Hindawi
Journal of Sensors
Volume 2023, Article ID 9794751, 1 page
https://doi.org/10.1155/2023/9794751

*Retraction*

# Retracted: Evaluation Method of English Talent Training Quality Based on Deep Learning Model

**Journal of Sensors**

Received 19 December 2023; Accepted 19 December 2023; Published 20 December 2023



This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

(1) Discrepancies in scope
(2) Discrepancies in the description of the research reported
(3) Discrepancies between the availability of data and the research described
(4) Inappropriate citations
(5) Incoherent, meaningless and/or irrelevant content included in the article
(6) Manipulated or compromised peer review

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

## References

[1] Q. Fu, "Evaluation Method of English Talent Training Quality Based on Deep Learning Model," *Journal of Sensors*, vol. 2022, Article ID 6726931, 9 pages, 2022.

Hindawi
Journal of Sensors
Volume 2022, Article ID 6726931, 9 pages
https://doi.org/10.1155/2022/6726931

*Research Article*

# Evaluation Method of English Talent Training Quality Based on Deep Learning Model

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Received 31 March 2022; Revised 21 May 2022; Accepted 30 May 2022; Published 4 July 2022

Academic Editor: Yuan Li



This paper studies and analyzes three aspects: DL model, English talent training, and quality evaluation analysis, so as to get more rigorous and accurate quality evaluation results, and make relevant plans for future research directions. This paper focuses on model and method analysis to carry out experiments and analysis on three aspects: DL, personnel training, and quality evaluation. The experiment and inquiry of deep learning are divided into correct rate and loss. In 0-70 epoch, the highest training correct rate is 0.975, and with the increase of training times, the training correct rate is also increasing. According to the statistical investigation, 42.91% of English teachers are satisfied with their academic level, 38.48% with their oral English level, 38.89% with their teaching quality, 41.02% with their teaching methods, 40.29% with their teaching spirit, and 39.88% with their knowledge structure. At the same time, according to the statistics of students, graduates and teachers' problems in English talent training, the largest proportion is the poor level of teaching resources, so we should improve the efficiency from the level of teaching resources. In order to improve the efficiency of quality evaluation method, this paper combines AF algorithm and BQ algorithm under deep learning. The error rate of algebraic algorithm is compared. Through six groups of sample data, it can be seen that the highest error rate of AF algorithm is 5.86% and the lowest is 0.92%, the highest error rate of BQ algorithm is 10.70% and the lowest is 1.10%, and the highest error rate of algebraic algorithm is 10.70% and the lowest error rate is 5%. In contrast, the error rate of AF algorithm is lower and more stable. Next, this paper compares and analyzes the performance of the AF algorithm, BQ algorithm, and algebraic algorithm. According to the experimental results, it can be seen that the AF algorithm is more accurate than the BQ algorithm and algebraic algorithm in accuracy, recall rate, $F1$, accuracy rate, etc. Therefore, it is more intuitive and accurate to evaluate the quality of English talents training through AF algorithm under deep learning.



## 1. Introduction

This paper mainly explores the quality evaluation methods of related personnel training under the deep learning model. In view of training loss and effective loss, with the increase of training times, the loss does not decrease much. Next, this paper analyzes English talents; first analyzes English teachers' studies, oral English, quality, method, spirit and structure; then analyzes the existing problems; and finally evaluates and analyzes the overall quality of teachers, graduates, and students. Finally, the evaluation methods are analyzed, and the relevant experiments show that the error of AF algorithm is smaller than that of BQ algorithm and algebraic algorithm. In terms of performance, the AF algorithm is also superior to the BQ and algebraic algorithms in precision, recall rate, $F1$, and accuracy, so the AF algorithm under deep learning has more advantages for quality evaluation.

In this paper, CNN, LN, GLM, and other models are used to analyze multilayer neural circuits. One of the core challenges of sensory neuroscience is understanding the neural computational and electrical mechanisms that underpin the coding of behaviorally relevant natural stimuli [1]. In this paper, multiple groups of pictures are used for recognition and analysis. Through deep learning method, simple leaf images of healthy and diseased plants are used for plant disease detection and diagnosis [2]. In this study, it is suggested to use depth neural network to locate sound source in reverberation environment by using microphone array

