Research Article

Assessment of English Teaching Post Competency Relying on K-Means Clustering Computing Algorithm

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Post competency assessment has become an important part of modern recruitment, and teaching is one of the indispensable occupations. Assessing the competence of teachers in teaching positions has become a hot topic. This paper takes English teachers as the research object and uses K-means clustering algorithm to evaluate the competence of teachers. This paper first analyzes the references related to this research and finds suitable materials for this research and then mainly describes in detail the main point of English teaching post competency. Next, this paper uses the formula to illustrate the K-means clustering algorithm used in this paper. Finally, it uses experiments to verify the influencing factors of the four dimensions of English job competency. And the final survey results show that the influencing factors have different significant differences on the four dimensions. And the experiment proves the effectiveness and robustness of the proposed algorithm in evaluating the competence of English teaching positions. In addition, from the perspective of the composition of professional titles, it is consistent with the age structure, accounting for 63.3% of the total. Associate senior researchers are the backbone of colleges and universities. This research provides a theoretical basis and reference for measurement tools for college English teacher recruitment and selection, vocational training, performance evaluation, salary reform, and other related educational practices.

1. Introduction

The concept and theoretical model of competency is closely related to job competency. It is associated with specific work situations and can identify outstanding performers. It is an important tool for human resource management and development. The research on the influencing factors of organizational members' competency in different organizational contexts has gradually become a focus of academic attention. In recent years, competency assessment originated from the field of human resource management has attracted the attention of researchers in educational organization management. Competency assessment explores the impact of different evaluation orientations on organizational members' job performance or task competence in organizational contexts. College English teachers are in complex and changeable educational fields and situations, and different competency assessments will have complex, profound, and far-reaching influences on different individual quality characteristics.

As the core element of higher education system, college English teachers are important human resources in colleges and universities, and their value to the basic and long-term development and comprehensive strength improvement of colleges and universities is self-evident. This paper discusses in depth the methods and mechanisms for evaluating the competence of English teachers in the context of higher education achievement. It is very important to evaluate the competence of English teachers. This can not only provide a theoretical basis and reference for measurement tools for relevant educational practices such as the selection and selection of English teachers in colleges and universities, vocational training, performance evaluation, and salary reform but it is also of great significance to the optimization of college teachers and the improvement of scientific research management.

The innovations of this study are mainly reflected in the following aspects:

First, the contextual factors that enrich the competence of English teachers. Relevant studies have proved that professional environment development, career planning, field order, and cultivation mode are important antecedent variables that affect English teachers' job competence, but less research has been done on the organizational system level.

Second, it analyzes the influencing factors of English teachers' job competence in a more in-depth and systematic way. The previous related research, on the one hand, stayed in theoretical speculation and discussion and lacked more objective and scientific empirical research tests. On the one hand, it lacks the development and application of scales, which leads to many problems and space for exploring the variable factors and boundary conditions that affect the competence of English teachers.

2. Related Work

Many scholars have provided a lot of references for research on K-means clustering algorithm, scientific computing, English teaching, and job competency.

Reisner et al. present an algorithm to redistribute large grid problems using incremental aggregation. Guided by a predictive performance model, the algorithm provides robust redistribution decisions for structured multilevel solvers. It used a two-dimensional diffusion problem to show that the algorithm provides significant performance gains over previous methods using agglomeration by processor [1].

Han et al. provide provable algorithms for important matrix calculations including determinants of logarithms, matrix inversion traces, Estrada exponents, Schatten's p-norm, and positive definiteness checking. Khan I experimentally evaluates our algorithm and demonstrates its performance on tens of millions of matrices of dimension [2].

Ali and Richardson investigates the information literacy (IL) skills of library professionals at the University of Karachi, Pakistan, and examines the problem areas. The results showed that the surveyed librarians have good IL skills in information retrieval and finding information resources. Further research has shown the possible effect of gender on aspects such as the level of IL skills and motivation to improve work competencies [3].

Fraser-Arnott describes an analysis of the competency profiles of librarians, document managers, information managers, archivists, and knowledge managers. And he proposes competency profiles for information professionals that include knowledge and competencies in all these areas. The source he used for this analysis was an existing competency profile developed by information professionals' employers, such as professional associations and government agencies [4].

Huang et al. analysed the combat capability emergence characteristics, structure, and interrelationships of weapon systems and developed a model for assessing equipment system combat capability emergence based on a structural formula model [5].

Sharma et al. assessed the ability of the Army's existing replenishment system to implement time separated, lean, and flexible replenishment systems. His study of the people actually involved in this logistics identified areas requiring attention to achieve this time separated lean and flexible replenishment system [6].

Lin and Dinh aimed to demonstrate the application of the predictive capability maturity metric (PCMQ) to validate estimation models. He used PCMQ methods to assess the robustness of selected models, including landscape tipping and base flow pressure loss models. He also provided recommendations for developing a new landscape overturning model and a new core flow pressure loss experiment based on the concept of validated data scheme [7].

Jing and Wang proposed a matrix of relevant clustering results (CCR matrix), which improved the traditional K-means clustering algorithm to the MMS K-means clustering algorithm and confirmed its superiority [8].

Xian introduced the concept of triangular intuitive fuzzy linguistic variables (TIFLV) and proposed a new formula for calculating the correlation coefficient of TIFLV. In addition, he proposed a TIFLV contour clustering efficiency index to adjust the clustering results [9].

Li et al. reconstructed a membership calculation method for fuzzy clustering algorithm [10].

Bhatia and Rani proposed a parallel fuzzy clustering algorithm called "PGFC" for processing scalable graph data. Experimental results show that the proposed PGFC scales linearly for processing large graphs and provides better clustering quality than other graph clustering counterparts [11].

Azimi et al. proposed an efficient cluster counting method based on principal component transformation and improved contouring algorithm [12].

The data of these studies are not comprehensive, and the results of the studies are still open to question, so they cannot be recognized by the public and thus cannot be popularized and applied.

