

Retraction

Retracted: The Innovation of Blended Teaching Mode of College English in Mobile Network Environment

Mathematical Problems in Engineering

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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] Y. Ren, "The Innovation of Blended Teaching Mode of College English in Mobile Network Environment," *Mathematical Problems in Engineering*, vol. 2022, Article ID 4152884, 6 pages, 2022.

Research Article

The Innovation of Blended Teaching Mode of College English in Mobile Network Environment

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With the rapid development of economic globalization, a new type of mobile learning mode has emerged. Currently, the life of contemporary college students is inseparable from cell phones and computers, and such electronic devices are considered the important medium of mobile learning in the second classroom. In the process of education reform and “Internet +” integration, the blended teaching mode relying on the mobile network environment is favored by college English teachers. Furthermore, to improve the quality of English teaching, English teachers use the flipped classroom format to fully integrate the traditional classroom with online courses. In such format, a comprehensive, diversified assessment and evaluation system is built effectively. Specifically, starting from the current situation of college English teaching, the article analyzes and researches the flipped classroom hybrid teaching mode in four aspects to provide reference values for related scholars. Considering mentioned characteristics and advantages, the necessity and feasibility of adopting mobile learning mode in the second classroom teaching of college English are analyzed in this paper. Meanwhile, the application mode of specific devices for better learning is considered for better learning.

1. Introduction

Mobile learning, also known as M-learning, is extremely widely used in the second classroom and is a new mode of education that has received much attention around the world. Mobile learning is a learning mode based on mobile terminals and computer technology, which allows students to learn in various modes anytime and anywhere [1]. Nowadays, many countries have tried such teaching mode and people are more and more enthusiastic about learning English. China is paying more and more attention to English teaching for college students, so the application of mobile teaching in the second classroom is extremely important [2].

English teaching is an important channel to provide skilled talents for national development, and as domestic enterprises gradually step out of the country, they put forward higher requirements for talent cultivation in universities and colleges, and good English literacy is an important part of the higher requirements. However, it is more

difficult for university students to develop English literacy than undergraduate students [3]. The English learning of university students is characterized by weak foundation, poor learning attitude, low interest in learning, and poor learning ability, and the phenomenon of “dumb English” is common. Although university students have studied English for six years before entering university, the learning effect is not very satisfactory [4]. The reasons for this are that some of the traditional teaching methods of “duck and fill” are not up to date with the development of the times and the needs of students, and some of the English classroom teaching strategies and methods are still backward after entering university, and the evaluation system is relatively single, so it is urgent to reform English teaching in university. On the other hand, university students are quick to accept new things, are active in mobile Internet, and rely strongly on smartphones [5, 6]. In response to these situations, university teachers are actively exploring ways and means to improve the quality of English teaching, and with the advent of the era of information-based teaching and the widespread

use of smartphones, blended teaching based on mobile network environment is one of the more effective ways.

Compared with traditional offline teaching, online teaching is not limited in time, space, content, and form. Therefore, teachers can combine students' preferences in using mobile Internet and learn from the experience of other industries in using mobile Internet to attract customers and design online teaching methods that meet the learning rules of university students. For example, teachers can combine course contents and requirements to create teaching videos or use teaching contents in the form of web videos, Word, PPT, etc. for online teaching to build a high-quality hybrid teaching mode. For example, based on students' favorite mobile Internet topics such as microblogging topics, teachers can build English learning interest groups with the help of self-media channels such as WeChat to bring English into students' online lives [7, 8]. Overall, under the goal of cultivating students' English literacy, it is necessary to deeply analyze the role of mobile Internet in English teaching. Mobile Internet can be used to solve numerous problems that exist in traditional teaching and improve the quality of teaching.

2. Innovation of Blended Teaching Mode of College English in Mobile Network Environment

2.1. Rational Design of Teaching Contents Based on Mobile Network Foundation. In college English teaching, the weak English foundation of students has always been a difficult point of teaching and a major causal factor that hinders English teachers from improving the quality of teaching [9]. In the offline classroom, due to the limitation of teaching time and teachers' energy, only uniform teaching contents can be designed, and differentiated teaching methods are more difficult to implement in reality. In the flipped classroom hybrid teaching mode, teachers can reasonably design teaching contents and realize differentiated teaching through the cooperation of online and offline classrooms.

