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Retraction

Retracted: Using Android Platform for Conducting Ideological and Political Education in Colleges and Universities

Mobile Information Systems

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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) Peer-review manipulation

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] J. Rui, "Using Android Platform for Conducting Ideological and Political Education in Colleges and Universities," *Mobile Information Systems*, vol. 2022, Article ID 1448637, 8 pages, 2022.

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Research Article

Using Android Platform for Conducting Ideological and Political Education in Colleges and Universities

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Due to advancements in information technology, handheld computers and smartphones have progressively supplanted desktop computers and older mobile phones. Due to the development and use of a series of mobile device operating systems such as Android, IOS, Harmony, Windows OS, and Symbian, mobile education comes into being. For this purpose, this article develops an ideological and political online classroom mobile learning system based on an Android application. The study created a set of mobile teaching systems based on open-source Android technology and C/S (Client-Server) architecture. Given its typical teaching time, the system is dedicated to the teaching of courses, with registration and login, notice and announcement, course information release, questions and answers, teaching resources display and projection, and other functions. It can also serve as a platform for pupils to learn independently. Following the practical application in ideological and political teaching, the system runs well, functions normally, can meet the needs of students to learn in a personalized and dispersed manner, and effectively speeds up the teaching network and intelligence process. It also has a high application value. It combines network teaching and traditional classroom to create a new education model. The purpose is to effectively assist the development of ideological and political mobile education that can be used as a reference point. Finally, this study examines the system architecture and core modules and presents an Android-based solution for a mobile client of a teaching resource library. It uses the teaching resource library of the school as an example to implement the system, which has some reference value for the study of mobile campus applications and mobile learning systems.

1. Introduction

The distance education system in China has become more and more mature through the last ten years of development. In the era of modern network and mobile communication technology development, it provides convenience and good services for students. It is also the goal of some educational institutions. It makes the Internet become an opportunity in the future under the umbrella of the gradual development of the 4G system. At present, most Internet users like to surf the Internet using mobile phones. The old network approach, on the other hand, has proven unable to fulfil the demands of modern development. All segments of society are progressively adopting mobile teaching and workplace practices [1]. Teachers, as educational staff, are also trying to use equipment and technology for training and learning, to achieve mobile teaching. It is the supplement of the traditional education model and the extension of traditional network education. It effectively combines campus teaching and information technology and injects new vitality into the modern education mode [2]. It can provide a more convenient learning platform for students according to the mobile environment [3]. The diversified learning environment and rich learning resources in the network can improve the autonomy of the learning mode, and students' acceptance and adaptability to the mobile learning environment. At present, mobile learning has attracted the attention of many people in society [4].

Most of the modern network course systems with relatively perfect functions are mainly based on web technology. To realize development, one uses B/S (Browser-Server) mode in the computer through the

browser to open the course website and to learn [5]. According to the results of the resolution investigation, browsing the PC version of the network course on mobile devices is inconvenient. The simple use of a computer to realize the network course teaching has been unable to meet the needs of modern teaching. To effectively aid online courses and satisfy the demands of students for mobile learning and fragment learning, the mobile learning teaching system of online courses may be developed using the existing and enhanced online courses, in order to efficiently spread data learning everywhere [6]. The following are the major requirements for the mobile teaching system presented in this study for ideological and political network courses: first, it must fulfill the learning courseware's functional criteria. Users, in other words, utilize this system to learn related courseware for ideological and political courses along with keeping a track record of their progress. Second, it is used to meet the needs of students to use this pass for ideological and political tests and also to achieve the record of students' scores. Third, students should be able to use this system to query the ideological and political test results. Fourth, students are required to apply for ideological and political courses using this system [7–9].

At present, with the deepening of digital campus work, every school is actively studying the application of digital campus, among which the construction of a teaching resource library is a key point. Existing resource library applications generally use the B/S architecture [10]. All resources are stored on servers and users can access them through browsers on PCs (Personal Computers). There are some disadvantages when accessing mobile devices in this way, such as cumbersome operation, poor interactivity, and large data flow. These situations and the popularity of mobile intelligent devices make it very urgent to develop a mobile client system for teaching resource libraries. This paper designs and implements a mobile client system of teaching resource base based on the Android platform. On the Android intelligent terminal, users may learn course materials, receive fresh resource information, watch video on demand, practice online, communicate with other users, and do other activities using this technique. [11].