3. Method

3.1. Methods of English Teaching Post Ability Evaluation. As an important part of personal characteristics, the competency model is an important reference standard for distinguishing high performers from mediocre people in an organization. And it is widely used in the research and measurement of organizational and work situational atmosphere. And the theoretical and empirical results of competency are used for organizational evaluation, assessment and training compensation management, and the selection of important personnel [13].

At present, Chinese researchers adopt a compound research method in the research of English teachers' competency. It obtains the competency characteristics of English teachers at the macro level and in the general sense through the questionnaire survey method, supplemented by various research methods such as interview method, statistical

method, and behavioral event interview (BEI). It specifically discusses the competency characteristics of English teachers in different situations and different types of schools [14, 15].

Reasonable, appropriate, and targeted research methods are an important basis for ensuring academic research science. This research adopts the analytical method combining normative research and empirical analysis. First, the relevant theories are theoretically constructed through normative research. On this basis, the hypothesis of the relationship between variables is put forward, and SPSS22.0 software is used for exploratory analysis and verification. It then constructs a theoretical prior model (structural formula model) for colleges and universities to evaluate the competence of English teachers in teaching positions and uses Amos5.0 software to verify and modify the research hypothesis and structural formula model previously mentioned. Specifically, this study intends to use the literature research method and the questionnaire survey method. The comprehensive application and mutual correction of various research methods can effectively improve the scientificity and credibility of this research.

> Literature research method: this study extensively collected research materials related to this study by reviewing academic search engines, consulting Chinese and foreign literature databases, and arranging related academic works and materials. It comprehensively screened, eliminated, compared and analysed literature data according to the research purpose and characteristics of this study. After in-depth processing of the existing research results, it strives to form a comprehensive and profound understanding and a more reasonable preliminary value judgment on the current situation of English teachers' work competence in Chinese colleges and universities.

> Questionnaire survey method: this study collects research data and information through questionnaires or scales by means of the Internet and written forms. The data collection of questionnaires or scales is divided into small-scale preliminary investigation and formal investigation stages. The questionnaire survey method has the advantages of flexible form, fast recovery speed, wide coverage, data structure, and random sampling.

The analysis framework and technical route of this paper are shown in Figure 1.

Based on previous research results, this study believes that English teacher competence is a basic quality, ability and individual characteristic of English teachers to successfully perform their duties. It is the basis of ability to distinguish excellent English teachers from ordinary people, and it is a synthesis of measurable characteristics such as values, attitudes, knowledge, skills, and abilities of English teachers.

The competency structure of English teachers in colleges and universities is shown in Figure 2.

This research takes English teachers who are engaged in teaching and scientific research in public colleges and universities as the survey objects. The research methods are as follows (as shown in Figure 3): Literature review method:

after sorting, classifying, and reviewing relevant domestic and foreign literature on performance appraisal orientation, knowledge sharing and college English teachers' competence, this study found that scales of the variables have been developed and designed. It has been tested and used many times in subsequent related studies, and the scale has shown good reliability and validity. However, it should be noted that due to different research purposes and specific contexts, the scales vary greatly, so their applicability needs to be further improved; Interview method: in this study, some college English teachers were randomly selected to conduct interviews while distributing the scale, so as to deepen the understanding of the actual situation on the basis of theory and lay the foundation for the formation of the final scale; Small sample prediction: in this study, a small number of scales were distributed in a university to test the appropriateness of the scale, and the loopholes in the scale were detected after communicating with the subjects, and the final scale was formed after modification and improvement. It includes 12 items of the College English Teacher Competency Scale.

This study is based on the English Language Teaching Competence Scale for colleges and universities in mature and, by addressing and revising, divided the questionnaire into two parts. One is the respondents' personal environment situation and the other is the College and University English Teaching Competence Scale. The latter forms the predictive questionnaire, and the reliability and validity check of the data finally defines the questionnaire, which is an effective measurement tool for further in-depth research.

> The first part is a questionnaire about the basic situation of the individual: in the questionnaire design, this research mainly investigates the gender, age, highest degree obtained, professional title, discipline type, school type, etc. of the respondents, with a total of questions.

> The second part is a competency questionnaire: this study refers to the researcher's questionnaire on the competency structure of English teachers in colleges and universities. All the GFI, IFI, CFI, NNFI, and other indicators of the questionnaire are in line with the standards and the agreement is good, indicating good structural validity of the questionnaire. Overall, the questionnaire passed the validity test. In this study, the themes were removed and adapted according to the actual study. In this study, a validated and mature scale was used to assess the competence of English teachers in colleges and universities. However, due to limited social resources and material conditions, it is difficult to pre-test all the variables in this study. Therefore, to ensure the validity of the scale, we randomly halved the 218 valid samples. It used half of the data to conduct exploratory factor analysis and CITC analysis of the scale and used all samples to conduct reliability and validity analyses of the scale.