In teaching practice, English teachers should make full use of the convenience of online courses and arrange most basic as well as moderately difficult English knowledge. For example, upload the classroom objectives and tasks to the class English QQ group or online learning platform as Word files in advance [10]. Then, we make microlesson videos with different types and levels of difficulty for students to choose according to their learning objectives and their own learning ability, so as to improve the quality and efficiency of students' self-study before class. Another example is that for teaching chapter grammar points, two videos need to be made. The first video is longer and rich in content, and the teacher's explanation process is detailed, which is suitable for students with poor understanding; the second video is faster and focuses on knowledge expansion and practical application, which is suitable for students with strong learning ability. For the offline course, English teachers can focus on designing important and difficult teaching activities as well as practical activities in order to improve students' self-learning effect and promote the development of their

practical skills. In general, the content of online courses should be basic and moderately difficult, while offline courses should focus on practical activities and difficult content [11]. In order to make good use of the advantages of the flipped classroom, we need English teachers to participate in the design and production of the online videos, so as to lay a good foundation for the offline classroom and improve students' performance.

2.2. Overview of Smartphone-Based Mobile Learning Models. Smartphone-based mobile learning mode is mainly supported by mobile computing devices to play dynamic knowledge content. It can provide an effective channel for information interaction between university English teaching staff and learners. At present, the smartphone-based mobile learning mode mainly involves information interaction in the 4G network environment, including interactive SMS-based learning mode, regional wireless network-based learning mode, and WAP website-based learning mode [12]. With the increasing popularity of smartphones, the mobile learning mode based on regional wireless network has become the main auxiliary learning mode in college English education.

The unique advantage of smartphone-based mobile learning mode is that the learning environment is mobile. In the mobile learning environment, students of various majors can break through the space limitation and choose the courses and teaching staff they are interested in, thus increasing their interest in learning English skills and theoretical knowledge and ensuring the effect of English teaching.

Smartphones have the functions of sending and receiving short messages, audio and video connections, sending and receiving emails, etc. High school learners can customize the learning content according to their own situation. They can also interact with class students and teaching staff to ensure the effective resolution of learning confusion and improve teaching effectiveness [13].

In the smartphone-based mobile learning mode, English education teachers can integrate theoretical concept knowledge into 3D learning situations and thus reduce the influence of real conditions on the teaching context.

3. Smartphone Mobile Learning Platform Construction in English Education of Colleges and Universities

3.1. Theoretical Basis. According to the social cognitive learning theory, learning is the whole process of knowledge acquisition and information interaction of learners. At the same time, according to the free learning theory, learning can be regarded as a learner-led process in which students construct their own knowledge system. In this process, the teaching staff is the main provider of the environment or teaching conditions and is also a secondary determinant of the effectiveness and quality of learning [14]. The learner's tendency to learn independently is the main determinant of the learning effect. The smartphone-based mobile learning

process is a process in which college learners take the initiative to explore English knowledge and master English skills and form the awareness of English learning. The smartphone-based mobile learning mode has excellent features such as individual choice, rich interaction, contextual relevance, and convenience. It provides an effective basis for the development of dynamic English education in colleges and universities.

3.2. System Architecture Design. Since there are many brands and operating systems of touch-screen smartphones, we developed corresponding applications for several mainstream operating systems and then designed and produced a WAP website for smartphone operating habits [15], which can be easily accessed by users of the remaining cell phone systems using mobile browsers such as UC. This can fully solve the problem of accessing the system by cell phones with different brand systems. The specific system structure framework is shown in Figure 1.

The system mainly includes several types of users such as visitors, students, teachers, and so on. The specific functions are as follows.

Browse news notifications: visitors can browse news notifications and use keywords to search for news notifications after entering the website. **Download public resources:** visitors can browse public resources on the resource download page and use keywords to search for public resources. **Query teacher schedule:** visitors can query teachers by college and specific information about the courses they are taking.

Personal information management: students can view and modify their information and account password after logging in. **Student course management module:** after logging in, students can view class information by week and by course name as well as view exam schedules and final grades for individual courses. **Course resource management:** students can browse and download the uploaded courseware and review materials from teachers [16]. **Course assignment management:** students can view the assignment information of this course by course on their cell phones. **Course question and answer management:** students can view questions from other students in the course and the instructor's responses and can edit or delete their own questions that have not yet been answered by the instructor.