[3]. In this paper, the fundamental solution to this problem, therefore, the best option to counteract the effects of algal blooms, is to improve early warning [4]. In this paper, the background of deep learning is studied, and the development is planned. It will go back to the original belief of connectionism in brain modeling and return to its early realization: neural network [5]. We comprehensively diagnosed the training and evaluation process of the deep learning model to estimate the age on the two largest data sets [6]. This paper analyzes the relevant social needs of graduates. Information management specialty is a comprehensive and practical characteristic discipline [7]. In order to focus on training English scholars, the school popularizes related activities for teachers and student service personnel. The objectives and structure of these teacher development activities and their outcomes, as well as the impact of such training, are discussed [8]. Reflective teaching practice has almost become the central theme of preservice teachers' educational level and professional growth [9]. This study examines the second language English ability of pupils with and without music training [10]. This paper argues that English training in schools relies too much on spoken and written languages. The article calls on educators, linguists, teacher trainers, and practitioners to cooperate to carry out further research in order to formulate policies and practices suitable for a more inclusive future [11]. To determine and understand the effectiveness of projects, qualitative methods should be an important part of large-scale project evaluation [12]. This paper briefly discusses the objective and subjective methods of video quality evaluation [13]. In this paper, the components of the design are analyzed in depth. Scoring function is one of the most important components of structure-based drug design [14]. This paper evaluates the education and learning of e-learning. The basic nature of e-learning as a teaching medium is quite different from face-to-face teaching, so a new hybrid method is needed to evaluate its impact [15].

## 2. Deep Learning and Training of English Talents

*2.1. Neural Network Structure.* The neural structure consists of multiple neurons, which are composed of the output layer, hidden layer, and input layer [16]. In the modified neural network structure, different nodes are connected with each other [17]. The signal is transmitted from the input layer to the hidden layer and finally to the output layer [18], as shown in Figure 1.

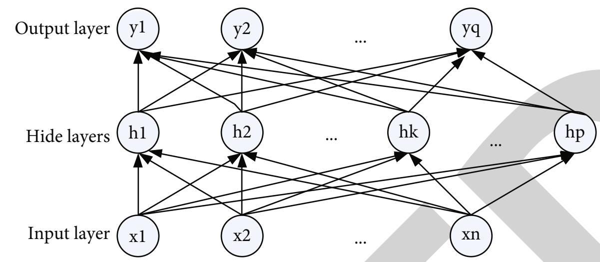


Figure 1: Neural network structure diagram.

As far as neural network is concerned, the hidden layer can be a single-layer structure or single-layer structure. When the hidden layer is a multilayer structure, it is called a multilayer neural network structure. Neural networks are composed of multiple neurons, and the nodes are connected with each other even in different layers of nodes.

*2.2. Cultivation of English Talents.* The cultivation of English talents includes the cultivation of language ability, cultural awareness, thinking quality, and learning ability [19]. The cultivation of language ability includes the cultivation of language knowledge, language cognition, and language application [20]. The cultivation of thinking quality includes the cultivation of understanding, inference, and creativity [21]. Cultivating English talents from various aspects can make the training efficiency more [22], as shown in Figure 2.

The cultivation of cultural awareness of English talents includes cultural identity, cultural identification ability, and cultural communication ability; learning ability includes active learning ability, cooperative learning ability, and deep learning ability. Through the cultivation of language ability, cultural awareness ability, thinking quality, and learning ability, we can promote the cultivation of English talents and improve the efficiency of English talents cultivation.

## 3. Correlation Formula

*3.1. Deep Learning*

*3.1.1. Single Neuron.* Sigmoid activation function:

$$f(z) = \frac{1}{1 + \exp(-z)}. \tag{1}$$

Neuron activation function:

$$f(z) = \tanh(z) = \frac{e^z - e^{-z}}{e^z + e^{-z}} \tanh. \tag{2}$$

*3.1.2. Neural Network Calculation Steps.* $N_l$ denotes the number of neural network layers, $L_{nl}$ is the output layer, and $a_i^{(l)}$ denotes the output value of the $i$ node of the one layer [23].

$$\begin{aligned}
a_1^{(2)} &= f\left(W_{11}^{(1)} x_1 + W_{12}^{(1)} x_2 + W_{13}^{1} x_3 + b_1^{(1)}\right), \\
a_2^{(2)} &= f\left(W_{21}^{(1)} x_1 + W_{22}^{(1)} x_2 + W_{23}^{1} x_3 + b_2^{(1)}\right), \\
a_3^{(2)} &= f\left(W_{31}^{(1)} x_1 + W_{32}^{(1)} x_2 + W_{33}^{1} x_3 + b_3^{(1)}\right), \\
h_{W,b}(X) &= a_1^{(3)} + f\left(W_{11}^{(2)} a_1^{(2)} + W_{12}^{(2)} a_2^{(2)} + W_{13}^{(2)} a_3^{(2)} + b_1^{(2)}\right).
\end{aligned} \tag{3}$$

Simplified as follows:

$z_i^{(l)}$ is used to represent the activation value of the $i$ node in the $l$ layer.