The exploratory factor analysis results of the College English Teacher Competency Scale are shown in Tables 1–3.
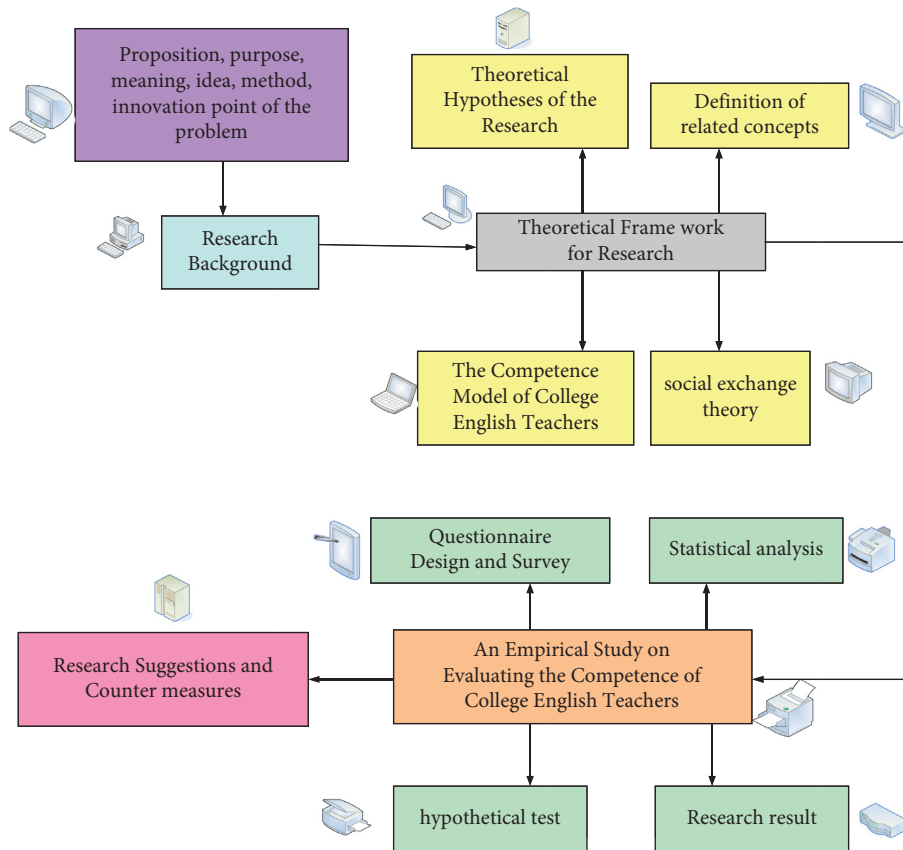
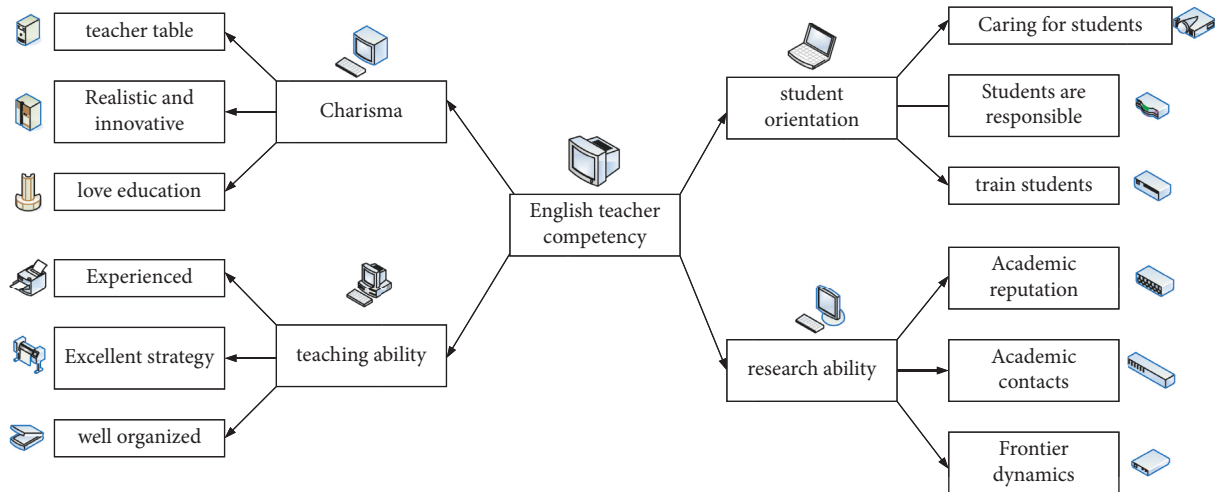FIGURE 1: Analysis framework and technical route of this article.

FIGURE 2: Structure map of the competency of college teachers.

This study adopted CITC analysis to ensure the accuracy of concept measurement. Among them, we halved the sample size and performed a total correlation analysis of items on the scale, that is, CITC analysis. Relevant studies have shown that if the Cronbach α coefficient is less than 0.50, the item should be deleted, and some scholars believe that the item with the Cronbach α coefficient less than 0.30

should be deleted. Therefore, this study used CITC less than 0.5 as the deletion criterion.

According to the criteria, CITC analysis was performed on all measurement scales, and the results are shown in Tables 4 and 5.

Tables 4 and 5 show that the CITC values of all measurement items are greater than 0.50, and all Cronbach alpha
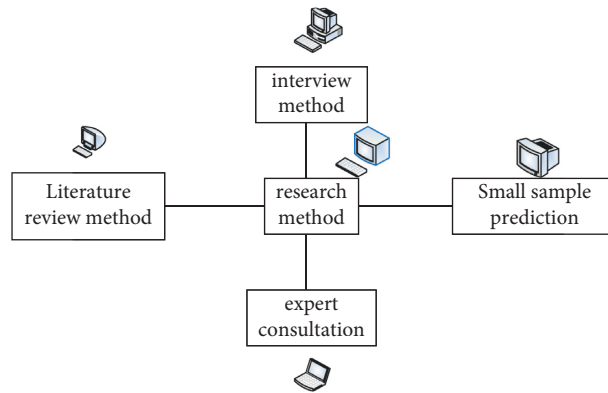
FIGURE 3: Research method.

TABLE 1: The exploratory factor analysis results of college English teachers.

Measure the item	Factor loading	
	Factor 1	Factor 2
S5	0.726	0.315
S4	0.749	0.152
P2	0.698	0.317
T7	0.694	0.367
T9	0.666	0.301
P3	0.637	0.412
R10	0.704	0.428

TABLE 2: The exploratory factor analysis results of college English teachers.

Measure the item	Factor loading	
	Factor 1	Factor 2
R11	0.308	0.711
T8	0.330	0.719
R12	0.294	0.695
P1	0.415	0.689
S6	0.297	0.654

TABLE 3: The exploratory factor analysis results of college English teachers.

Measure the item	Factor loading		Measure the item	Factor loading	
	Factor 1	Factor 2		Factor 1	Factor 2
Characteristic value	11.249	6.237	KMO	0.813	
Contrast contribution rate	43.168	24.681	The Bartlett spherical test for chi-square values	4618.617	
Accumulated contrast contribution rate	44.516	75.143	Sig.	0.000	

TABLE 4: Scale for CITC analysis.