The birth and development of computer and network-related technology have changed the way of human production and life. Among them, the mobile terminal devices and related technologies hatched from computer technology have brought new vitality to traditional education and teaching activities [12]. It can effectively improve the traditional teaching content and teaching time rigidity and promote students' independent and personalized learning. An endless stream of mobile teaching systems for important courses (English, Chinese, etc.) has emerged in recent years. Each with content and form that may suit students' expectations for individualized learning. However, for auxiliary topics such as ideology and politics, sports, and other disciplines, the mobile teaching system is still severely inadequate, which is detrimental to students' overall growth [13].

This study develops a mobile (ideological and political) education system based on open source and mature Android technology and CIS (Collective Intelligence System) architecture to address the aforementioned issues [14]. The system is designed for teaching ideological and political courses and includes features such as registration and login, notice and announcement, course information release, questioning and response, and display and projection of teaching resources, among others. After the test, the system appears to be functional, capable of meeting students' requests for personalized and fragmented ideological and political learning, and of some practical utility. [15].

The rest of the research paper is structured as follows: Section 2 will explain the related work in this research. It will be followed by evaluation method of ideological and political teaching achievements in Section 3. Finally, the empirical and result in analysis and concluding remarks are explained in Section 4 and 5 respectively.

2. Related Work

In this section, the status of research, the architecture of system, and system function module design are explained. These elucidate the overall related work that has been done this this study. The explanation is as follows.

2.1. Research Status. The mobile learning management (educational administration) platform is the expansion of a mobile office in the field of distance education. Therefore, the research status of the mobile learning management (educational affairs) platform is inseparable from a mobile office. The advancement of mobile offices is inextricably linked to the advancement of information technology. The rise of the mobile office is not since a long time, since the commercial use of portable computers in the 1990s. The development of mobile offices can be summarized into three stages: offline mobile offices, wired mobile offices, and wireless mobile offices. In the first stage of mobile office, laptop computers, handheld terminals, and other portable computers create the possibility of mobile office. Within the effective scope of internal network access, users can handle work transactions in different spaces through portable computers. The biggest problem at this stage is that once portable devices are disconnected from the internal network, mobile work will also disappear. Therefore, mobile office at this stage has great limitations and is difficult to meet the demands of mobile office across regions. Especially with the maturity of virtual private area networks (VPN), the mobile office has entered the second stage. In this situation, customers may connect to the company's or organization's internal network using VPN technology from any location having Internet connection. The application space of mobile office will be infinitely expanded in the second stage of mobile office. At this time, the limiting factor of mobile offices becomes the network cable connecting to the Internet. The third phase of the mobile office realizes the need for an around-the-clock office.

Foreign research on the mobile office is always ahead of domestic research. If the primary need for mobile work is to send and receive mail, there are now built-in mail

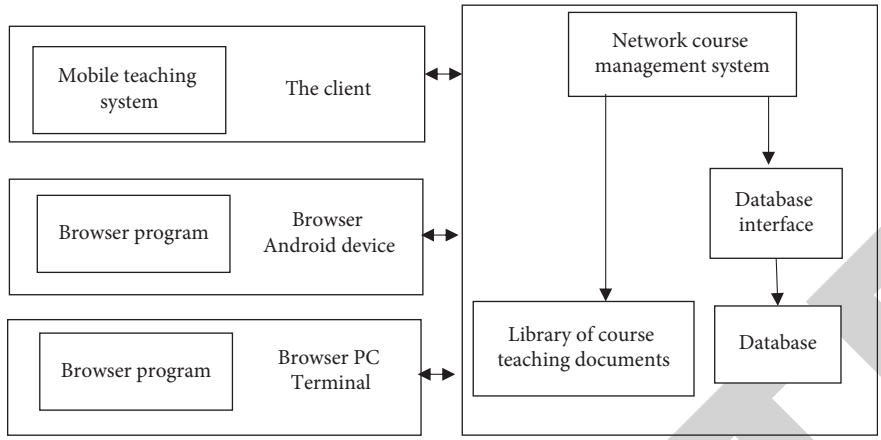

Figure 1: Structure of mobile learning of ideological and political online course.

