Developing and Implementing an Advanced E-Learning English Classroom Teaching Model Using Deep Learning Technique

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Abstract: As the leading position of talent training, universities should constantly promote the reform of The Great Learning English teaching. In education and learning, deep learning is different from shallow learning. Deep learning mode puts forward higher requirements for the learning environment. At the same time, deep learning also helps students to form a complex knowledge system and have a deeper understanding of knowledge. As a concept to express the level of knowledge mastery, deep learning has its core characteristics and an index system to evaluate whether students achieve the above factors, which mainly includes learning motivation, memory mode, reflection state, knowledge system, learning situation, transfer ability, thinking level and emotional experience. In recent years, with the rise and development of cognitive linguistics in foreign language teaching, many scholars at home and abroad have begun to use related theories based on cognitive psycholinguistics, such as archetypal category theory and graphic background theory, to enrich texts. Analysis of the theory and explanation of foreign language teaching using cognitive grammar-based cognitive reference point model theory is rare, and empirical research on The Great Learning English teaching is even rarer. Combining online teaching with offline classrooms can give full play to education, create a suitable learning mode for students' deep learning, and achieve the best teaching effect.

Keywords: Deep learning; The Great Learning English wisdom classroom; Model of instruction; E-Learning.
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1 INTRODUCTION

In the new era, classroom education in The Great Learnings and universities emphasizes students' autonomous learning in talent training. Teachers complete the cultivation of students' independent learning ability through the innovation of classroom teaching methods. Using information technology to promote the reform of traditional education mode and explore the teaching mode of cultivating talents in the information age has become an unavoidable problem for The Great Learnings and universities [8]. SPOC is a small-scale, privatized, restricted online course born after MOOC. It has two forms: a blended teaching model combining traditional classrooms and online learning in The Great Learnings and Universities and a selective course. The primary development trend of a fixed number of people joining the course to complete the learning through the online MOOC platform is to carry out the combination of online and offline in The Great Learnings and universities [18]. However, compared with the pace of related education and teaching innovation, the reform's improvement of students' learning effect is insignificant. On the contrary, some learners exaggerate the support of information technology for education and excessively pursue new learning methods, resulting in their learning staying at the surface learning level, and the learning effect has not been substantially changed [14].

As an essential base for talent training, The Great Learnings and universities' teaching quality is directly related to the quality and specifications of talent training in China. Teachers' teaching conditions and students' learning methods are the key factors determining the teaching quality or can be said to be a standard to measure the level of running Great Learning. Therefore, if The Great Learnings and universities want to optimize their development, they must put talent training in the first place [3]. Students' in-depth English learning can help diversify their thinking and cultivate learning quality. The core ideas of in-depth learning profoundly reflect relevant concepts in cognitive disciplines such as criticism, understanding, integration, transfer, reflection, and creation. [16]. With the extensive use of technology and resources, along with the generation of various teaching modes, only by effectively using teaching resources and combining relevant teaching modes can the efficiency and wisdom of teaching become the research focus of education and teaching. As the main body of students' learning, teachers should fully respect students' dominant position in classroom teaching and expand more space for students' independent learning by combining online classrooms with offline classrooms [7]. With the rapid development of MOOC in the world, The Great Learning English teachers must change their roles and responsibilities, learn and master the use of modern information technology, improve the ability to use network multimedia for teaching, and dare to lead and practice the new teaching modes and methods in the MOOC era [2]. Since the beginning of a new round of curriculum reform, educational researchers have been trying to help students cope with the changing future environment. However, students' initiative, participation, and concentration still plague most schools and become a significant problem in education. The emergence of "deep learning" has provided a new direction for China's education reform, especially the education model of The Great Learnings, and universities have benefited a lot. Deep learning is listed as a critical path to promote the reform and development of higher education in the future. In the Horizon Report of the Higher Education Edition released by the Media Alliance, this is enough to illustrate the degree to which deep learning is valued [19].

The research and development of the concept of deep learning in China is relatively late. Still, the definition of deep learning emphasizes that students can integrate their new knowledge and ideas into their original knowledge system during the learning process. When solving practical problems, they can find the correlation between things and use knowledge to analyze and solve them. Deep learning can help students learn independently or solve problems in the actual learning work and complicated environment [4]. Students' mastery and application of knowledge, the cultivation of ability, and the improvement of emotional experience are the core objectives of classroom teaching. This paper constructs an efficient and intelligent classroom teaching mode, implements three rounds of action research, and promotes students' intellectual and deep learning through case teaching and innovative teaching [20]. This paper mainly introduces the use of MOOC resources in The Great Learning English courses in undergraduate The Great Learnings and universities through literature research, survey research, etc., analyzes the advantages and disadvantages of the application of MOOC resources in undergraduate The Great Learnings and universities, and explores the impact of MOOC resources on The Great Learning English teaching. The application strategies and suggestions of The Great Learning English MOOC resources are put forward in a targeted manner to expand the time and space of The Great Learning students' self-study English courses, effectively help non-English primary The Great Learning students to use MOOC resources better, optimize the English teaching mode of ordinary undergraduate The Great Learnings, and improve The Great Learning English teaching. English teaching efficiency and teaching quality.