Study variables	Dimension	Test questions	CITC	Alpha if item delete	Cronbach α
College English teachers' competence	Personal charisma	P1	0.694	0.891	
		P2	0.713	0.754	0.794
		P3	0.716	0.749	
	Student oriented	S4	0.694	0.911	
		S5	0.687	0.914	0.845
		S6	0.691	0.958	

TABLE 5: Scale for CITC analysis.

Study variables	Dimension	Test questions	CITC	Alpha if item delete	Cronbach α
College English teachers' competence	Teaching level	T1	0.587	0.792	0.841
		T2	0.698	0.856	
		T3	0.670	0.844	
	Ability to research	R10	0.682	0.867	0.803
		R11	0.592	0.776	
		R12	0.564	0.789	

coefficients are between 0.85 and 0.97, indicating that the scale is scientific and accurate, and there is no need to delete any items.

In fact, the competency model as an "ideal type" has many functions such as information transmission and communication, human resource quality assurance, and improvement. However, many external factors such as different higher education organizational fields and different career stages of teachers have different competencies for English teachers. A unified competency model obviously cannot accurately and comprehensively cover the competency requirements of teachers of different types and career stages. Therefore, we must first further simplify the competency model of English teachers in colleges and universities to improve the universality. The previous early models were too trivial and complex to truly apply to teacher evaluation and capacity building. The second is to explore the competency model of English teachers in different types of colleges and universities. The classified development of higher education requires the diversion and construction of teachers' abilities, and the teachers of academic research universities are required to focus on academic research. The teachers of local higher vocational colleges should transform into a "double-qualified" type, not only to cultivate the ability to focus on social service and practice but also to be competent in theoretical teaching. The third is to build a competency model for teachers at different career stages. For example, for young teachers who are in the early stage of survival concern, they should focus on the guidance and evaluation of academic creativity, teaching ability, and scientific research ability. It pays attention to the planning and guiding role of developmental evaluation and accelerates its professional development.

3.2. K-Means Clustering Algorithm.
The current cluster analysis techniques can be roughly divided into the following categories: (1) division method: divide all objects into K clusters. (2) Hierarchical method: according to the order of the object agglomeration or splitting steps, a tree-like structure is formed, and then grouped. (3) Density-based method: after defining whether the data are dense, the adjacent dense data are aggregated into clusters. (4) Grid-based method: the data space where the object is located is quantified into multiple grids, and then the objects are grouped according to the statistical information of each grid. (5) Model-based methods: a model is assumed for each class, and the best combination of data for a given model is found.

The classification of clustering algorithms is shown in Figure 4.

The main steps of clustering are represented as Figure 5. Distance function in cluster analysis is as follows:

$$\chi(\mu_k, \mu_p) = \left(\sum_{s=1}^{q} (\mu_{ks} - \mu_{ps})^2 \right)^{1/2}. \tag{1}$$

Absolute distance is as follows:

$$\chi(\mu_k, \mu_p) = \sum_{s=1}^{q} |\mu_{ks} - \mu_{ps}|. \tag{2}$$

Then,

$$\chi(\mu_k, \mu_p) = \left(\sum_{s=1}^{q} (\mu_{ks} - \mu_{ps})^q \right)^{1/q}. \tag{3}$$

Besides,

$$\chi(\mu_k, \mu_p) = \lim_{s \to \infty} \left(\sum_{s=1}^{q} |\mu_{ks} - \mu_{ps}|^s \right)^{1/s},$$

$$\chi(\mu_k, \mu_p) = \left[(\mu_k, \mu_p)^V T^{-1} (\mu_k, \mu_p) \right]^{1/2}, \tag{4}$$

where V represents the matrix transpose and $T-1$ represents the inverse of the sample covariance matrix.

Error sum of squares function is as follows:

$$\delta_\alpha = \sum_{s=1}^{\alpha} \sum_{k=1}^{\xi_s} \|\mu_k^s - \omega_s\|^2. \tag{5}$$

Cluster center is as follows:

$$\omega_s = \frac{1}{\xi_s} \sum_{k=1}^{\xi_s} \mu_k. \tag{6}$$

Weighted mean squared distance sum function is as follows:

$$\delta_k = \sum_{k=1}^{\alpha} QT_k \, (k = 1, 2, \ldots, \alpha). \tag{7}$$

Weighted prior probability is as follows:

$$Q = \frac{\xi_k}{\xi} \, (k = 1, 2, \ldots, \alpha). \tag{8}$$
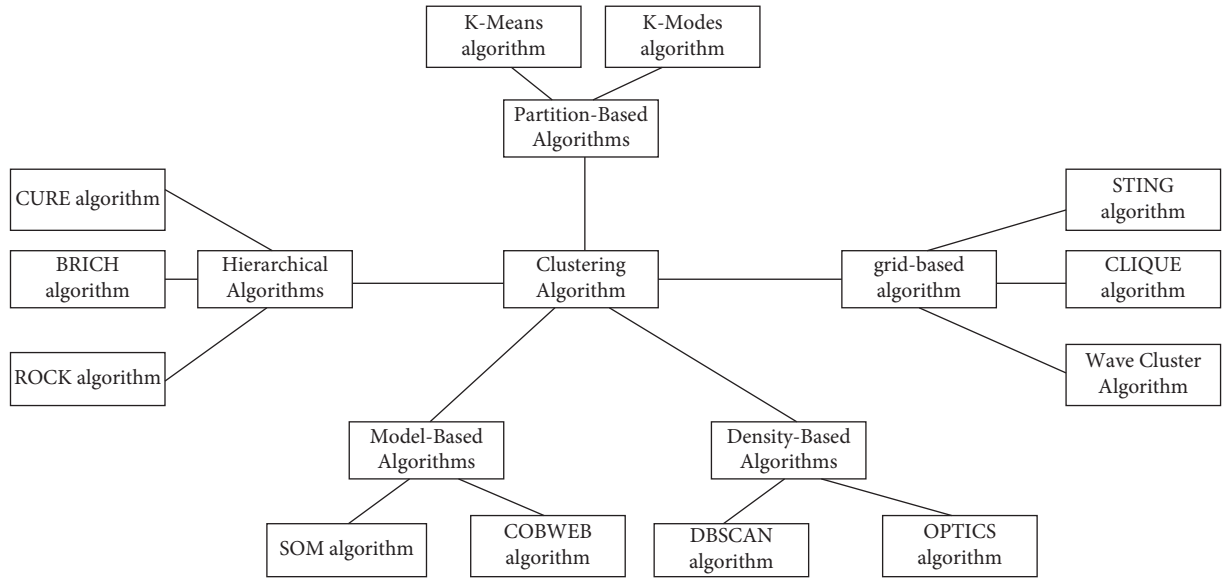
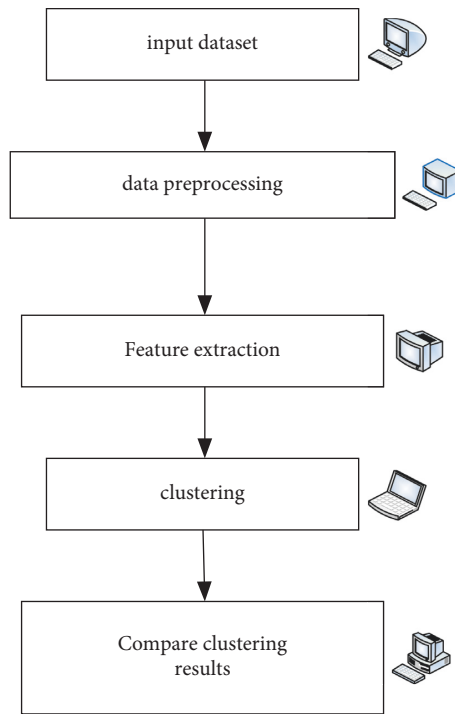FIGURE 4: Classification of the clustering algorithm.