Personal information management: after logging in, teachers can view and modify their own information and account passwords. **Teacher course management:** after logging in, teachers can view the class information of their courses by week and course name, as well as the examination schedule of a single course, the list of students in that course, and the final grades of students. **Course student management:** teachers can check the list of available students by course and check the details of individual students by student number [17].

Course resource management: teachers can upload, browse, delete, and download class materials and review materials. **Course assignment management:** teachers can browse and view the information of their assignments by course on the cell phone and can also publish, modify, and delete assignments on the management side. **Course question and answer management:** teachers can view the questions asked by students and their own responses and can respond to questions, modify responses, delete questions, and perform other operations.

3.3. Implementation of the System. The system adopts SSH architecture based on the MVC model to realize the teaching information service system of cell phone client, including the functions of public resource information based on common users, teaching information management based on teachers and teaching information service based on students, etc. The system interface is shown in Figure 2.

The next thing we will talk about is the overall framework design of the system. In general, its architecture can be seen below. Specifically, the firewall separates the intranet from the extranet. This is safer for the application servers because in this case the system is less likely to be attacked. If the administrator wants to manage the system via an external network, VPN virtual private channel is a good way, but it should be clear that the access to this feature is not for everyone, but for specific users [18].

We will explain more about the above diagram. As we can see from the above diagram, for the gateway, we use the enterprise level, and regarding its features, we have the following specifically.

It can support standard SNMPv3 and is compatible with SNMP v2c and also supports NTP synchronization and remote configuration by Web, and the gateway protocol we use is SNMP/TR-069 network management protocol to manage the device with the help of H3C SecCenter.

With the help of VPN, we can protect against viruses, upgrade services through URL filtering feature library, upgrade IPS services, and audit and control user behavior. The system has a rich PC-side hierarchy, which can be seen in Figure 3.

Below we will explain the above diagram in detail. First of all, the top part of the diagram is the web client; specifically it is a view, whose role is to present the relevant business logic and data to the user. At the same time, the data are submitted to the server. Next is the Servlet layer, whose function is to assign operations to the client's requests, which are then processed by the appropriate program. We can also monitor the system with the help of logs and transaction files. With the help of Hibernate, the DAO layer can perform the persistence operations and then control the DBMS.

4. Mobile Learning Applications and Effects

4.1. Research Subjects and Methods. In this paper, the effect of the application of mobile learning mode based on smartphone was investigated by using questionnaire survey,

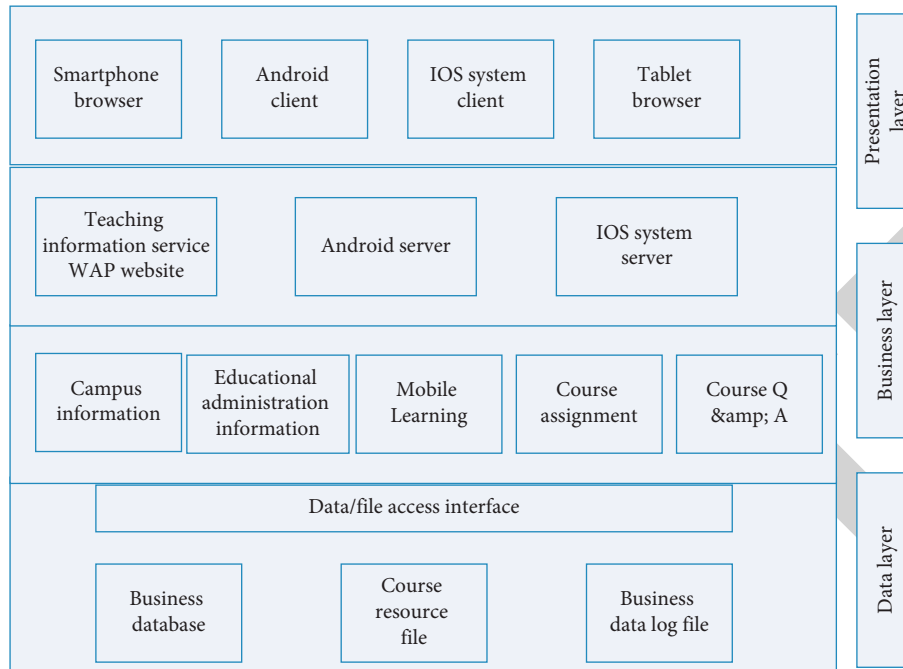


FIGURE 1: System logical framework diagram.

