Design Method of English Corner Based on Virtual Community Technology

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Abstract. The English Corner has always been an important foundation for college English learning. However, with the development of social development and the updating of modern methods, many college students have more and more forms of communication, and this form of face-to-face English communication has been increasingly ignored. As an important foundation for developing students' independent learning and innovative skills, the university is the second English part of English acquisition and an important training place in addition to regular courses. Student learning breaks the rich teaching model of traditional teachers, but not many students practice English. The purpose of this article is to study the English corner through virtual community technology. In this paper, the fuzzy weighted evaluation method is used to obtain the weight allocation results of the virtual learning community knowledge sharing evaluation index system, and this is used as a quantitative basis for the fuzzy comprehensive evaluation method to evaluate the actual virtual learning community. And through the design and development of corresponding questionnaires, the virtual community and the application of the case "virtual English corner" related questionnaire surveys to obtain data, fuzzy comprehensive evaluation method to process the data. Finally, it is concluded that in the evaluation of the effectiveness of learning using the "virtual English corner", the analysis finds that the ineffective is zero, 26.6% think it is very effective, and 93.7% think it is above intermediate level (3 points and above). It can be seen that the community members surveyed are quite satisfied with the effectiveness of the "Virtual English Corner" learning. We believe that the "Virtual English Corner" provides an online platform for effective learning.

Keywords: English Corner, Fuzzy Comprehensive Evaluation Method, Virtual Learning Community, Virtual English Corner

1. Introduction
The English Corner is an important extracurricular activity that is more flexible and expandable than the first classroom activity. Many universities are now working hard to build a rich campus culture, and the English corner is the main form of the second English classroom [1]. With the main goal of cultivating students' language ability, they actively carry out various activities, provide students with an English learning platform, and provide students with sufficient knowledge of English that can be used for practical exchange [2]. Communicate with what they have learned. In recent years, with the expansion of university enrollment, the scale of English teaching has continued to expand, but the status and effect of English teaching have not been very good. Therefore, creating a good English atmosphere is an effective attempt to carry out educational reforms and a way to cultivate and listen to college students. Oral ability in the second classroom is one of the important activities of campus culture [3-4]. Students need more popular training opportunities in order to output input knowledge as effectively as possible [5-7].

Liang Y proposed a method for designing high-quality 3D equipment for virtual laboratories. The Virtual Control Lab is designed for large-scale education. The benefits of this are savings in college costs and more opportunities for students. The planned laboratory will have more than 30 virtual appliances. The goal is to work together to provide students with a convenient and scalable experimental framework [8-9]. Bradford T W extends our previous VSC theory through blog research and explains how VSC expresses public recognition and supports the achievement of goals. More specifically, these online communities have highlighted contextual social identities, promoted public commitments, and helped achieve more effective goals. In addition, they created member role types in these VCS, which further affected public acceptance. Our findings help VSC theory and public agreement [10]. Sahoo P K proposes to upgrade traditional computing concepts to cloud computing by introducing virtual machines (VMs) to physical machines (PM), and cloud service providers are limited to multiple users. Shared computing and network resources [11].

In this paper, the fuzzy weighted evaluation method is used to obtain the weight distribution result of the virtual learning community knowledge sharing evaluation index system, and this is used as the quantitative basis for the fuzzy comprehensive evaluation method to evaluate the actual virtual learning community [12]. And through the design and development of corresponding questionnaires, the virtual community and the case of this article "virtual English corner" application of relevant questionnaires to obtain data, fuzzy comprehensive evaluation method to process the data, and finally get the results[13].

2. Method

2.1 Core Concepts

(1) Virtual community

Virtual communities are people who communicate with each other over a computer network. They know each other to some extent, share some knowledge and information, and are interested in each other like friends. From new learning methods to new lifestyles, these new forms of organization can have a significant impact on everyone in the community. Through group communication between members for a certain period of time, interpersonal relationships belonging to the community have finally formed.
2.2 Fuzzy Comprehensive Evaluation Method

The fuzzy weighted analysis method was used to obtain the weight distribution result of the knowledge sharing evaluation index system of the virtual learning community. Fuzzy comprehensive evaluation based on fuzzy mathematics, by using some concepts of fuzzy mathematics, in the quantitative calculation of problems with unclear boundaries or difficult to quantify, it can make a reasonable overall evaluation of evaluation objects restricted by various factors and solve the actual problem. It is clear and solves the problem of uncertainty. The fuzzy structure is difficult to measure. In fuzzy comprehensive evaluation, the evaluation result passes the fuzzy relationship between the index layer and the evaluation set. After comprehensive analysis, the matrix (membership matrix) is obtained, and the comprehensive evaluation result of the target layer is obtained.

(1) Perform single factor evaluation

Single factor assessment is the starting point for fuzzy comprehensive assessment. During the questionnaire survey, there are four evaluation factors from a single evaluation evaluation object, and the evaluation object's membership in the evaluation set V is given. In general, the Likert five-level scale is usually used to construct the evaluation set V and \( V_i (i = 1,2,3,4,5) \) to determine the membership of each factor \( u_i (i = 1,2,...,m) \) to the evaluation set V of each level, and then get the fuzzy relation matrix R:

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

(1)

Among them, \( r_{ij} (i = 1,2,...,m; j = 1,2,...,n) \) refers to the membership degree to the evaluation level \( V_j \); from the evaluation factor \( U_i \); the fuzzy vector \( r_i = (r_{i1}, r_{i2}, \ldots, r_{im}) \) refers to the membership degree of the evaluated object to each level of the evaluation set V in a factor \( U_i \), called \( r_i = (r_{i1}, r_{i2}, \ldots, r_{im}) \) as a single factor evaluation matrix, which is used to represent a fuzzy relationship.