Combining with the actual conditions of The Great Learning students and the internal logic of deep learning and classroom teaching, systematically combing the target conditions of deep learning for The Great Learning students and the new requirements for classroom teaching in The Great Learnings and universities, enriching the related theoretical research of learning theory, not only providing the theoretical basis and evaluation tools for The Great Learning students to evaluate their learning level but also constructing the corresponding target system for the reform and innovation of curriculum teaching in The Great Learnings and universities:

2 RELATED WORK

At present, the definition of an intelligent classroom mainly includes two categories. One is an innovative classroom from the perspective of education, which has the characteristics of solid interaction and distinctive innovation. Compared with foreign countries, Chinese scholars' research on deep learning started late and did not systematically discuss deep learning until the beginning of the 21st century. In addition, unlike foreign research, China's deep learning stayed in the logical thinking stage of philosophy at the beginning, and only in recent years did it combine deep learning with practical teaching.

Wang X discusses the historical evolution of online distance learning, the advantages that online courses bring to institutions, and the relationship between online classes and social media. Since then, Harvard, the Great Learning, has also started the SPOC experiment, put courses such as "Copyright Law" into the teaching experiment, and achieved good results [17]. Li believes an intelligent classroom is a digital environment that can guide students to learn intelligently; JinXinquan and others combined big data and information media technology with building a 5J model according to teachers, students, teaching content and teaching media [5]. Sun m and others summarized the characteristics of intelligent classrooms from the dimension of technology learning into four aspects: personalized learning, creative learning, promoting thinking development, and in-depth learning [13]. Tong L uses the Word2Vec model to understand the feature information of multiple data sources to obtain the relationship between the data, including the user's preference score for the item and the user's attention to the item, providing a rich distributed representation, and according to the obtained information Empirical evaluation is performed, which is fed into a collaborative filtering model to predict a user's rating for an item. Still, the item cold-start problem needs to be considered [15]. Shay et al. put forward a Bayesian-based collaborative deep learning model, which uses a noise reduction automatic encoder to learn the deep features of users' articles and then combines the features of different data sources with a Bayesian model through collaborative topic regression to make score prediction [12]. According to the research of scholar Rong Y, the smart classroom has the characteristics of intelligent accuracy, effective interaction, and open symbiosis. No matter from the perspective of education or technology, the intelligent classroom integrates thoughtful and in-depth teaching and learning from multiple perspectives [11]. Ran M translated SPOC as a "Small-Scale Restricted Online Course" and elaborated on the concept and theory of SPOC. Shanghai Jiaotong The Great Learning, Zhejiang the Great Learning, etc., have also started to offer SPOC courses on some platforms. With the emergence of SPOC, more and more people pay attention to and study it.

Regarding the combination of SPOC and flipped classrooms, the existing research mainly focuses on the teaching mode design and teaching practice of SPOC and flipped classrooms [10]. Lu et al. However, most existing studies focus on how to play the role of SPOC from the perspective of teachers' teaching. Still, only some people systematically study the influence of SPOC on learners' learning patterns. Moreover, making online learning happen effectively is a bottleneck problem that needs to be broken [9] to implement SPOC courses and flip classrooms effectively. Ba y et al. Carried out the research on the deep learning mode composed of DELC deep learning process and SPOC's support for deep learning, and proposed that when studying and designing online courses or offline classroom modes, we should focus on high-level thinking activities such as analysis, evaluation, and creation, to promote the occurrence of students' deep learning, to improve the learning effect [1] further. Li S's research shows that constructing the SPOC learning community can promote students' in-depth learning. Empirical research on cultivating students' deep learning models and innovative abilities will be a significant direction of future research [6].

Based on the theoretical research on deep learning by the above educational researchers, we can find that they all think that the primary goal of deep learning is to cultivate higher-order thinking, such as critical and creative learning, and emphasize that learners should give full play to their active learning attitude, establish the concepts of independent learning, Joint learning, inquiry learning and lifelong learning, and think critically based on understanding, which can combine new ideas and knowledge with the original cognitive structure, effectively connect understanding with real life, promote the transfer of knowledge and solve the reality.