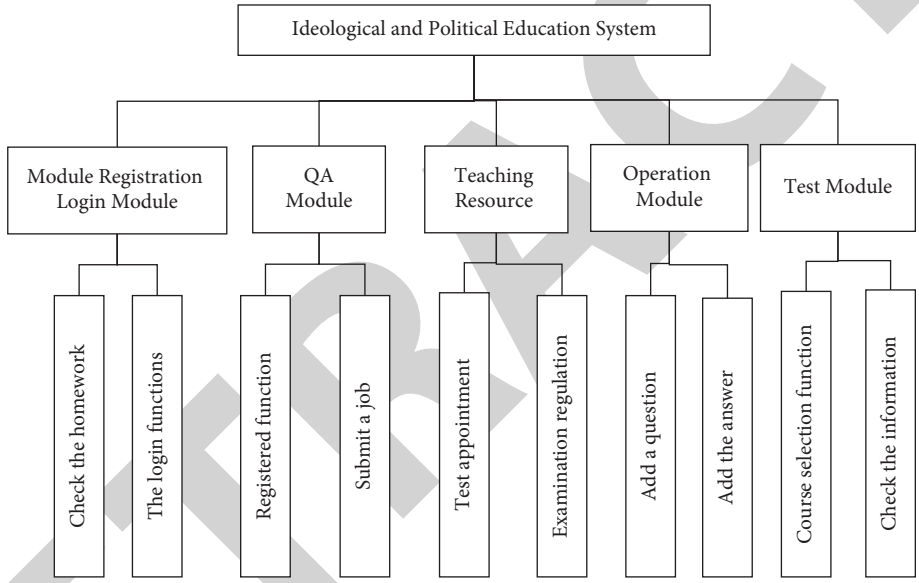

Figure 2: System function modules.

applications on major mobile platforms like Android, iOS, and Windows Phone. Devices equipped with these systems can send and receive emails all day long when the network is free, thus meeting the basic needs of mobile work. In terms of technological solutions, foreign nations have mature J2ME + Web Services and Lotus Domino. These mobile office technology solutions have been widely used in all walks of life in China.

In China, mobile operators such as China Mobile and China Unicom have also set up basic mobile office services. It can be seen from the retrieval of CNKI that SMS service has been incorporated into mobile office systems in some research literature, and mobile office can be satisfied by short message service of mobile operators. From the literature, the mobile office has been involved in many industry sectors, such as government, finance, transportation, and education. The wide range of mobile office application industry also indicates that mobile office caters to social needs and still has great development potential in a foreseeable period of time. Educational administration systems are online office software for instructors and students in the education business. It is comparable to the rise of workplace automation. Domestic colleges and universities have established online educational platforms to increase the quality of instructional services in the Internet era.

2.2. System Architecture. At the moment, online course resources are created with the amalgamation of network and multimedia technologies. The Android operating system is also a commonly utilized operating system in current times. It will be the primary basis for this system's development. Figure 1 depicts the mobile learning structure of ideological and political online courses.

2.3. System Function Module Design. Figure 2 depicts the functional module architecture of this system. It is easy to know that the system includes 7 modules. It includes

registration and login (registration and login), notice and announcement (selecting courses and viewing notice information), course information, Q&A (adding questions and answering answers), teaching resources, homework (viewing and submitting homework), and examination (examination reservation and supervision).

The specific functions of each module can be described as follows: the registration and login module are mainly responsible for the registration of new students (including user name, e-mail, password, and other personal information input) and the login function of registered users. New users can log in after being approved. They can enter the Android teaching system after successful verification.

Notice module is mainly responsible for the implementation of teaching dynamic release and students according to the needs of the course selection function. It is worth noting that the module also integrates the mobile terminal platform and the network teaching platform. It can realize the message exchange and synchronous update of the two platforms. The teachers and students can timely understand the latest developments of the course. In addition, the teaching dynamic publishing function also provides the browsing of historical dynamic messages (10).

The course information module is mainly responsible for realizing the viewing function of the selected course information. It is convenient for students to understand the relevant teaching plan and schedule of the selected course, to flexibly adjust the study and review work according to their situation.