$$
\begin{aligned}
z^{(2)} &= W^{(1)}x + b^{(1)},\\
a^{(2)} &= f\left(z^{(2)}\right),\\
z^{(3)} &= W^{(2)}a^{(2)} + b^{(2)},\\
h_{W,b}(x) &= a^{(3)} = f\left(z^{(3)}\right).
\end{aligned} \tag{4}
$$

After activating the function, you can get

$$
\begin{aligned}
z^{l+1} &= W^{(1)}a^{(1)} + b^{(l)},\\
a^{(l+1)} &= f\left(z^{(l+1)}\right).
\end{aligned} \tag{5}
$$

*3.1.3. Reverse Conduction Algorithm.* Batch gradient descent method is used to solve the neural network.

$M$ sample set $\{(x^{(1)}, y^{(1)}), \cdots, (x^{(m)}, y^{(m)})\}$ and single sample $(x, y)$.

$$
J(W, b; x, y) = \frac{1}{2}\left\| h_{W,b}(x) - y \right\|^2. \tag{6}
$$

Variance cost function.

$$
\begin{aligned}
J(W, b) &= \left[\frac{1}{m}\sum_{i=1}^{m} J\left(W, b; x^{(i)}, y^{(i)}\right)\right] + \frac{\lambda}{2}\sum_{l=1}^{n_{l-1}}\sum_{i=1}^{s_i}\sum_{j=1}^{s_i+1}\left(W_{ji}^{(1)}\right)^2\\
&= \left[\frac{1}{m}\sum_{i=1}^{m}\frac{1}{2}\left\| h_{W,b}\left(x^{(i)}\right), y^{(i)}\right\|^2\right] + \frac{\lambda}{2}\sum_{l=1}^{n_{l-1}}\sum_{i=1}^{s_i}\sum_{j=1}^{s_i+1}\left(W_{ji}^{(1)}\right)^2.
\end{aligned} \tag{7}
$$

The parameters $W$ and $b$ are fine-tuned by gradient descent method.

$$
\begin{aligned}
W_{ij}^{(1)} &= W_{ij}^{(1)} - \alpha\frac{\partial}{\partial W_{ij}^{(1)}} J(W, b),\\
b_i^{(1)} &= b_i^1 - \alpha\frac{\partial}{\partial b_i^{(1)}} J(W, b).
\end{aligned} \tag{8}
$$

Calculation method of partial derivative.

$$
\begin{aligned}
\frac{\partial}{\partial W_{ij}^1} J(W, b) &= \left[\frac{1}{m}\sum_{i=1}^{m}\frac{\partial}{\partial W_{ij}^{(1)}} J\left(W, b; x^{(i)}, y^{(i)}\right)\right] + \lambda W_{ij}^{(1)},\\
\frac{\partial}{\partial b_i^{(1)}} J(W, b) &= \frac{1}{m}\sum_{i=1}^{m}\frac{\partial}{\partial b_i^{(1)}} J\left(W, b; x^{(i)}, y^{(i)}\right).
\end{aligned} \tag{9}
$$

*3.2. Quality Evaluation Method.* Where TC is the total and $A_d(C_i)/M_d(C_i)$ is the number of attributes in class $C_i$.

$$
\begin{aligned}
\text{AHF} &= \sum_{i=1}^{\text{TC}}\sum_{m=1}^{A_d(C_i)}\frac{(1 - V(A_{mi}))}{\sum_{i=1}^{\text{TC}} A_d(C_i)},\\
V(A_{mi}) &= \sum_{j=1}^{\text{TC}}\frac{\text{is\_visible}(A_{mi}, C_j)}{(TC - 1)},\\
\text{is\_visible}(A_{mi}, C_j) &= \begin{cases} 1, & \text{iff}\begin{cases} j \neq i, \\ C_j \text{ may reference } A_{mi}, \end{cases}\\ 0, & \text{otherwise,}\end{cases}\\
\text{MHF} &= \sum_{i=1}^{\text{TC}}\sum_{m=1}^{M_d(C_i)}\frac{(1 - V(M_{mi}))}{\sum_{i=1}^{\text{TC}} M_d(C_i)},\\
V(M_{mi}) &= \sum_{j=1}^{\text{TC}}\frac{\text{is\_visible}(M_{mi}, C_j)}{(\text{TC} - 1)},\\
\text{is\_visible}(M_{mi}, C_j) &= \begin{cases} 1, & \text{iff}\begin{cases} j \neq i, \\ C_j \text{ may call } M_{mi}, \end{cases}\\ 0, & \text{otherwise,}\end{cases}\\
\text{AIF} &= \frac{\sum_{i=1}^{\text{TC}} A_i(C_i)}{\sum_{i=1}^{\text{TC}} A_a(C_i)},\\
A_a(C_i) &= A_d(C_i) + A_i(C_i).
\end{aligned} \tag{10}
$$