3 METHODOLOGY

3.1 Analysis Based on Deep Learning Combined with English Wisdom Classroom Teaching Mode

As a new teaching mode, the intelligent classroom applies digitalization and personalization throughout the teaching process, providing fresh ideas for learners' in-depth learning. Whether from the perspective of education or technology, a smart classroom integrates intelligent and in-depth teaching and learning from multiple perspectives, which fully reflects the diversity of evaluation subjects and the diversity of learning methods.

3.1.1 System Overview of the Recommended System

The recommendation system recommends items that users desire to buy based on the information of users or items, and the information grows explosively. Therefore, personalized recommendation is an essential strategy to optimize user experience and prevent users from over-selection. Unlike search engines, it does not require users to enter precise keywords in the search box to find items. It only needs to input the user's behavior data and item information in a specific recommendation algorithm. Output a personalized list of recommended items, which are items that users have a desire to buy, that is, items with potential preferences. The data sources of the recommendation system are mainly divided into the following categories: (1) user behavior information in the log. (2) User's label data. Tags are divided into the tags input by authors or experts and those input by ordinary users. They express the semantics of items and describe users' interests.

3.1.2 The Algorithm Flow of Collaborative Filtering Algorithm

(1) User-item historical rating data; (2) User-item rating matrix; (3) Calculate user similarity; (4) Form a set of neighbors praised as a user; (5) Target user according to the calculated ranking value Recommended items; (6) Cosine similarity, Pearson coefficient, etc.

3.2 Analysis of the Theoretical Structure Model and Teaching Model of Smart Classroom Teaching

There is no unified conclusion on the definition of brilliant classrooms, and scholars define smart classrooms from different perspectives. To promote students' personalized learning and help students learn more efficiently. Based on the "8 + 8 process" intelligent teaching theoretical structure model, we optimized and improved it and constructed a more simplified and practical "three stages and ten steps" teaching model. As shown in Figure 1.

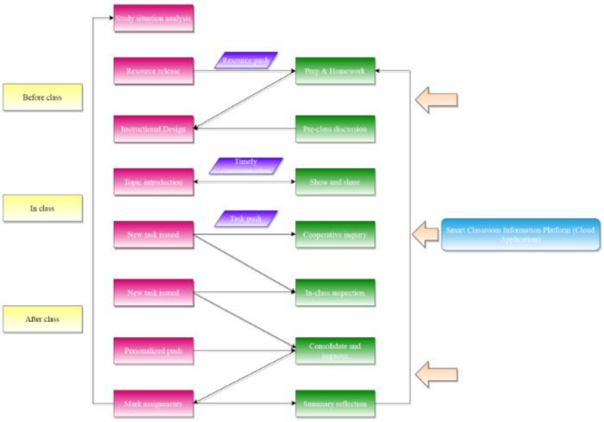


Figure 1: The theoretical model of the "8+8 process" teaching structure of the smart classroom.

Based on dynamic data analysis, this smart classroom can transform classroom form, create an ideal learning environment, improve teaching structure and mode, establish a whole-process student learning evaluation system, and realize the normalized application of a smart classroom. as shown in Figure 2.

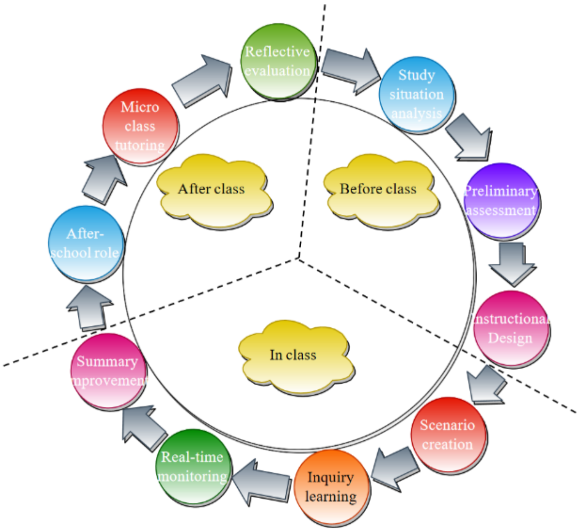


Figure 2: The teaching process structure is "three stages and ten steps" in an intelligent classroom teaching mode.

Under the 30-step intelligent classroom teaching process, interaction plays a crucial role in teaching implementation. Under the smart classroom, classroom teaching uses the intelligent application support platform, and integrating teaching and learning reflects the three-dimensional interactive ability.

