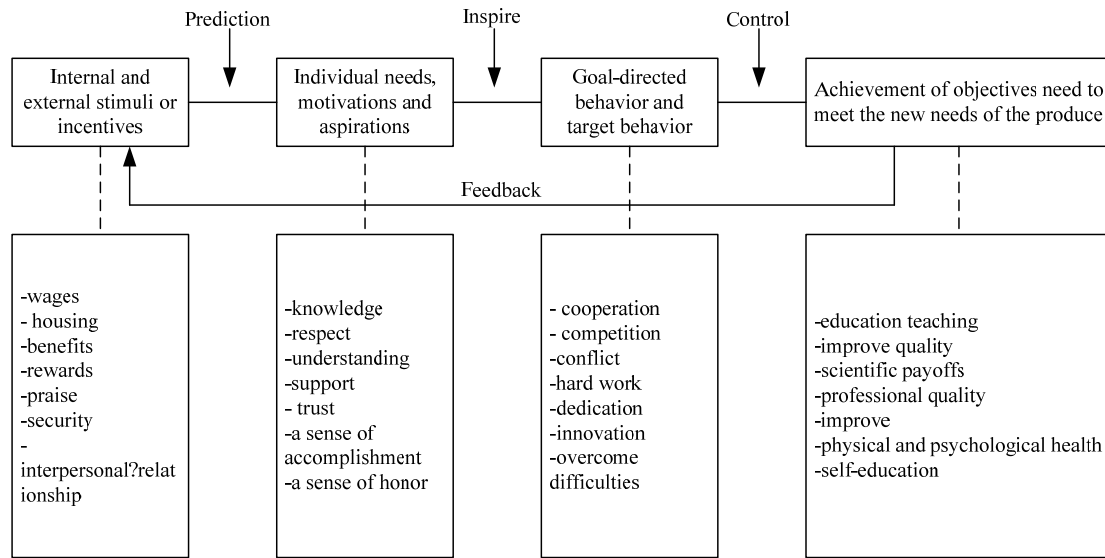
Figure 2 : The FAC model diagram of college teacher motivation behavior

Behavior of university teachers inspire

Requires excitation method.

Teachers to carry out the management of colleges and universities, by spiritual teacher expectations, external substances directly stimulate, to meet their inner needs. Thereby effectively motivate their behavior, this approach is the need for excitation. Among the managers of the incentive process must be effectively distinguish between incentives and security factors. Security factors often doesn't produce too much incentive to teachers' behavior, and incentives are often on the basis of protect key factors. It can be satisfied for effective incentive, the effect will be more obvious, at the same time for the presence of the teacher's own pride pride and a sense of accomplishment have a positive effect, thus achieve the expected effect[3]. On this basis, the need for incentives of teachers themselves are also able to generate a corresponding conversion, making the security factor has become a motivating factor. Conducting the study may have been effectively divided into two factors, specifically as shown in Figure 3.
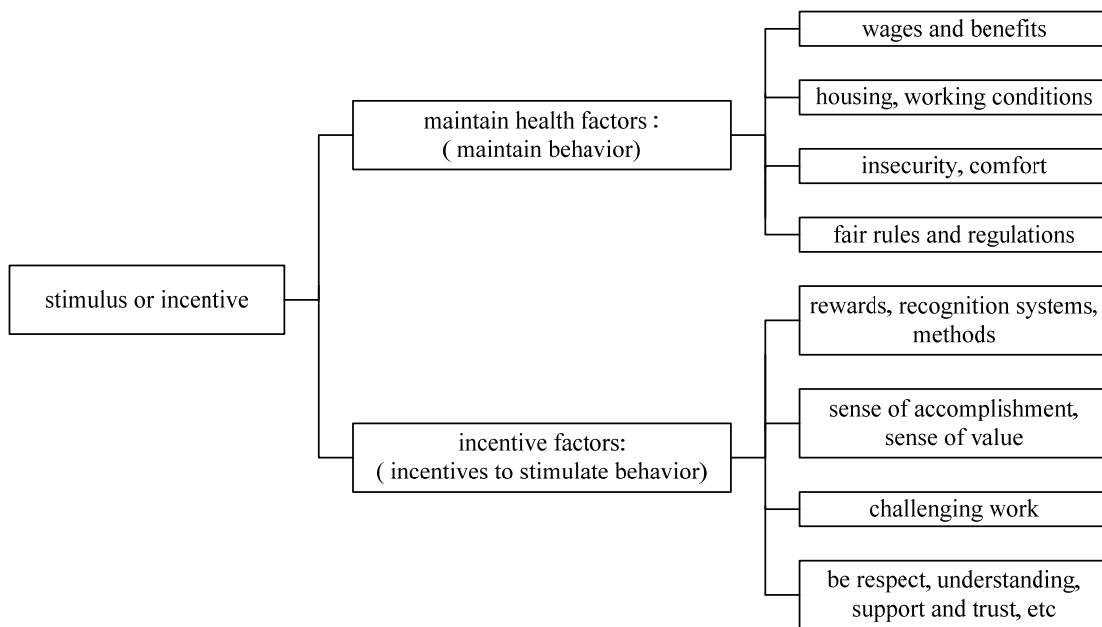
Figure 3 : Two factors of management in Universities