The teaching resources module is primarily responsible for the presentation and on-demand function of teaching materials (audio, video, courseware, and so on) in order to give students with tailored learning techniques. Furthermore, the module is scalable and can be maintained and updated on a regular basis.

The Q&A module is primarily responsible for student-teacher interaction, including students' questions and instructors' responses. It allows teachers to better understand their students' learning progress and challenges encountered during the learning process.

Homework module is mainly responsible for realizing the function of students to view and submit homework. After viewing and completing the homework assigned by teachers, students can submit the homework for teachers to correct. Teachers can explain common problems according to the completion of homework.

Examination module is mainly responsible for the realization of examination booking and supervision functions. Students can make an appointment for the ideological and political examination time according to their situation. Students can verify the examination time and arrange it in time when the appointment is successful. In addition, the module includes an online simulation test to assist students familiarize themselves with the exam questions ahead of time.

3. Evaluation Method of Ideological and Political Teaching Achievements

In this section, the cuckoo search algorithm and algorithm flow are explained. This clarifies the overall evaluation method of ideological and political teaching achievements done in this research paper. The explanation is as follows.

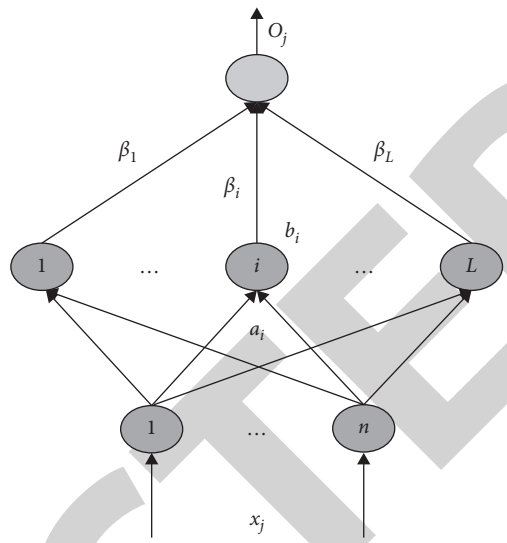

Figure 3: ELM model structure diagram.

3.1. Cuckoo Search Algorithm. The cuckoo search algorithm is a new swarm intelligence bionic optimization method based on three cuckoo breeding behavior-inspired rules.

(i) Rule 1: the cuckoo only lays one egg at a time from a different nest each time.

(ii) Rule 2: for the future generation, save the nest with the highest fitness.

(iii) Rule 3: there is a limit to the number of nests that can be selected, and the probability of an alien egg being discovered by the nest host is $p_a \in [0, 1]$.

Cuckoo nest position is shown in

$$X_i^{k+1} = X_i^k + \alpha \oplus levy(\lambda), \tag{1}$$

where X_i^k reflects the position of the k-th generation's i-th nest; $\oplus$ is the dot product, α is the search step; *levy()* represents a random walk path that obeys levy distribution and generates a new solution to replace the solution discarded by the nest host through a random preferred walk, as shown in

$$X_i^{k+1} = X_i^k + r\left(X_n^k - X_m^k\right). \tag{2}$$

Figure 3 shows the model structure of the ELM. It is a single hidden layer feedforward neural network.

Suppose there are N training samples (X, Y) and the input and target vectors are $X_i = [x_{i1}, x_{i2}, \ldots, x_{in}]^T$ and $T_i = [t_{i1}, t_{i2}, \ldots, t_{in}]^T$, respectively. X and T are $n * Q$ and $m * Q$ dimensions respectively. Therefore, the output of the ELM model with L nodes in the hidden layer is shown in

$$\sum_{i=1}^{L} \beta_i g\left(W_i \cdot X_j + b_i\right) = o_j, \quad j = 1, 2, \ldots, N, \tag{3}$$

where β_i represents the output weight of the ELM model; $G(x)$ represents the excitation function of the ELM model;

$W_i = [w_{i1}, w_{i2}, \ldots, w_{in}]^T$ represents the input weight of the ELM model, and bi'' represents the bias of the i-th hidden layer node of ELM model.