To further improve the theoretical system of deep learning, establishing a deep learning evaluation system has become a problem that deep learning researchers must face. Showing a deep learning evaluation system is significant for measuring whether students' deep learning goals are achieved. Deep learning is different from general learning methods. High-order thinking is the core concept of deep learning, and developing high-order thinking ability should be an essential reference factor to evaluate students' deep learning. Therefore, the Biggs solo classification method, which takes the classification of complex thinking structure as the primary standard, plus the traditional cognitive, motor skills, and emotional evaluation as the auxiliary, establishes a deep learning evaluation system. As shown in Table 1.

Solo hierarchy	Learning type
Anterior structure	No learning
Single structure	Shallow learning
Pluralistic structure	
Association structure	Deep learning
Abstract extended structure	

Table 1: Relationship between structure level and learning type of solo classification.

According to the thinking characteristics of solo classification, the pre-structure level is divided into nonlearning types, the single structure and multi-structure are similar to the characteristics of shallow learning, and the correlation structure and abstract expansion structure are consistent with the connotation of deep learning concepts.

The architecture diagram of collaborative filtering is shown in Figure 3.

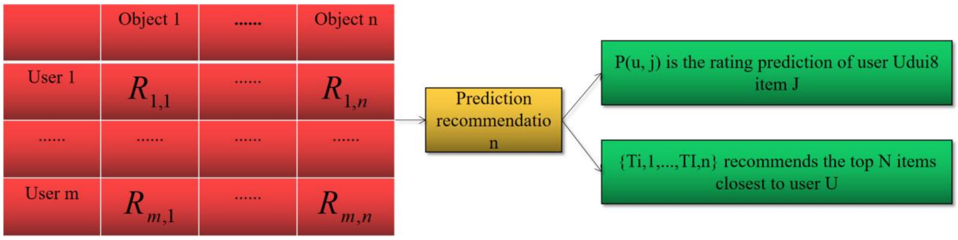


Figure 3: Architecture diagram of collaborative filtering.

In the collaborative filtering recommendation algorithm, the preference and behavior information are collected based on the user's explicit and implicit ratings of items. Clear rating refers to the user's direct rating of the item by expressing the user's preference in various forms such as scores (1 point, 2 points...), like/dislike, approve/dislike, etc. For example, in the Digital Music dataset, some Users will rate the music they have listened to, and the more the user likes the song, the higher the song's rating. The Great Learning English teachers are increasingly concerned about the development of MOOC-based blended teaching models. They want to design and produce "micro-classes" and "flipped classrooms. "On the one hand, teachers must be familiar with the production methods of micro-videos. On the other hand, higher education authorities and universities should actively organize seminars on micro-video experience technology. The Great Learning English teachers should pay attention to integrating the latest English teaching materials, making perfect teaching plans, combining different majors to form MOOC research groups, paying attention to the moderate capacity and interactivity of MOOC content, and giving classified guidance to students' English learning situations in different situations.

3.3 Model Base on Collaborative Filtering Algorithm

The algorithm is to recommend items purchased or interested by users with similar preferences. The steps are as follows: first, build a user neighborhood set, analyze the user's historical behavior data, and get a user set similar to the user's preferences. Secondly, explore the neighborhood set and screen out the items. As shown in Figure 4.

The two equations (11) and (12) show that the learning rate η、 Output error of this layer δ and the input vector X or y determines the weight adjustment.

In the tentative three-layer BP network, the number of nodes in the hidden layer is 14 according to the empirical Formula, the expected error is 0, and the maximum number of trainings is 10,000. The training functions of the above algorithms are compared using the number of iterations and the predicted error as evaluation indexes. The results are shown in Table 1.

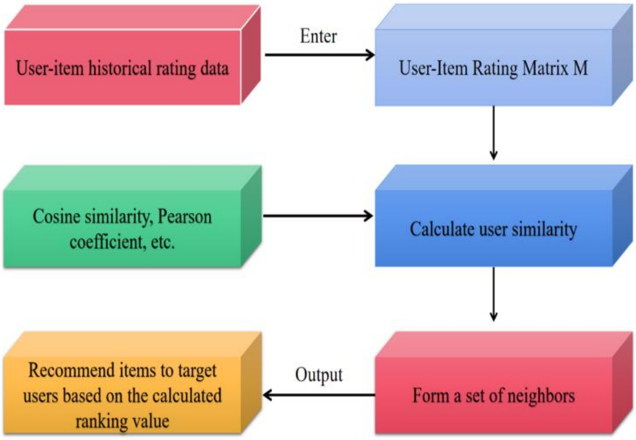


Figure 4: Schematic diagram of User-Based collaborative filtering algorithm flow.