(2) Multi-factor fuzzy evaluation

The evaluation factor \( u_i \) and its fuzzy relationship matrix R by using a suitable synthesis operator, and assign the membership vector B of each surveyed object to the evaluation set v. R, different rows reflect the membership of each evaluation object to the annotation set from a different single-factor perspective, that is, the single-factor evaluation result \( r_i = (r_{i1}, r_{i2}, \ldots, r_{im}) \). Therefore, by selecting the appropriate synthesis operator, using the weight vector \( \alpha \) and the fuzzy relationship matrix R for comprehensive calculation, and then using the fuzzy comprehensive evaluation result vector, the membership degree of the evaluation object to the review set V as a whole can be obtained. B can be obtained.
\[ B = A \times R = (a_1, a_2, \ldots, a_m) \]

\[ = (b_1, b_2, \ldots, b_m) \]

Among them, \( b_j \) is an operation result obtained by the operation of the j-th column of the weight vector A and the fuzzy relationship matrix R, and represents the degree of membership of the fuzzy subset of the \( b_j (j = 1, 2, \ldots, n) \) rank in the comment set V of the evaluation target. The symbol "\( \times \)" indicates a fuzzy synthetic operator. In the fuzzy comprehensive evaluation, there are different fuzzy synthetic operator models to choose from. According to the different characteristics of the problem under study, we choose the appropriate operator to obtain a reasonable result.

3. Experiment

The content collected is various materials related to people's social phenomena and social activities. According to the questionnaire, user information can be obtained based on the use and learning status of the English perspective of the virtual community. We have conducted a questionnaire survey on the application of "virtual English corner" in virtual communities and the case of the English corner design of virtual community technology. The questionnaire was revised and improved repeatedly, and the questionnaire for this survey was finally developed. This article conducted a trial of "virtual English corner" in 5 English speaking training institutions in Wenzhou, and conducted a questionnaire survey on the trial situation. A total of 150 questionnaires were distributed, of which 132 learners and 18 spoken language teachers participated in the survey. 138 questionnaires were recovered, with a recovery rate of 92%, and 126 valid questionnaires, with an effective rate of 91.3%. Although the sample size was limited, the results of the study had certain reference value. In addition, due to the subjective deviation of the surveyed participants' personal understanding of the survey items, it may cause errors in the results, but within the scope of the survey, the survey conclusions are not affected as a whole. Two weeks after the questionnaire was collected, the relevant students were retested using the retest reliability method. After the test, the results of the two questionnaires were highly correlated, indicating that the questionnaires had high reliability.

4. Discussion

4.1 "Virtual English Corner" Architecture.

"Virtual English Corner" adopts B / S architecture, including browser, web server and DB database. The advantage of the B / S architecture is that it is easy to maintain and upgrade. The client does not need to be installed. With a web browser, the B / S architecture can be placed directly on the WAN. Through certain permission control, multi-client access with strong interaction can be realized. The B / S architecture does not need to upgrade multiple clients, just upgrade the server. All operations need only be performed on the server; remote maintenance, upgrades and sharing are achieved. Classify
learning resources in the "Virtual English Corner" by adding various tags to facilitate selection and search of learning resources. Classify according to topics, including: learning, shopping, travel, business, etc.; classify according to difficulty level, including: elementary, intermediate, advanced; classify according to the way of participating in learning, including: listening, speaking, operation, etc. "Virtual English Corner" is a learning based on thematic resources. Its main functional items are as follows:

**Table 1. Functions of Virtual English Corner**

| Community bulletin board | Post community information |
|--------------------------|-----------------------------|
| Teacher-study            | Teachers and experts provide lectures, tutorials, etc. |
| Dialog                   | Space for communication among community members |
| online test              | Test the learning effect of learners |
| Just ask                 | Question Answering System |
| Group                    | Groups created by community members based on their interests |
| Photo album              | A platform for community members to show themselves |
| short message            | Implement mail function and provide internal communication in the community |

![Effectiveness of "English Corner" Learning](image)

**Figure 1. Effectiveness of "Virtual English Corner" learning**

The fuzzy weighted evaluation method was used to obtain the weight allocation results of the virtual learning community knowledge sharing evaluation index system, and this was used as the quantitative basis for the fuzzy comprehensive evaluation method to evaluate the actual virtual learning community. Use fuzzy comprehensive evaluation method to process the data. Finally, it is concluded that in the evaluation of the effectiveness of learning using the "virtual English corner", the analysis finds that the ineffective is zero, 26.6% think it is very effective, and 93.7% think that it is above intermediate level (3 points and above). It can be seen that the community members surveyed
are quite satisfied with the effectiveness of the "Virtual English Corner" learning. We believe that the "Virtual English Corner" provides an online platform for effective learning. For details, see Figure 1 "Virtual English Corner" learning effectiveness. Therefore, the design and development of "virtual English corner" is considered to be relatively successful, and it provides an effective learning network platform for virtual communities.

5. Conclusion

We believe that the virtual community "virtual English corner" provides an effective form of network. It is concluded that the "Virtual English Corner" provides good learning resources, which simulates the real situation in real life, can effectively meet the needs of learners' oral English learning, and can effectively cultivate the feelings among community members. The community generates a sense of belonging and dependence and provides an effective learning platform. In general, the "Virtual English Corner" realizes the learning based on thematic resources, realizes the construction of community resources and the interaction of the community, and can effectively meet the needs of lifelong learning.

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