FIGURE 5: Main steps of clustering.

Average squared distance between all data objects of a cluster is as follows:

$$T_k = \frac{\xi_k (\xi_k - 1)}{2} \sum_{\mu \in \mu_k} \sum_{\mu' \in \mu_k} \|\mu - \mu'\|^2 k = (1, 2, \ldots, \alpha). \quad (9)$$

Interclass distance and function is as follows:

$$\delta_\beta = \sum_{k=1}^{\alpha} (\omega_k - \omega)^V (\omega_k - \omega) k = (1, 2, \ldots, \alpha). \quad (10)$$

Weighted interclass distance sum function is as follows:

$$\delta_\varepsilon = \sum_{k=1}^{\alpha} q_k (\omega_k - \omega)^V (\omega_k - \omega) k = (1, 2, \ldots, \alpha). \quad (11)$$

The K-means clustering algorithm usually uses the error sum of squares criterion function as a method to evaluate the clustering performance. The formula of the error sum of squares criterion function is

$$\varphi = \sum_{k=1}^{s} \sum_{q \in \mu_k} \|q - \omega_k\|^2. \tag{12}$$

The main flow of the K-means clustering algorithm is shown in Figure 6.

Population initialization is as follows:

$$\mu_{k,p}(v) = \left\{ \mu_{k,1}(v), \mu_{k,2}(v), \ldots, \mu_{k,A}(v) \right\}, \tag{13}$$

where A represents the dimension of the individuals in the population.

New mutants are as follows:

$$\phi_k(v+1) = \mu_{\gamma 1}(v) + \eta \left(\mu_{\gamma 2}(v) - \mu_{\gamma 3}(v) \right), \tag{14}$$

where η represents the scaling factor, which is used to control the scaling degree of the vector difference.

Intermediate test subjects are as follows:

$$\kappa_{k,p}(v+1) = \begin{cases} \lambda_{k,p}(v+1) \text{ if rand}(0,1) \le \alpha_{\omega} \text{ or } p = \text{rand}(k), \\ \mu_{k,p}(v) \text{ else}. \end{cases} \tag{15}$$

Use real encoding to encode cluster centers randomly selected from the data set:

$$\mu_k(v) = \left(\alpha_{k,1}, \alpha_{k,2}, \ldots, \alpha_{k,S} \right) (k = 1, 2, \ldots, \xi). \tag{16}$$

Variant individual is as follows:

$$\phi_{k,p}(v) = \mu_{\vartheta,p}(v) + \eta \left(\mu_{\sigma,p}(v) - \mu_{\varsigma,p}(v) \right). \tag{17}$$

Intermediate test subjects are as follows:

$$\kappa_{k,p}(v) = \begin{cases} \lambda_{k,p}(v) \text{ if rand}(0,1) \le \alpha_{\omega} \text{ or } p = \text{rand}(k), \\ \mu_{k,p}(v) \text{ else}. \end{cases} \tag{18}$$

Strategy is as follows:

$$\eta = \eta_{\max} - (\eta_{\max} - \eta_{\min}) \left(\frac{v}{V} \right)^2. \tag{19}$$

4. Experimental Analysis and Results

Figure 7 shows the parameter estimation results of the CFA model of the College English Teachers' Competency Scale.

Figure 7 shows that the measurement items have good explanatory power and no items need to be deleted. Judging comprehensively, the College English Teachers' Competency Scale has good construct validity.

The number of valid samples in this study is 218. The main demographic variables and background information include gender, age, degree acquisition, professional title, discipline type, school type and performance appraisal cycle. The specific situation is shown in Figure 8.

Figure 8 shows that this study takes full-time English teachers in public institutions of higher learning as the survey object. In terms of gender composition, the ratio of male to female is roughly 3 : 2. It is more in line with the current situation of the gender structure of English teachers in colleges and universities. In terms of degree acquisition,

more than 66% of English teachers have doctorates. To a certain extent, this reflects the improvement of the quality of human capital in Chinese universities in recent years and the improvement of English teacher recruitment and assessment standards. From the perspective of the composition of professional titles, it is consistent with the age structure, accounting for 63.3% of the total. Deputy senior researchers are the backbone of universities. From the perspective of school type and positioning, the proportion of general undergraduate colleges is nearly half. The proportion of provincial key construction institutions and national key construction institutions is roughly the same.