The main key point of this recommendation is to calculate the similarity of users. Given the rating data of user u and user v, use formula (1) based on cosine similarity to calculate the similarity between users. The smaller the angle, the higher the similarity between users, where the sum represents the rating of item i by user u and user v.

$$\mathrm{sim}\,(u, v) = \cos\,(\vec{u}, \vec{v}) = \frac{\vec{u} \cdot \vec{v}}{\|\vec{u}\| \|\vec{v}\|} = \frac{\sum_{i=1}^{n} R_{ui} R_{vi}}{\sqrt{\sum_{i=1}^{n} R_{ui}^2} \sqrt{\sum_{i=1}^{n} R_{vi}^2}} \tag{1}$$

$$\mathrm{sim}\,(u, v) = \cos\,(\vec{u}, \vec{v}) = \frac{\vec{u} \cdot \vec{v}}{\|\vec{u}\| \|\vec{v}\|} = \frac{\sum_{i \in I_{uv}} 1/\log\,(1+|R_i|)}{\sqrt{\sum_{i=1}^{n} R_{ui}^2 \sqrt{\sum_{i=1}^{n} R_{vi}^2}}} \tag{2}$$

The classical Formula for calculating cosine similarity also includes the Person correlation coefficient, and the Formula is shown in (3):

$$\text{sim}(u,v) = \frac{\sum_{i\in I_{uv}}(R_{ui}-\hat{R_u})(R_{vi}-\hat{R})}{\sqrt{\sum_{i\in I_{uv}}(R_{ui}-\hat{R_u})^2}\sqrt{\sum_{i\in I_{uv}}(R_{vi}-\hat{R_v})^2}} \quad (3)$$

Where, and represent the average value of user u and user V's score on item I. The main key point of this recommendation is the similarity calculation of items, which is similar to the cosine similarity calculation of users. The user's score on items is expressed as an n-dimensional vector, as shown in formula (4):

$$\text{sim}(i,j) = \cos(\vec{i},\vec{j}) = \frac{\vec{R_i}\cdot\vec{R_j}}{\|\vec{R_i}\|^2\|\vec{R_j}\|_2^2} = \frac{\sum_{u\in U_{ij}} R_{ui}\cdot R_{uj}}{\sqrt{\sum_{u\in U_i} R_{ui}^2}\sqrt{\sum_{u\in U_j} R_{uj}^2}} \quad (4)$$

Where sim(i, j) is the cosine similarity between item I and item j, $\hat{R_i}$ and $\hat{R_j}$ are the rating vectors of items i and j, and R_{uj} is the rating of user u for items i and j, and U_{ij} is the simultaneous rating of user you The set of users who rated items i and j, U_j is the set of users who rated item i by all users, and U_j is the set of users who rated item j by all users.

$$\text{sim}(i,j) = \frac{\sum_{u\in U_{ij}}(R_{ui}-\hat{R_i})(R_{uj}-\hat{R_j})}{\sqrt{\sum_{u\in U_{ij}}(R_{ui}-\hat{R_i})^2\sqrt{\sum_{u\in U_{ij}}(R_{uj}-\hat{R_j})^2}}} \quad (5)$$

After getting the similarity between items, you can use the K nearest neighbor method to find the adjacent items, that is, the items with similar characteristics. This method selects the K items with the highest similarity to the items as the adjacent items and generates a recommendation result to recommend the items to users. Formula (6) represents the predicted score value of user U on item I, and n represents the set of adjacent items of item I.

$$\hat{R}_{ui} = \frac{\sum_{j\in N}\text{sim}(i,j)\times R_{uj}}{\sum_{j\in N}|\text{sim}(i,j)|} \quad (6)$$

Matrix factorization technology models users' explicit feedback by mapping users and items into a latent vector space, thereby obtaining the hidden relationship between users and items. The preference of user U for the item I calculated in LFM (7):

$$\text{Preference}(u,i) = r_{u,i} = P_u^T q_i = \sum_{k=1}^{F} p_{u,k}q_{i,k} \quad (7)$$

The recall rate indicates whether the coverage of the recommender system is comprehensive, that is, the proportion of relevant items recommended to users in all possible relevant items, as shown in formula (8).

$$Pr\,e\,cison = \frac{\sum_{u\in U}|R(u)\cap T(u)|}{\sum_{u\in U}|T(u)|} \quad (8)$$

$$Re\,c\,all = \frac{\sum_{u\in U} R(u)\cap T(u)}{\sum_{u\in U}|R(u)|} \quad (9)$$

the prediction score of the recommendation system. As shown in Formula (10) and Formula (11), it indicates the actual score of items I by U, $\hat{R}_{u,i}$ indicates the prediction score of items I by user U in the recommendation system, and T is the test set.