The learning objective of ELM is to minimize the output error of the model, as shown in

$$\sum_{j=1}^{N} \left\| o_j - t_j \right\| = 0, \quad j = 1, 2, \ldots, N. \tag{4}$$

The combination of (3) and (4) means that b, W, and B $*$ exist, as shown in

$$\sum_{i=1}^{L} \beta_i g\left(W_i \cdot X_j + b_i\right) = t_j, \quad j = 1, 2, \ldots, N. \tag{5}$$

The matrix of (5) is

$$H\beta = T. \tag{6}$$

Here H represents the output of the hidden layer node of the ELM model. The ELM model's output weight matrix is represented by B:

$$H\left(W_1, \ldots, W_L, b_1, \ldots, b_L, X_1, \ldots, X_L\right) = \begin{bmatrix} g\left(w_1 x_1 + b_1\right) & \ldots & g\left(w_L x_1 + b_L\right) \\ \ldots & \ldots & \ldots \\ g\left(w_1 x_N + b_1\right) & \ldots & g\left(w_L x_N + b_L\right) \end{bmatrix}. \tag{7}$$

To minimize the training error b and W of the ELM model, there is a set of parameters as shown in

$$\left\| H\left(\widehat{W}_i, \widehat{b}_i\right)\widehat{\beta}_i - T \right\| = \min_{W,b,\beta} \left\| H\left(W_i, b_i\right)\beta_i - T \right\| = \sum_{j=1}^{N} \left(\sum_{i=1}^{L} \beta_i g\left(W_i X_j + b_i\right) - t_j \right)^2. \tag{8}$$

During the training of the ELM model, W and β are kept unchanged, and the least square solution of β is shown in

$$\min_{\beta} \left\| T - \beta^T H \right\|_2^2. \tag{9}$$

The least squares solution of (9) is in

$$\beta = \left(HH^T\right)^{-1} HH^T. \tag{10}$$

To effectively evaluate the efficacy of the ideological and political education status, follow the rating; price index selection is scientific, systematic, concise and objective, comprehensive, comparable, and have measurability of principle, to maximize the reflection and influence of each index, based on literature [6]. Construct an index system of ideological and political education effect. It mainly consists of three levels, target layer, criterion layer, and element layer. It contains five first-level evaluation indexes and 25 second-level evaluation indexes.

Taking into account the hidden layer bias selection, $b*$, the ELM model's initial input weight W is subjected to the CS algorithm and the selection of the hidden layer bias $b*$, and a CS-ELM-based evaluation approach for ideological and political education effect is provided. The goal function is depicted

$$\min F = \sqrt{\frac{\sum_{i=1}^{n} \left(y_i - o_i\right)^2}{n}}. \tag{11}$$

The variables y and O stand for expected and actual output, respectively.

3.2. Algorithm Flow. To begin, from the mentioned five characteristics, create an ideological and political teaching impact assessment index of basic quality, teaching perspective, teaching methods, teaching capability, and teaching effect, and then use expert scoring to acquire final scores for each evaluation index. With the help of the scores of each evaluation index as an input to CS-ELM and final scoring as CS—the output of the ELM, establish the CS-ELM model of ideological and political teaching effect. Expert assessment approach was used to determine each evaluation index's score as well as the overall score of ideological and political education effect evaluation. Each assessment index has a score of 1, 0.7, 0.5, 0.3, and 0.1, with corresponding ratings of excellent, good, medium, mediocre, and poor. The CS-ELM-based evaluation algorithm flow of ideological and political education influences in universities is described in full below.

Step 1. Read the data on the consequences of ideological and political education in colleges and universities. Then normalize it by dividing data into training and test sets.

Step 2. Determine the CS algorithm parameters: the number of nests is N, the maximum number of iterations is the likelihood of foreign birds' eggs being detected by the nest host, and compute all nest objective function values using (10).

Step3. Calculate the objective function value of the nest after the update and compare it to the objective function value before the update, and choose the nest with the greater objective function value as the current location.

Step4. Generate uniform analysis of the random number r, $r \in (0, 1)$. If $r < p$, using formula (2) to update the nest position, compute all nest objective function values and keep the nest position with the highest objective function value.

Step 5. Check to see whether the algorithm has finished. The historical optimum solution is saved if the termination condition is met. Return to Step 3 if necessary.