The overall situation of college English teachers' competence is shown in Figure 9.

Figure 9 shows that among the four dimensions of competence of English teachers in colleges and universities, the average value of scientific research ability is the highest, followed by teaching level and personality charm, and student orientation is the least. Scientific research ability is 0.31 higher than student orientation, indicating that college English teachers pay attention to the improvement of their own scientific research ability. It relatively ignores the development of students and fails to implement the student-centered concept well. The teaching level is lower than the scientific research ability by 0.22, which to a certain extent reflects the current trend of "academic drift" in China. That is, colleges and universities at all levels take the research-oriented universities in the pyramid as the imitation objects and attach importance to scientific research. The persistent imbalance between teaching and research has not been fundamentally improved.

Figure 10 shows the difference analysis of gender and educational background on the competence of English teachers in colleges and universities.

Figure 10 shows that gender has a significant difference in the dimension of scientific research ability, and there is no significant difference between the overall competence of college English teachers and the competence of other subdimensions. There are significant differences between the educational background and the overall competence of teachers and the competence of the two subdimensions of teaching level and scientific research ability. There is no significant difference in the two dimensions of personality charm and student orientation.

The influence of different school types, age, and other demographic variables on the competence of college English teachers varies significantly.

Specifically, at the gender level, there is no statistically significant difference between gender factors in the three dimensions of personality charm, student orientation, and teaching level. It can be seen that gender factors have little effect on stable psychological variables such as personality charm and student orientation. English teachers of different genders have diverse teaching cognitions and teaching styles, so it is difficult to simply judge that gender factors have a significant impact on teaching levels.

At the age level, the competence of teachers is not a stable and constant ability characteristic, but a personal ability that can be continuously improved, consolidated, and improved
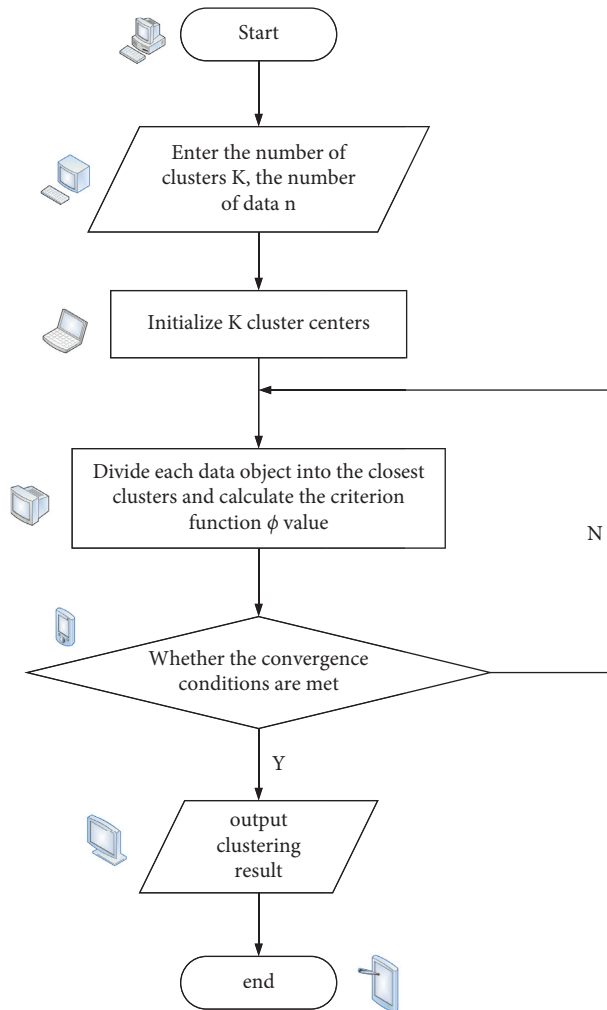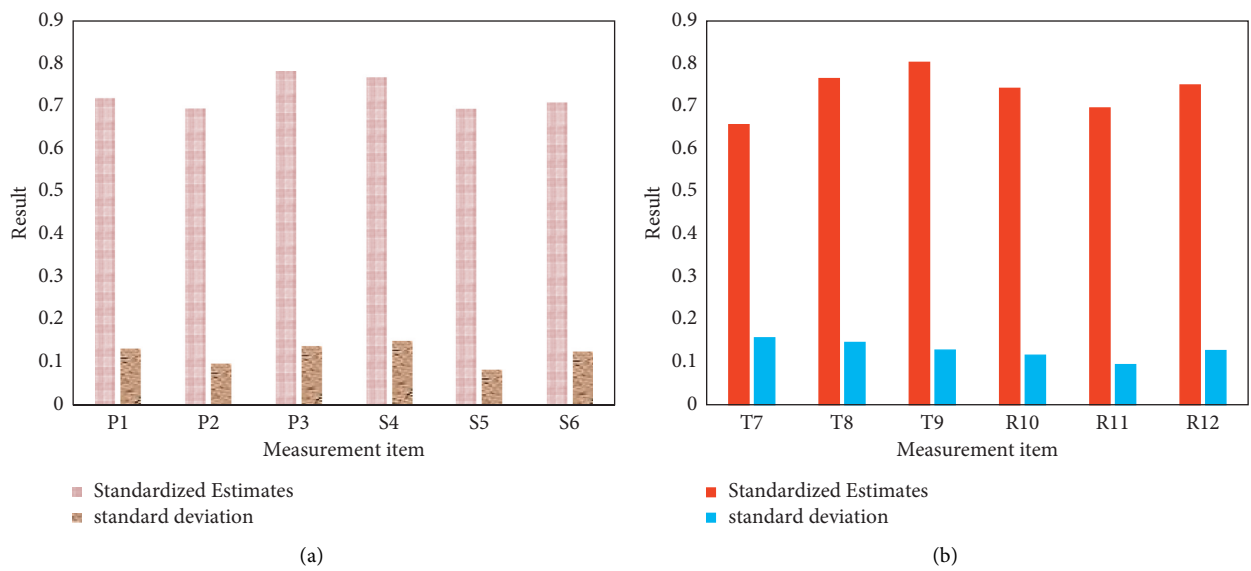
FIGURE 6: Main process of the K-mean clustering algorithm.