Example excitation method.

Example excitation method is not difficult to understand. For incentive object for its correct setting an example, making the incentive is more intuitive clear itself target of progress. University educators existed certain characteristics of their work are different. For the establishment of a fair, democratic and free example is its key to effective incentives.

Target excitation method.

The key lies in the so-called target excitation method for teachers to establish a scientific development objective, which can be divided into short, medium, medium-long and long-term goals. Through the realization of short-term goal, making the teachers' behavior could be fundamental change. It is to enhance their confidence, finally achieve the goal of the incentive. This efficient management can have a profound impact in terms of its spread to a wider scope, the more common use of the process to produce the effect is more ideal.

Behavioral excitation method.

Core behavioral excitation method is to generate a corresponding impact on those affected to make behavioral incentives, making incentive teachers by their own behavior due to changes in habits changed. This method is usually suitable for young teachers want to encourage the effective use of the process, allows teachers to adapt to the working environment as soon as possible. For enhancing the management skills of teachers themselves produce a corresponding boost.

Attitude excitation method.

Attitude incentive method naturally need to change as the center, motivated teachers make its inner thoughts produce corresponding change, thus achieve the corresponding incentive effect[4]. From teachers behavior elements, it fully reflect the several different ways to motivate teachers can effectively motivate behavioral factors, and ultimately makes the incentive effect more obvious. It provides considerable impetus for the effective implementation of efficient management.

ALGORITHMS TO ASSESS FAC MODEL BEHAVIOR INCENTIVES FOR TEACHERS

College management system combined with behavioral incentives for teachers function corresponding research process by fuzzy mathematics teacher behavior construct estimates evaluation system. Among this through a number of many experts (represented by the letter K) behavior of university teachers to make the appropriate contribution of the weights, after the corresponding evaluation for between various weights. Among the membership for a fuzzy subset make corresponding building. Finally, there is the scientific classification of fuzzy mathematics maximum membership degree principle, and for membership marked subset evaluation grading. Among the factors in this set is u = {u_1, u_2... u_m}. According to the experts, mostly for teacher behavior given the contribution of each factor u_i, then i is equal to 1, 2,..., m right weight, it can get the average weight of the weight of each factor as its weight, the specific formula is as follows:

$$\alpha_j = \frac{1}{k}\sum_{i=1}^{k}\alpha_{ij}, j=1,2,...,.m$$

That is :

$$A = \left\{\frac{1}{k}\sum_{i=1}^{k}\alpha_{i1}, \frac{1}{k}\sum_{i=1}^{k}\alpha_{i2},...,\frac{1}{k}\sum_{i=1}^{k}\alpha_{im}\right\}$$

FAC model evaluation process during algorithm behavior incentives for teachers, the specific implementation steps are as follows:

Firstly, create three subsets classified as evaluation factors set, reviews set, weight fuzzy subset[5]. The evaluation factors reviews set that is mentioned in this article of the above process $u = \{u_1, u_2... u_m\}$. And reviews set is represent by v, then $v = \{v_1, v_2... v_m\}$. But the weight fuzzy subset is represented by the letter a, then $a = \{a_1, a_2... a_m\}$.