4. Empirical and Result in Analysis

In this section, the data sources, evaluation indicators, and result analysis are explained. It helps analyze the empirical data and extract the accurate result out of it. The explanation is as follows.

4.1. Data Sources. The data for this study originates from an evaluation of ideological and political education effects in a

Table 1: Score of ideological and political teaching effect evaluation index.

Index number	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
L	0.0254	0.0329	0.0455	0.0574	0.05	0.0609	0.0973	0.1064	0.1352	0.146S
2	0.1148	0.1219	0.1495	0.1693	0.1487	0.131	0.1794	0.1693	0.2059	0.2112
3	0.1657	0.1754	0.1797	0.1831	0.1896	0.1967	0.1976	0.2433	0.2542	0.2865
4	0.1621	0.1852	0.1953	0.1978	0.2043	0.2043	0.2471	0.2537	0.2612	0.2602
5	0.2193	0.2394	0.2156	0.1882	0.1663	0.1553	0.1571	0.1571	0.2777	0.2869
6	0.0486	0.0486	0.0535	0.0729	0.102	0.106	0.1312	0.1652	0.1846	0.1895
7	0.0362	0.0371	0.0429	0.0552	0.08o7	0.1097	0.1389	0.159s	0.175s	0.2181
8	0.0563	0.0557	0.0542	0.0688	0.082	0.0917	0.1033	0.1027	0.1133	0.1161
9	0.0337	0.051	0.0742	0.0701	0.0662	0.0757	0.0926	0.0943	0.0897	0.1024
10	0.06	0.0749	0.0606	0.0585	0.061i	0.0585	0.0585	0.0834	0.1116	0.1456
11	0.109g	0.1313	0.1214	0.1029	0.0426	0.0468	0.0601	0.071	0.0893	0.1139
12	0.0098	0.012	0.0154	0.0238	0.0359	0.0384	0.0518	0.0654	0.0879	0.1158

Table 2: Final score of ideological and political teaching effect evaluation.

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Score P	1.5432	2.5084	3.5151	3.5197	4.5396	4.6158	4.6935	4.8055	4.884	4.9947

Figure 4: Score of teaching effect evaluation index.

university from 2008 to 2017. It was standardized using the maximum value approach. The score data of the ideological and political teaching impact evaluation index. The score data of teaching effect evaluation are derived using the 1–9 scale technique by comparing each evaluation index pair-to-pair. Tables 1 and 2 provide the main score and ultimate points of each assessment index. In addition, to facilitate us observing the importance of an evaluation index, we use a radar chart to visualize the evaluation index in Table 1, and the results are shown in Figure 4.

4.2. Evaluation Indicators. As indicated in (12) and (13), respectively, to analyze the influence of ideological and political education in colleges and universities, the root mean square error (RMSE), the indicator used is correlation coefficient (R)

Table 3: Classification of evaluation grades.

The corresponding score	The evaluation results
[1.2, 5]	Very good
[2.4, 2.2]	Good
[3.5, 4.1]	General
[1.2, 3.5]	Poor
[1, 1.2]	Very poor

$$RMSE = \sqrt{\frac{1}{n}\sum_{k-1}^{n}\left(x_k - pred_k\right)^2}, \tag{12}$$

$$R = \frac{\sum_{k=1}^{n} x_k pred_k}{\sqrt{\sum_{k=1}^{n} x_k{}^2}\sqrt{\sum_{k=1}^{n} pred_k{}^2}}. \tag{13}$$

The number of samples is denoted by the letter n.

4.3. Result Analysis. Ideological and political classroom teaching impacts at colleges and universities are graded as follows: very excellent, good, medium, bad, and very poor. According to the literature [12, 13], Table 3 displays the assessment grade.

From 2008 to 2017, expert scoring yielded ten sets of data. A training set of assessment data from 2008 to 2013 was utilized, and a test set of evaluation data from 2014 to 2017 was employed. The CS-ELM assessment model of ideological and political teaching effect was built using the training set data. The CS-ELM assessment model of ideological and political teaching effect in colleges and universities is tested using the test set data. The benefits of the CS-ELM ideological and political teaching effect evaluation model in colleges and universities were compared to PSO-ELM, GA-ELM, and ELM. Table 4 explains the parameter settings.