(a)

(b)

FIGURE 7: CFA model parameter estimation results of college English teachers.
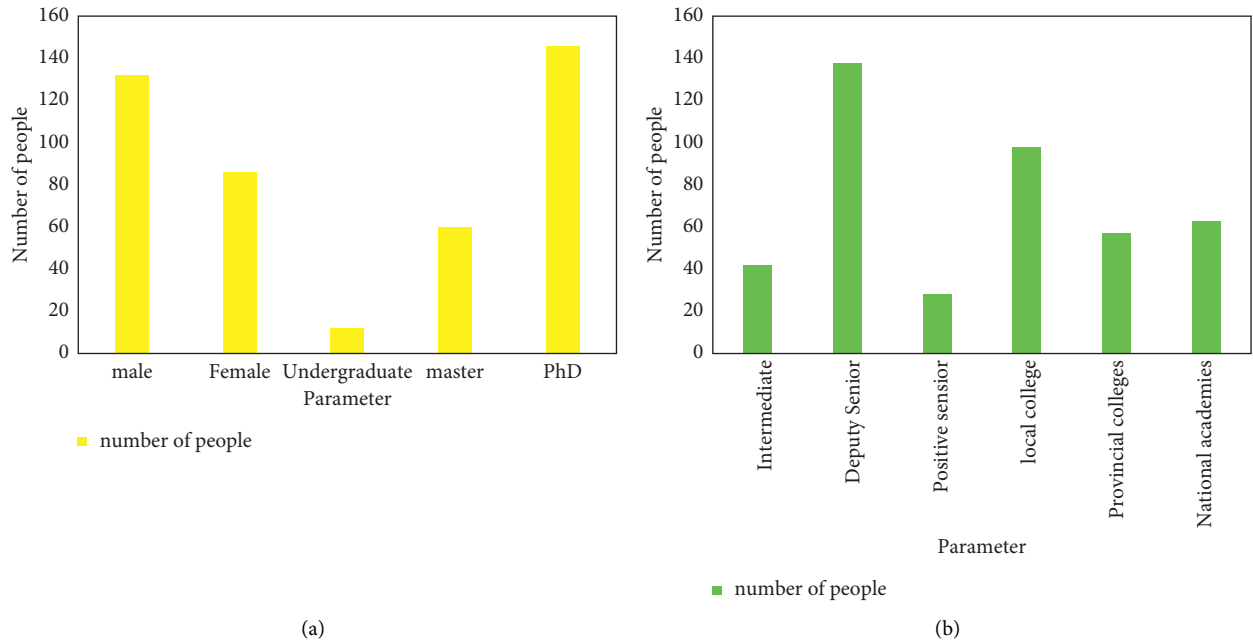
(a)

(b)

FIGURE 8: Investigate the specific situation of the population.
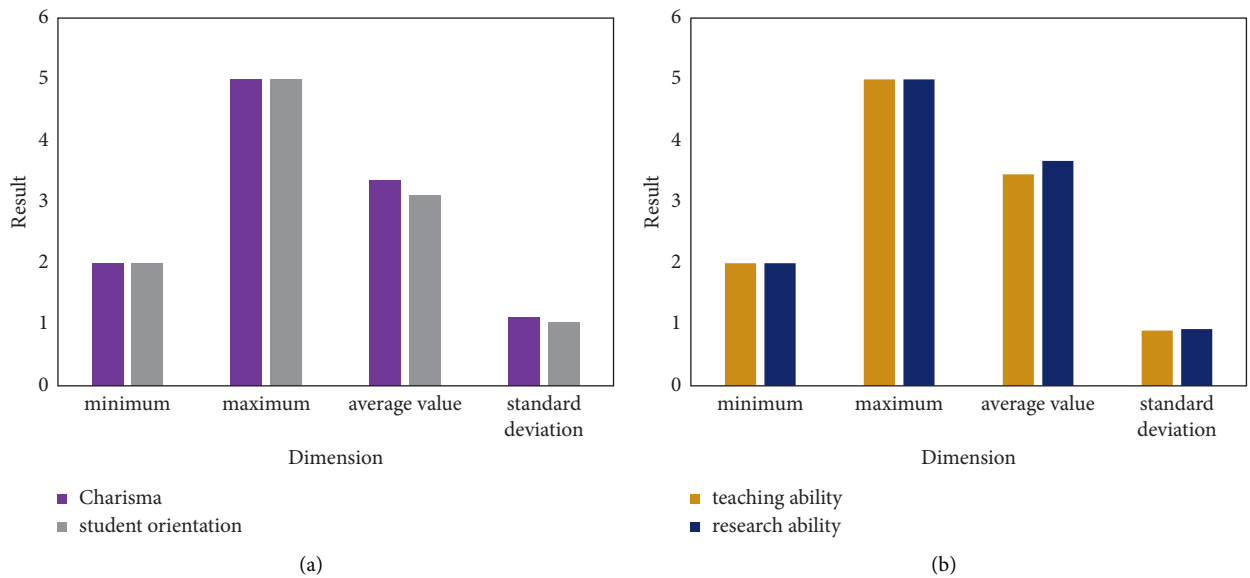

(a)

(b)

FIGURE 9: The overall competence of college English teachers.

with the increase of teachers' teaching age. First, it is accompanied by the increase of teachers' life experience and reflection in educational practice. Second, with the accumulation of English teachers' professional knowledge and the enhancement of professional ability, their teaching level is on the rise. Third, the professional knowledge, scientific research experience, and resource connections of English teachers keep increasing with the growth of time and age, and their scientific research ability keeps rising.