## 4. Model and Method Analysis

### *4.1. Deep Learning Analysis*

*4.1.1. Accuracy Analysis of Deep Learning Model Evaluation Method.* The training accuracy rate and effective accuracy rate of the deep learning model are compared and analyzed in different periods. The training accuracy rate changes gently from 0 to 70 epoch, with the lowest being 0.93 and the highest being 0.975, and the value difference is not big. At 10 epoch, the training acc is the same as the effective acc value, which is 0.95. In 0-70 epoch, the lowest value is 0.78 in 30 epoch, and the highest value is 0.97 in 70 epoch. In 0-70 epoch, when the difference between training accuracy and effective accuracy is about 30 epoch, the training accuracy is 0.96 and the effective accuracy is 0.78. The trend of training accuracy and effective accuracy is the same in other periods, as shown in Figure 3.

It can be seen from the images that the trend of training acc is the same as that of effective acc, which shows that the deep learning model is more accurate for the accuracy analysis of evaluation methods after many trainings, so DL can promote the related quality evaluation methods. Through its numerical values, it can be seen that DL model is more accurate for correlation analysis after many trainings.

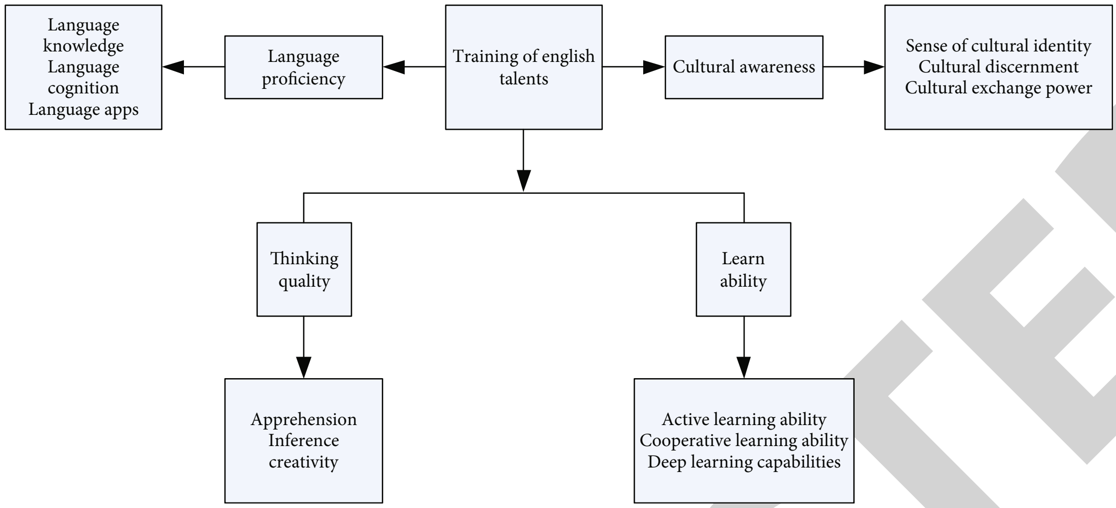


Figure 2: Flow chart of English talent training.

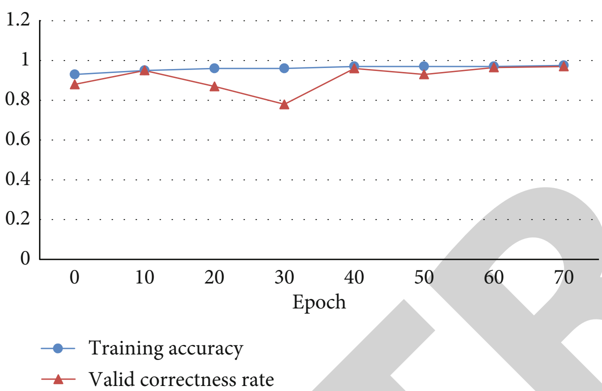


Figure 3: Training and analysis of effective accuracy.