Figure 5 and Table 5 demonstrate the assessment findings of ideological and political teaching impacts in colleges

Table 4: Algorithm parameter settings.

Evaluation model	Parameter settings
CS-ELM	Population size $M = 10$, maximum iteration times $T = 100$, discovery probability PR = 0.25, optimization variable range [−1, 1].
PSO-ELM	Particle swarm optimization algorithm (PS): population size 10, maximum iteration 100, learning factor $C1 = 2 = 2$ inertia weight $W = 0.2$.
GA-ELM	Genetic algorithm (GA): population size is 20, maximum iteration number is 200.
ELM	Hidden_num = 30

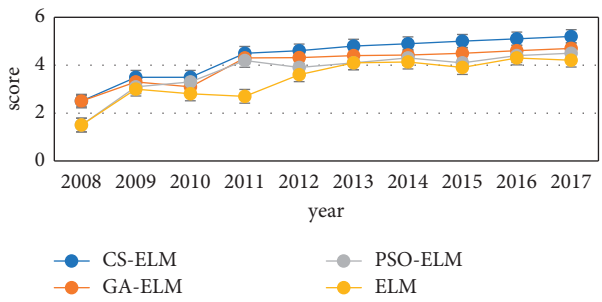

Figure 5: Evaluation results.

Table 5: Comparison of evaluation results.

Methods	Train set		Test set	
	RMSE	R	RMSE	R
CS-ELM	0.008	0.996	0.037	0.989
A-EIM	0.0l6	0.978	0.039	0.972
PSO-ELM	0.017	0.977	0.047	0.967
ELM	0.02	0.963	0.056	0.914

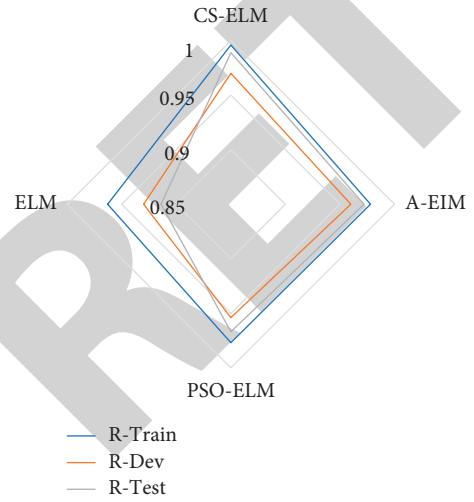

Figure 6: Comparison of evaluation results.

and universities. In addition, the experimental data in Table 5 are represented by a radar diagram, and the findings are shown in Figure 6.

According to the evaluation results of ideological and political teaching effect in colleges and universities, it can be seen that

(i) Using the CS-ELM, the overall evaluation of ideological and political teaching effect in colleges and universities is the best. So, the evaluation effect of ideological and political teaching effect in colleges and universities using the CS-ELM model is the best.

(ii) CS-ELM, GA-ELM, and PSO-ELM have higher assessment accuracy than T.

(iii) The evaluation accuracy of CS-ELM.

5. Conclusion

Android applications are extensively utilized in portable mobile devices such as tablet computers and mobile phones, in response to current online course resources. This study develops a mobile teaching system of ideological and political online courses supported by Android applications. Students may agree that the system explored in this study can successfully enhance the learning mode and improve learning efficiency when implemented to the ideological and political online course. This course's general theory teaching has effectively achieved comprehensive mobile learning and distant teaching, allowing the course's teaching to focus on practical teaching, fostering modern teaching innovation and growth. The teaching resource for the Android platform of the mobile client system was used to create and implement this work. It significantly boosts pupils' motivation to learn. At the same time, it also appeared as the interaction between teachers and students, pushing some aspects such as inadequate. To accelerate the development of mobile applications, this paper uses C/S architecture to develop a mobile teaching system that addresses the problem of rigid content and time in traditional ideological and political teaching. It is built on open-source Android technology and solves the issue of inflexible content and time constraints in traditional ideological and political education. The system is dedicated to the teaching of the course, with registration and login, notice and announcement, course information release, questions and answers, teaching resources display, and other functions. The system works well and performs properly once the majority of teachers and students put it to the test.

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 no conflicts of interest.

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