At the school-type level, there is no essential difference between national key construction universities, provincial key undergraduate universities, and general undergraduate universities in terms of personality charm and student orientation. It is not difficult to understand that charisma as an individual's psychological characteristics is closely related to English teachers' own personality, experience, and other individual factors, but has little to do with the school's grade type. On the other hand, no matter what type of school, a student-centered educational philosophy and emphasis on classroom teaching are the most basic requirements for English teachers in colleges and universities at all levels. They all need to be student-oriented, taking into account the actual situation and educational needs of students. And it cultivates morality in the classroom, embodies education in
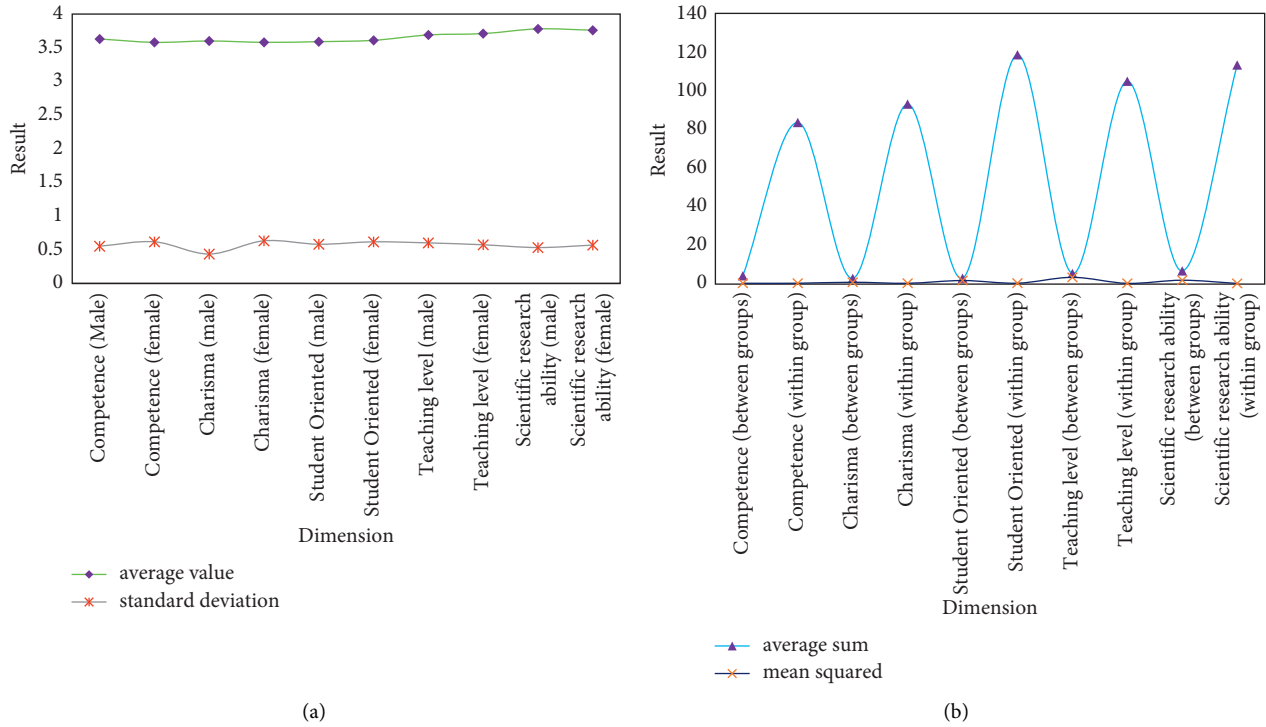
(a)

(b)

FIGURE 10: Differential analysis between gender and education of college English teachers.

teaching, disseminates and innovates advanced knowledge, and expands students' thinking and vision. However, different school types have a significant impact on the scientific research ability of teachers.

5. Discussion

The main advantages of the K-means algorithm are it is a classic algorithm for solving clustering problems, which is simple and fast; for processing large data sets, the algorithm is scalable and efficient.

The value of this research is divided into two levels: theory and practice. The theoretical level mainly includes the following three points: first, to further enrich and improve the assessment of job competency. As the content and means of human resource management practice within an organization, evaluating job competency has been well known and valued by the academic and practical circles. However, both empirical research and theoretical discussion on the purpose of evaluating job competencies need to be expanded and deepened. In previous studies, first, there is a lack of further discussion on the effect of evaluating job competency. Most studies only involve evaluating the impact of job competency on job performance and job satisfaction of organizational members. Second, there is a lack of transfer verification that will evaluate the theory of job competency. In the past, it was mostly used in the research of enterprise organizations, and there was a lack of research on the impact mechanism of other types of organizations such as universities. Second, deepen the research on the impact mechanism of evaluating post competency on college English teachers. At present, there is still a blank in the empirical research on evaluating the relationship between post competency and English teachers in member colleges and universities at home and abroad. Although a few normative studies have mentioned its logical relationship, they are all limited to theoretically speculative discussions at the level of what should be and have not been able to go further at the level of reality. This research will deeply explore the influence mechanism of evaluating post competency on college English teachers and college English teachers from the theoretical level, especially the adjustment mechanism of other variable factors. Third, it proposes strategies to improve college English teachers in colleges and universities based on the perspective of evaluating post competencies. Because of the "dual attributes" of assessing post competency, different assessment post competencies have different effects on college English teachers of different dimensions.

This paper discusses the countermeasures to improve college English teachers in college English teachers, so as to enrich their theoretical connotations. The value at the practical level includes the following two points: first, deepen the understanding of the current situation of college evaluation post competency. Through empirical data analysis, this study reveals the unique characteristics of evaluating job competencies.

6. Conclusion

As the core feature of high-quality performance performers, the competence of college English teachers is closely related to their future scientific research innovation and work performance. The competency model is to

effectively identify the main personal characteristics, knowledge, and skills possessed by teachers. On the basis of literature review, we need to further integrate and improve behavior event interview method, least square regression method, functional analysis method, analytic hierarchy process, fuzzy evaluation method, and other research methods. In this paper, the K-means clustering algorithm is used to evaluate teacher competence and attempts an interdisciplinary exploration of the competency model of teachers. It is scientific and reasonable to construct a competency model of English teachers and improve the applicability of the model. This research is only for English teaching positions, and it can be popularized to other popular positions in the future.

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The author declares that there are no conflicts of interest.

Acknowledgments

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