Secondly, membership fuzzy subset scientific construct, here represented by r_i, where $r_i = \{r_{i1}, r_{i2}... r_{im}\}$. Among r_i in this evaluation set is among the many factors to assess the factors to evaluate *i* indicators corresponding to each comment centralized focus $v_1, v_2... v_m$ membership comment.

Again, make fuzzy evaluation matrix, which is represented by *r*. For each indicator u_i can obtain a membership fuzzy subset r_i, then the m numbers r_i constitute a *uv* encounter *mn* fuzzy matrix R, that is

$$R = \begin{bmatrix} r_{11} & r_{12} & \cdots & r_{1n} \\ r_{21} & r_{22} & \cdots & r_{2n} \\ \cdots & \cdots & \cdots & \cdots \\ r_{m1} & r_{m2} & \cdots & r_{mn} \end{bmatrix}$$

From the above matrix in the process of establishing fuzzy comprehensive evaluation value can be calculated, here represented by S, that is S = A · R. Finally, fuzzy comprehensive evaluation value normalized so that ΣS = 1.

Similarity calculation

By FAC algorithm of college teachers in behavior management system elements for effective experiments, and the similarity between the results of several elements of each element of the original scientific computing[6]. First, the phase velocity is calculated for each element of the original elements listed between publicity, but the similarity between the use R to represent the specific formula is as follows:

$$sim(r_i, R) = \begin{cases} \alpha_i \sum_{i=1}^{number(r_i,R)} \dfrac{length(r)}{length(R)} & number(r_i, R) > 0 \\ 0 & number(r_i, R) = 0 \end{cases}$$

Among this, length (r) represents the teacher's behavior after test, while the length (R) is represented by the original elements of teacher behavior. And number (r, R) is the mean r original elements in teacher behavior among the number appears. Yet it is the behavior of teachers represented by the elements a_i fuzzy evaluation value of i. From the above set of equations can adequately summarize the specific algorithms and similarity exists between FAC elements of teacher behavior, as shown in the following equation:

$$sim(r, R) = \sum_{i=1}^{m} sim(r_i, R)$$

Among this, the total number of teachers m compared with experimental results marked the FAC.

Similarity comparison

Between FAC and teachers from the original algorithm evaluate the results of behavioral elements similarity calculation, so the comparison process to evaluate teachers behavioral factors are more simple and obvious. The above process is carried out by its similarity normalized, carried along the results of similarity between the teacher a behavioral scientific sorting elements can be obtained from a comparison result between the corresponding results, particularly in Figure 4.
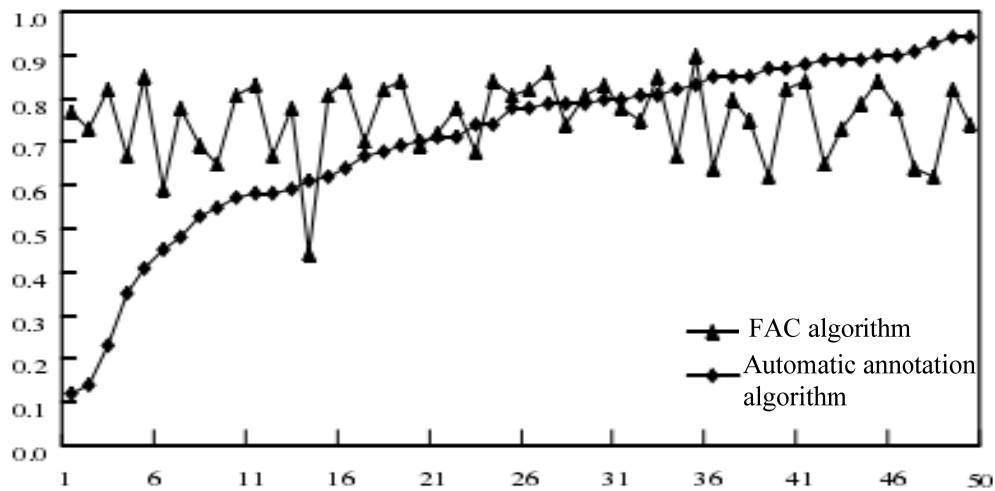