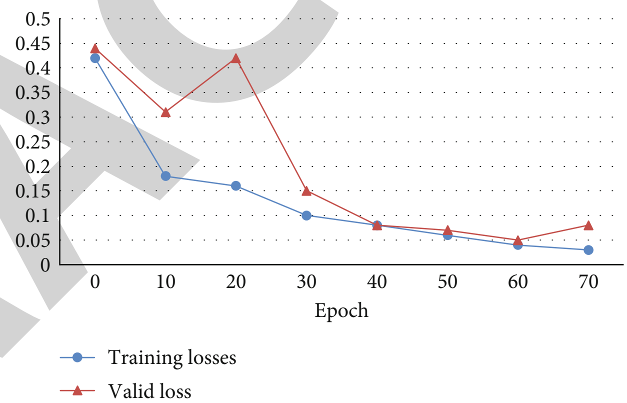


Figure 4: Training and effective loss analysis.



*4.1.2. Analysis of Loss Change of Deep Learning Model Evaluation Method.* In this experiment, by comparing and analyzing the training loss with the effective loss, in 0-70 epoch, the values range from 0.42 to 0.18 to 0.16 to 0.1 to 0.08 to 0.06 to 0.04. At 70 epoch, the value dropped to 0.03, the training loss value shown in the image shows a gradual downward trend, from the highest 0.42 to 0.03 at 70 epoch. It can be seen that with the increasing of training times and epoch numbers, the training loss gradually decreases, the numerical loss gradually decreases, and the related loss also decreases, indicating that with the increase of training times, the loss value of DL model decreases and the numerical accuracy increases. By analyzing the effective loss curve, we can see that the general trend is the same as that of training loss. In 0-70 epoch, the value changes from 0.44 to 0.31 to 0.42 to 0.15 to 0.08 to 0.07 to 0.05 to 0.08, and in 20poch, the value increases to 0.42. From the curve trend, we can see that the effective loss basically shows a downward trend with the change of training times, except for 20 and 70 epoch. Through the trend analysis of two curves, the loss rate gradually decreases with the increase of training times, which shows that in order to get more accurate change analysis, the training should make the value more accurate, and the DL model can promote the quality evaluation method, as shown in Figure 4.

### 4.2. Cultivation of English Talents

*4.2.1. Evaluation of English Teachers.* In order to improve and promote the cultivation of English talents, we should make an in-depth analysis of the evaluation of English teachers and improve English teaching through the analysis results, so as to fundamentally promote the cultivation of English talents. Through the study of English teachers, oral English, quality, methods, spirit, structure of many aspects of teachers for a total score of 100% satisfaction assessment. As far as academics are concerned, the highest evaluation value is satisfaction, with 42.91% satisfaction, among which very satisfactory, satisfactory and general evaluation satisfaction is higher, and the poor and very poor evaluation percentages are 3.7% and 3.03%, respectively, indicating that the relevant voters are satisfied with the academic level of English teachers. For oral English level, the highest evaluation rate of satisfaction level is 38.48%, and the lowest

Table 1: Analysis of English teacher evaluation.

| Project | Evaluation of English teachers | | | | | Overall |
|---|---|---|---|---|---|---|
| | Very satisfied | Satisfied | General | Poor | Very poor | |
| Academic level | 14.22% | 42.91% | 36.14% | 3.7% | 3.03% | 100% |
| Oral proficiency | 16.88% | 38.48% | 33.79% | 8.13% | 2.72% | 100% |
| Teaching quality | 15.24% | 38.89% | 33.76% | 8.08% | 4.03% | 100% |
| Teaching method | 33.58% | 41.02% | 19.12% | 4.93% | 1.35% | 100% |
| Teaching spirit | 12.75% | 34.71% | 40.29% | 9.21% | 3.13% | 100% |
| Knowledge structure | 13.69% | 39.88% | 36.12% | 8.81% | 1.5% | 100% |

evaluation rate of poor level is 2.72%. As far as teaching quality is concerned, the highest rate of satisfactory grade evaluation is 38.89%, and the lowest rate of poor grade evaluation is 4.03%. The highest rate of satisfactory grade evaluation of teaching methods is 41.02%, and the rate of poor grade evaluation is 1.34%. As far as teaching spirit is concerned, the highest evaluation rate of general grade is 40.29%, and the lowest evaluation rate of very poor grade is 3.13%. As far as knowledge structure is concerned, the highest rating rate of satisfaction is 39.88%, and the lowest rating rate of poor rating is 1.5%. Through the evaluation of relevant data, it can be seen that the evaluation of English teachers is generally satisfactory [24], as shown in Table 1.

From the trend of related images, it can be seen that the evaluation of teachers is generally satisfactory in terms of academic performance, oral English, quality, method, spirit, and structure, with the lowest proportion of poor and very poor. It can be seen from the relevant evaluation rate that voters are satisfied with teachers' evaluation. In order to cultivate English talents, we should focus on improving teachers' satisfaction in six aspects: academic performance, oral English, quality, method, spirit, and structure and improve the evaluation rate of very satisfactory grade to cultivate more and better English-related talents, as shown in Figure 5.