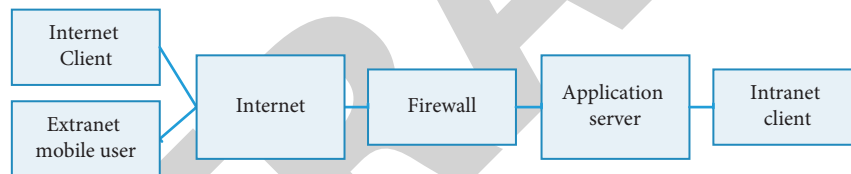


FIGURE 2: Network architecture of academic affairs management system.

mathematical statistics, and experimental investigation method, taking students of our school as the research object [6].

In the specific experimental process, 100 students in the class of 2017 were taken as the research subjects, and the overall experimental subjects were divided into two groups by using the random assignment of the rand function in Excel, and the control group students used the traditional lecture, demonstration, and model practice, while the experimental group students used the mobile teaching method based on smartphones. The data were finally statistically processed using SPSS18.0.

4.2. Analysis of Study Results. According to the preliminary statistical results, through the application of smartphone-based mobile learning mode, students in the experimental group have a strong interest in learning badminton skills. The students in the experimental group adopt the mobile learning mode. The students can use electronic devices to learn anytime and anywhere in the second classroom. The learning results are shown in Figure 4. This mode makes the students learning easier and faster, and students can choose the instructor, time, and place of instruction online.

Students can not only communicate with the service terminal for learning but also communicate and discuss with learners who share the same hobby through the Internet. This way of learning fulfills the need for students to communicate with the outside world and enriches their learning life to a great extent. Mobile learning is easy, fast, and popular, so students are not confined to the classroom. They can study independently through the Internet and can use the scattered time outside the classroom to learn English, and their grades grow at the rate shown in Figure 5. The second classroom has a complementary effect on students' learning, and this fragmented learning mode is feasible. The second classroom allows students to rationalize their time and learn about the cultures of other countries. These cultures from other countries are very helpful to students' learning and growth, and learning about other cultures can enrich students' English knowledge.

Installing English learning apps on each student's cell phone can make it easier for students to learn. It is easy to operate and does not take up too much space on the cell phone, such as HelloTalk English APP. As shown in Figure 6, during the development of smartphone-based mobile learning mode, with the continuous enrichment of mobile learning resources and the increasing functions of

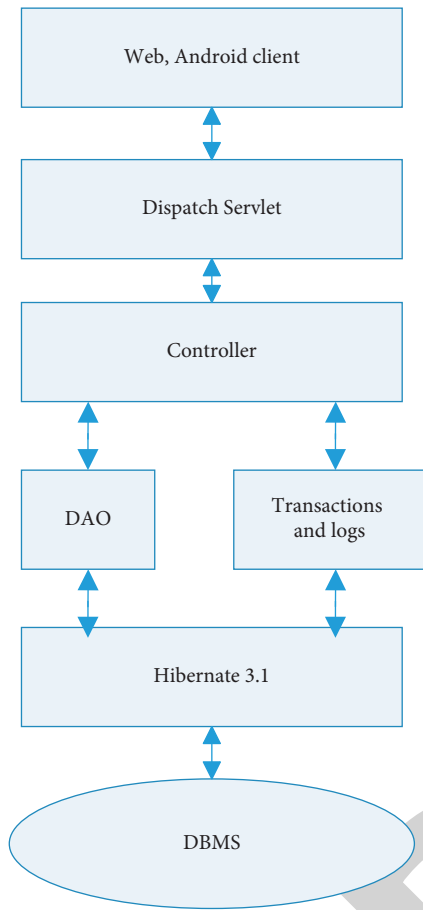


FIGURE 3: System software hierarchy diagram.