Figure 4 : similarity comparison of FAC algorithm and automatic annotation algorithm

From Figure 4 can be fully seen that FAC algorithm for the original behavior among teachers to evaluate the results of the similarity factor calculated overall showing steady improvement trend. While overall is near 0.75. In the calculation of the behavior of the elements of the original teacher of teachers, the traditional method is not very stable, you can usually

choose between variance algorithm to its instability in the presence of gaps continue to shrink, eventually arrive at a more precise similarity, specific calculation formula is as follows:

$$S^2 = \left[\sum_{i=1}^{n} (1 - \text{si}\, m_i)^2 \right] / n$$

Among this, the total number of teacher behavior was indicated on the letter n elements. sim_i represents the specific elements of teacher behavior similarity of i. Using correlation formula to calculate the variance between FAC algorithm and the traditional method, $S_{FAC}^2 = 0.0497$, $S_{NOR}^2 = 0.1234$. From the variance between the two calculation process, to fully see the former than the latter, and by using fuzzy comprehensive evaluation method for effective evaluation of the FAC algorithm, the results shown in Figure 5.
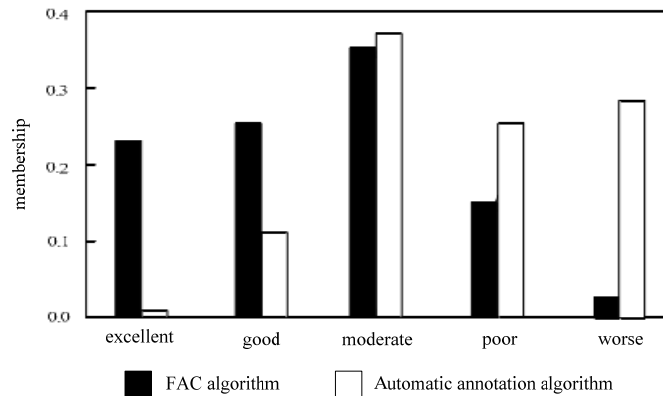

Figure 5 : Compare FAC algorithm and automatic annotation algorithm membership degree

Figure 5 can fully conclude that in calculating the behavior of the traditional elements of university teachers, the results are in "worse" or "poor" among the two evaluation levels, while FAC algorithm estimates the elements for teacher behavior the results are in between "excellent" and "good", and can see the average rating scale can be achieved "medium.". This is the behavior of the elements to produce a corresponding teacher incentives, but also to fully demonstrate their high accuracy FAC algorithm [7].

CONCLUSIONS

Through the above research and discussion, we can fully see the FAC model management system in colleges and universities play important role. For the teacher's behavior incentive function have a positive impact. Calculated by summing the FAC algorithm model for teachers behavioral factors more comprehensive analysis process, while for the calculation and behavioral factors before calculating the similarity analysis can be based on valid scientific comparison. It is the specific reasons for the existence of teacher behavior. Thus making the teacher can conduct all aspects of behavioral factors comprehensive comparison and analysis, for the sound and efficient management system to give adequate protection, as an expression of the necessity of this study and discusses the process and science.

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