$$RMSE = \sqrt{\frac{\sum_{u,i\in T}(R_{u,i}-R_{u,i})^2}{|T|}} \quad (10)$$

$$MAE = \frac{\sum_{u,i\in T}|R_{u,i}-\hat{R}_{u,i}|}{|T|} \quad (11)$$

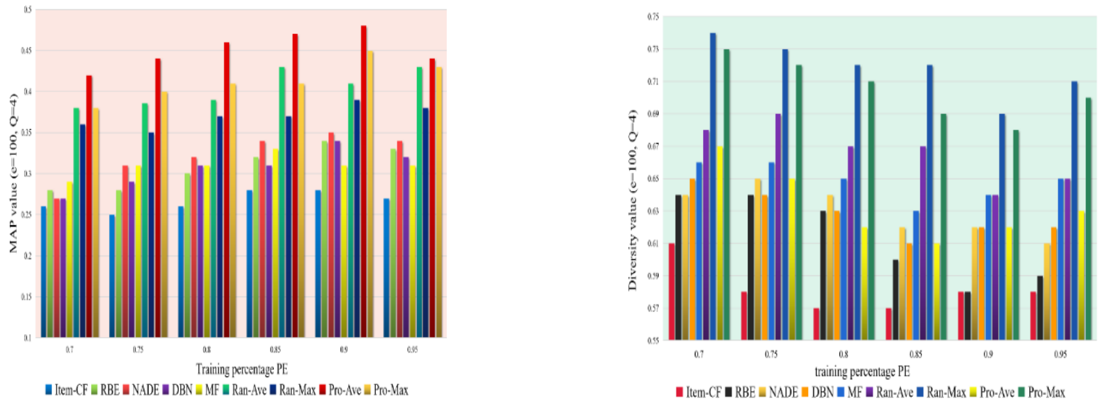
Diversity means that if only accuracy is considered in the recommendation, the recommendation algorithm can quickly produce those popular items because they are more likely to be rated by users than unpopular items.

$$Diversity(R(u)) = 1 - \frac{\sum_{i,j\in R(u),i\neq j} sim(i,j)}{1/2\times|R(u)|\times(R(u)-1)} \quad (12)$$

4 RESULT ANALYSIS AND DISCUSSION

The English state of students' deep learning emphasizes the students' autonomous learning process. Classroom teaching has always been the core link of teaching. The reform of The Great Learning Students' classroom teaching has never stopped. Still, the author found that students' deep learning in the classroom could be better in early classroom observation and research. Therefore, this chapter will make a diagnostic analysis of the current classroom teaching situation through questionnaires and interviews and will strive to find out why students fail to achieve in-depth learning in classroom teaching.

The questionnaire survey method mainly starts with students' evaluation of teachers' classroom teaching activities and deficiencies existing in classroom teaching in promoting the deep learning of The Great Learning students. It provides a factual basis for guiding the reform of classroom teaching. The feature number e of item embeddings in the DSM model is a decisive parameter for recommendation performance. If the parameter E is set too small, it will cause the item to be embedded in a compressed space, resulting in the loss of information represented by the item in deep learning. In the early preparation stage of the experiment, this chapter optimizes the parameter E through repeated experiments. It concludes that in the app data set and last in the fm-1k dataset, with the increase of E, the performance of the map gradually increases, and the diversity performance gradually decreases. Until e is set to 100, the map performance remains stable, and E is set to 300, the diversity performance remains stable. Therefore, As shown in Figure 5.



(a) MAP value of the model in the APP dataset (b) Diversity value of the model in the APP dataset

Figure 5: MAP and diversity values of various models in the APP dataset under the first scheme.

This study aims to investigate The Great Learning students' mobile phone usage and deep vocabulary learning. Because the current vocabulary mobile learning is mainly a kind of autonomous learning, and its relevance to the curriculum needs to be higher in classroom teaching. Therefore, when selecting research objects, we should pay more attention to mobile device ownership, English vocabulary, and overall English level. Considering that the popularity of mobile devices among college students is not limited by economic conditions and regions, the proficiency of British people can be measured by level tests or mobile learning software. We did not choose regions or school types when selecting participants. These social and cultural factors are important indicators for sample selection. The factors to be considered in the sample selection of this study are the reliability, willingness to participate, and the answer sheet of participants. Therefore, we chose the academic circles to contact the authors and asked them to forward the questionnaire to students. Through mutual communication, we can improve the quality of the questionnaire and the trust between teachers and students.

To understand the basic information about the respondents and their English level, the author investigated the respondents' gender. They have passed the English-level examination. At this stage, they have predicted their own English vocabulary. The survey results are shown in Figure 6.