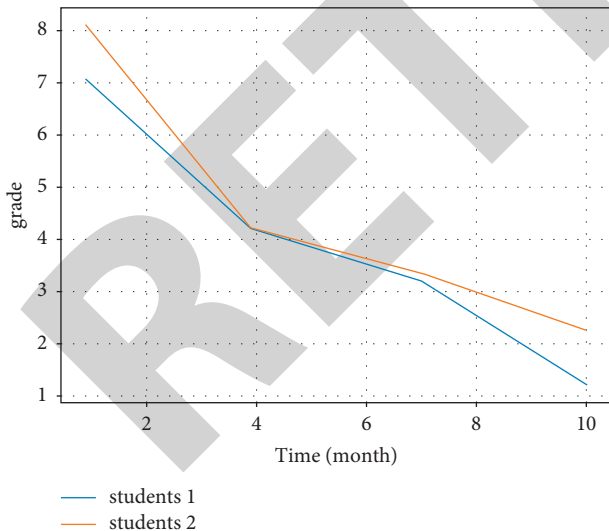


FIGURE 4: Growth in performance over time.

smartphones, the smartphone-based mobile learning mode will be detached from the education mode mainly for supplementary teaching and will become the main tool for teaching English education courses in colleges and universities.

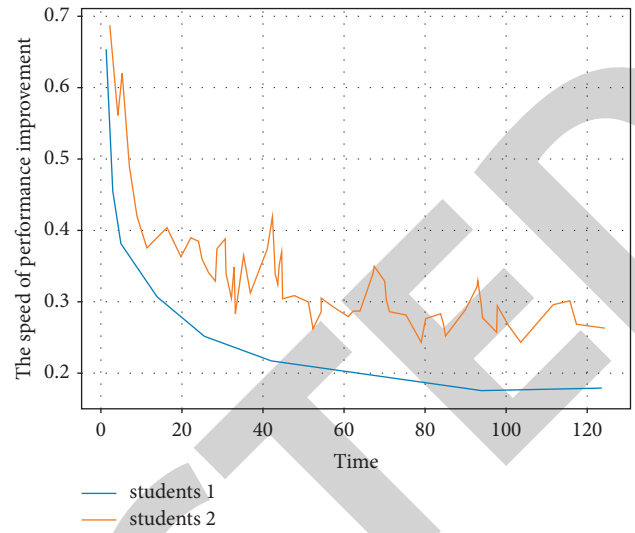


FIGURE 5: Growth rate of achievement of different students.

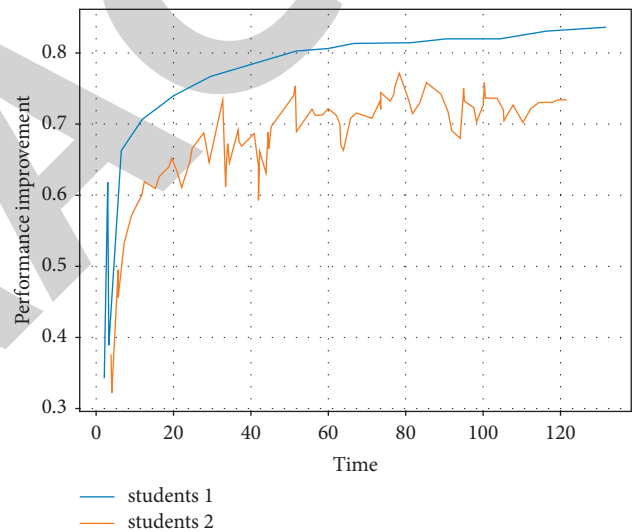


FIGURE 6: Effect of guided learning for different students.

5. Conclusions

In general, with the rapid development of mobile communication technology, smartphones have been widely used to achieve a mobile learning mode for English education teaching courses in colleges and universities. Therefore, the English education personnel of each university can make a reasonable use of smartphones and school networks based on smartphones in terms of mobile teaching mode, mobile teaching content, mobile teaching evaluation, and mobile teaching points. Finally, the effect of English education and the English fitness level of students from different majors are improved effectively.

Data Availability

The dataset used in this paper is available from the corresponding author upon request.

Conflicts of Interest

The author declares that there are no conflicts of interest regarding this work.

Acknowledgments

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