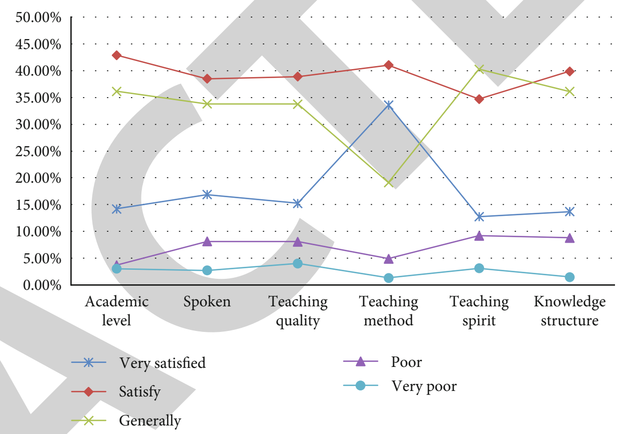


Figure 5: English teacher evaluation chart.

*4.2.2. Problem Analysis.* In order to better train English talents, this paper evaluates and analyzes the problems existing in the training of English talents from three aspects: students, graduates, and teachers. This paper makes statistics on the problems in seven aspects of English talents training, including practice, form, teaching and content, time, effect, content, and level. For students, most of them think that the poor level of teaching capital is the biggest problem, with an evaluation rate of about 24.4%, and that the evaluation rate is the lowest for short teaching time. Secondly, students think that the current teaching content should be updated. As far as graduates are concerned, most of them think that the biggest problem in English talent training is the poor level of teaching resources, followed by outdated teaching content and lack of English communication practice. As far as teachers are concerned, they think that lack of practice, single form, and poor effect are the major problems in the training of English talents. As can be seen from the image, for students and graduates, teachers analyze the problems existing in the training of English talents and draw the following conclusions. Among graduates, students, and teachers, they think that the poor level of teaching capital, single teaching form, and poor effect are the main problems, followed by a small number of graduates, students, and teachers think that there are more or less related problems in practice, teaching, content, and time. As shown in Figure 6.

*4.2.3. Overall Quality Evaluation.* Through the evaluation and analysis of the overall quality of English talents training from three aspects: teachers, graduates, and students, it can be seen from the images that most teachers, graduates and students evaluate the overall quality as good or average, followed by poor, and finally very good or very poor. In order to improve the evaluation of the overall quality, we should improve the overall quality according to the analysis of related problems and the evaluation of teachers, improve the very good evaluation rate, and reduce the poor and very poor evaluation rate, so as to improve the overall quality evaluation, improve the satisfaction of teachers, graduates, and students, and improve the efficiency and quality of English talent training, as shown in Figure 7.

### *4.3. Evaluation Method of Personnel Training Quality*

*4.3.1. Evaluation Content.* In order to evaluate and analyze the quality of personnel training, the goal of personnel training is divided into quality goal and ability goal; the first-level index of quality goal is divided into psychological quality, ideological morality, and knowledge culture; the second-level index of psychological quality is will, personality, and

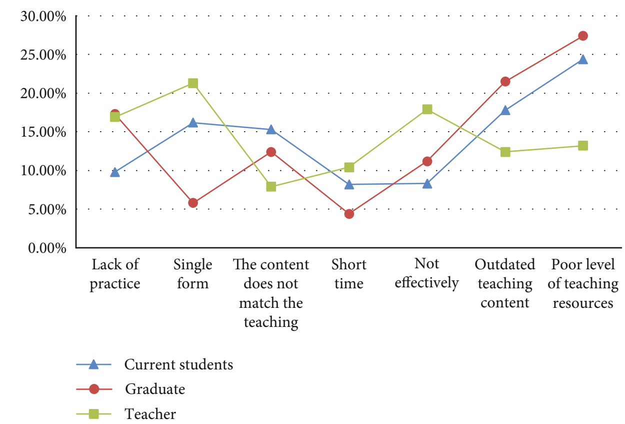


Figure 6: Analysis diagram of existing problems.