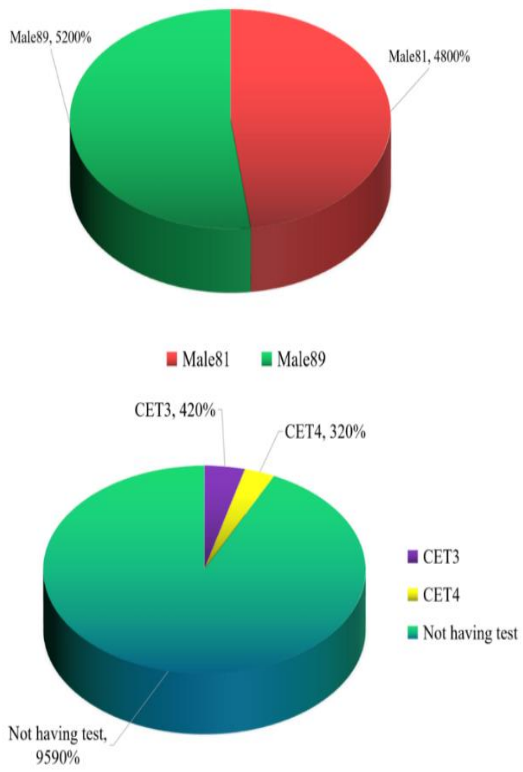
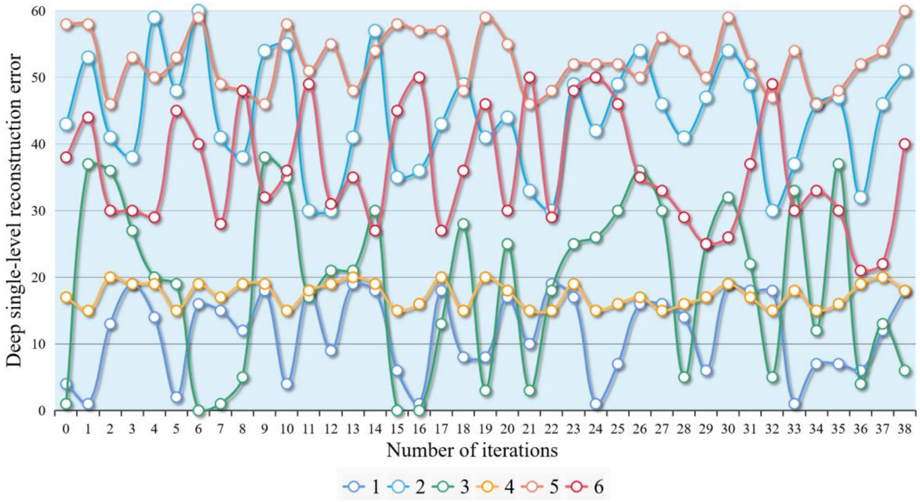
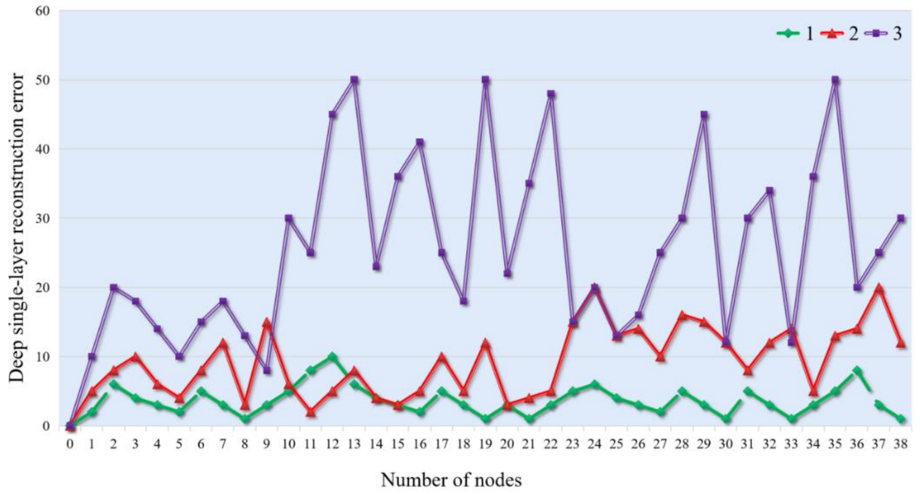


Figure 6: The gender distribution of respondents and their current English proficiency.

Changes of profound single-layer reconstruction errors of deep learning networks with different numbers of nodes after one iteration and fifteen iterations. It can be found from the figure that although the error of depth single-layer reconstruction is other due to different iteration times, its roughly changing trend is ultimately the same. That is, when optimizing the deep learning network, to improve the efficiency, we only need to extract the profound single-layer reconstruction error of one iteration to select it effectively. As shown in Figure 7.