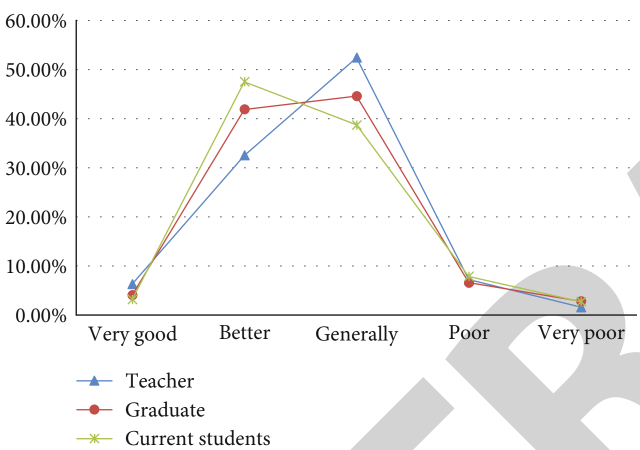


Figure 7: Overall quality evaluation chart.

self-awareness; the second-level goal of ideological morality is divided into thought and morality; and the second-level goal of knowledge culture accomplishment is divided into professional and extracurricular knowledge. The first-level index of ability goal is divided into learning, communication, and practical ability; learning ability is divided into learning interest and skills, and practical ability is divided into innovation and practical ability. Through the detailed division of the first-level goal and the second-level goal in many aspects, we can make a more in-depth evaluation of the evaluation content in many aspects, so as to obtain a more in-depth and accurate evaluation of the quality of personnel training, as shown in Table 2.

*4.3.2. Algorithm Comparison.* Through the comparison of the AF algorithm, BQ algorithm, and algebraic algorithm, the quality evaluation method with the best performance is obtained. Through 1-6 sample numbers, the prediction values of the AF algorithm, BQ algorithm, and algebraic algorithm are compared with the expected values, so as to obtain the relevant error rates. Sample 1 shows that the predicted value of AF algorithm is 6.65, the predicted value of BQ algorithm is 6.43, the predicted value of algebraic algorithm is 7.12, and the expected value is 6.5. Through calculation, the error of AF algorithm is 0.92%, the error of the BQ algorithm is 1.1%, and the error of the algebraic algorithm is 9.5%. In sample 2, the error of the AF algorithm is 1%, the error of the BQ algorithm is 6.2%, and the error of the algebraic algorithm is 8%. The sample 3AF error is 2.85%, the BQ algorithm error is 2.14%, and the algebraic algorithm error is 5.71%. The sample 4AF algorithm error is 1.66%, BQ algorithm error is 2.16%, and algebraic algorithm error is 5%. The sample 6AF algorithm error is 2.5%, BQ algorithm error is 4.29%, and algebraic algorithm error is 10.7%, as shown in Table 3.

It can be seen from sample number 5 that the expected value is 7, the predicted value of AF algorithm is 7.41, and the error is 5.86%. The predicted value of BQ algorithm is 7.75, and the error is 10.7%. The prediction value of algebraic algorithm is 6.5, and its error is 7.14%. Compared with the expected value of 7, the error of AF algorithm is the smallest.

It can be seen from the curve trend that the error rate of the AF algorithm is lower than that of the BQ algorithm and algebraic algorithm, and the result is more accurate. Therefore, in order to obtain a better evaluation method of English talent training quality, the AF algorithm under the DL model should be used to improve the accuracy, as shown in Figure 8.

For performance comparison, by analyzing the accuracy, recall rate, $F1$, accuracy, and other performances of the AF model, BQ model, and algebraic algorithm [25]. Through image trend analysis, we can see that the accuracy, recall, $F$ 1, and accuracy of the AF algorithm is higher than the BQ algorithm and algebraic algorithm, followed by the BQ algorithm, while the algebraic algorithm has lower performance, as shown in Figure 9.

Accuracy:

$$\text{Accuracy} = \frac{\text{TP} + \text{FN}}{\text{TP} + \text{TN} + \text{FP} + \text{FN}}. \tag{11}$$

It is an index used to evaluate the classification model, and the model predicts the proportion of the correct quantity to the total.

Precision:

$$\text{Precision} = \frac{\text{TP}}{\text{TP} + \text{FP}}. \tag{12}$$

Accuracy is the difference between the average value of each independent measurement and the known true value of the data (the degree of agreement with the theoretical value).

Recall:

$$\text{Recall} = \frac{\text{TP}}{\text{TP} + \text{FN}}. \tag{13}$$

The recall rate is for our original sample, which indicates how many positive cases in the sample are predicted correctly.

Table 2: Table of evaluation contents.

| Talent training goal | First-class index | Secondary index |
|---|---|---|
| Quality goal | Psychological quality | Will |
| | | Personality |
| | | Self-consciousness |
| | Ideological and moral quality | Ideological morality |
| | | Moral quality |
| | Knowledge and cultural accomplishment | Professional knowledge cultivation |
| | | Extracurricular knowledge cultivation |
| Ability goal | Learning ability | Interest in learning |
| | | Learning skills |
| | Communication skills | Communication skills |
| | Practical ability | Innovation ability |
| | | Practical hands-on ability |

Table 3: Algorithm comparison table.

| Sample label | AF algorithm | | BQ algorithm | | Algebraic algorithm | | Expected value |
|---|---|---|---|---|---|---|---|
| | Predicted value | Error | Predicted value | Error | Predicted value | Error | |
| 1 | 6.56 | 0.92% | 6.43 | 1.1% | 7.12 | 9.5% | 6.5 |
| 2 | 4.95 | 1% | 5.31 | 6.2% | 5.4 | 8% | 5 |
| 3 | 7.2 | 2.85% | 6.85 | 2.14% | 7.4 | 5.71% | 7 |
| 4 | 6.1 | 1.66% | 5.87 | 2.16% | 6.3 | 5% | 6 |
| 5 | 7.41 | 5.86% | 7.75 | 10.7% | 6.5 | 7.14% | 7 |
| 6 | 6.8 | 2.5% | 7.3 | 4.29% | 7.75 | 10.7% | 7 |

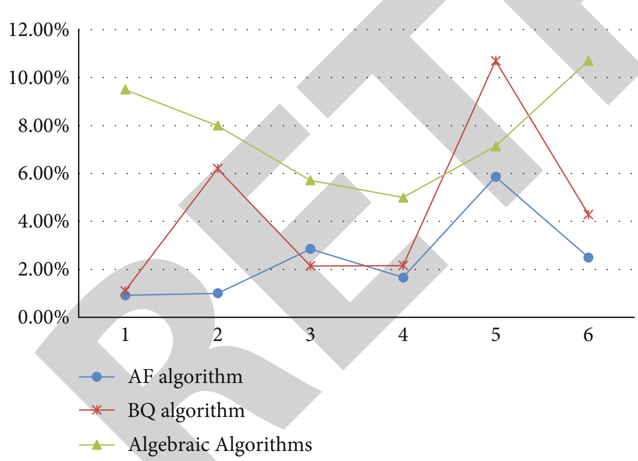


Figure 8: Algorithm error comparison diagram.

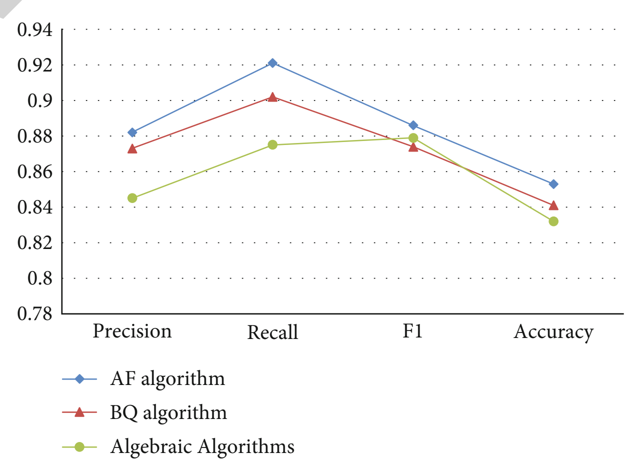


Figure 9: Algorithm performance comparison diagram.

F1:

$$F\text{-measure} = \frac{2 * \text{Precision} * \text{Recall}}{\text{Precision} + \text{Recall}}. \quad (14)$$

It is an index used to measure the accuracy of binary classification model in statistics. It takes into account both the accuracy and recall of the classification model.

## 5. Conclusion

In order to analyze the quality of English talents training under the deep learning model, this paper makes statistics on the training and effective accuracy of deep learning for many times within 0-70 epoch. Experiments show that the curve trend of training acc and effective acc is the same, which shows that the accuracy of deep learning is more accurate after many times of training. In the same way, the training and effective loss experiments show that with the increase of the number of experiments, the training loss and effective loss are also effectively reduced. At the same time, it evaluates English teachers and analyzes the existing problems. Finally, it makes a statistical analysis of the overall evaluation results to improve the quality of English talents training.

In order to improve the quality evaluation method to obtain more accurate evaluation, the error and performance of the AF algorithm, BQ algorithm, and algebraic algorithm are compared. Through numerical analysis, it can be seen that the error of the AF algorithm is lower than that of the BQ algorithm and algebraic algorithm, and the performance of the AF algorithm is better than that of the BQ algorithm and algebraic algorithm in numerical accuracy, recall rate, $F1$, and accuracy rate. Therefore, the AF algorithm under the DL model is more beneficial for evaluation and analysis.

## Data Availability

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

## Conflicts of Interest

The authors declared that they have no conflicts of interest regarding this work.

## Acknowledgments

This work was supported by the Research on Formative Evaluation of College English Smart Teaching in Applied University (Grants No. HNJG-2020-1246).

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