(a) The depth single-layer reconstruction error change line graph of the deep learning network is iterated once



(b) A Line chart of error change of deep single-layer reconstruction after 15 iterations of deep learning network

Figure 7: The line chart of the profound single-layer reconstruction error change of the deep learning network iteration from one to fifteen times.

According to the deep learning evaluation method of SOLO classification theory and combined with the deep learning evaluation method, this study collected the electronic tabloid works of 36 students in the experimental and control classes after each round of action research. Students' works are divided according to the general rules for grading works, and students' works are divided into several areas according to the thinking level of SOLO classification theory and standards. Statistics on the number of students' works (Class A) and (Class B) show the results in Table 2.

		PS	US	MS	R	EA
The first round of action research	A	9	10	12	3	0
	B	10	8	15	4	1
The second round of action research	A	0	13	10	2	0
	B	2	11	11	6	0
Third round of action research	A	5	9	15	3	2
	B	3	12	16	4	3

Table 2: Students' thinking level, statistics of the number of people divided into different levels of work.

It can be seen from Table 2 that in the first round of action research, there were only three who were in deep learning, and most of the students were in a shallow learning state or no learning state. In general, there was little difference in the level of thinking ability. In the second round of action research, nine students in the experimental class reached deep learning, and the number of students in the nonearning state decreased compared with the first round. However, the number in the shallow learning state still accounted for the majority, while the number of students in the control class who reached deep learning was 6, less than the number of students in experimental classes. Of these, three students' works are at the level of abstract expansion structure, while nine students in the control class have reached the state of deep learning compared with the experimental class. Few. In this round of action research, there are no students' works in the pre-structural learning state in the practical class, but there are two in the control class. Students' learning constantly improves, and the wisdom classroom teaching mode is ideal. Before the implementation of the action research experiment, the basic knowledge level of words was tested, respectively, to detect the initial state of the knowledge level of the two classes before the implementation of the intelligent classroom teaching mode, which was used as the pre-test data of students' knowledge mastery.

To verify whether students' in-depth learning level has been improved in the intelligent classroom mode, this study was conducted on students' in-depth learning status and ability. After the reliability analysis, the Cronbach coefficient is 0.967, with high reliability. The reliability analysis of each dimension is also carried out separately. It is found that the reliability of the Cronbach coefficient between each dimension is more significant than 0.7, indicating that the questionnaire has high reliability and can be officially put into use. The kmo value is 0.890, more critical than 0.6, and the P value is 0.000, less than 0.05, indicating that the questionnaire has high validity and can be formally used. The test shows that the standard deviation of the experimental class's deep learning status and profound learning ability is smaller than that of the control class, indicating a low degree of dispersion. Through the t-test pre-test data analysis, Post-test data analysis, deep learning status, and profound learning ability, P values are both less than 0.05, indicating significant differences between the two groups in these two aspects. Students' knowledge and in-depth learning levels have improved through three rounds of action research. Classroom teaching under the smart classroom mode can effectively promote students' in-depth learning ability. The whole teaching design is interlocked and progressive, and finally, It realizes the promotion of deep learning and creates an intelligent and personalized learning atmosphere.

5 CONCLUSIONS

Given the main problems exposed by MOOC resources in college English teaching and the fact that MOOC teaching in college English is not progressing smoothly, this paper aims to promote the application of MOOC resources in college English and consider the development of MOOC resources. Smart classrooms can effectively arouse students' interest in learning, adjust the learning atmosphere of English classrooms, and promote the achievement of The Great Learning Students' English learning goals. The college English education resources system will be improved by introducing more teaching resources in colleges and universities. English teachers will realize the value of blended English teaching for talent cultivation by improving classroom teaching optimization design and the teaching evaluation system. Teachers should strengthen their knowledge of the significance of online teaching classrooms, respect the dominant position of classroom students in the actual teaching process, and clarify their teaching orientation. Therefore, teachers must improve their information technology capabilities while strengthening their vocational training. First, let teachers explain the advantages of intelligent classrooms, understand the future development trend of brilliant classrooms, and actively accept the teaching mode of intelligent classrooms. In the presentation of classroom content, teachers can use various means to present English learning content in multiple forms, such as pictures, audio, and video, to pass knowledge points to students better and enhance students' impression of knowledge points. Creating and implementing an advanced e-learning English classroom teaching model using deep learning techniques heralds a new era in language education. This model seeks to elevate language learning experiences, bridge gaps, cater to individual needs, and foster an inclusive and effective educational landscape. Its success rests on continuous evolution, ethical practice, and a global dedication to optimizing student learning outcomes.

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