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Retraction

Retracted: Strategy Analysis of Wireless Internet of Things Technology in College English Teaching

Wireless Communications and Mobile Computing

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Wireless Communications and Mobile Computing has retracted the article titled "Strategy Analysis of Wireless Internet of Things Technology in College English Teaching" [1] due to concerns that the peer review process has been compromised.

Following an investigation conducted by the Hindawi Research Integrity team [2], significant concerns were identified with the peer reviewers assigned to this article; the investigation has concluded that the peer review process was compromised. We therefore can no longer trust the peer review process and the article is being retracted with the agreement of the Chief Editor.

References

[1] Q. Huang, "Strategy analysis of wireless internet of things Technology in College English Teaching," *Wireless Communications and Mobile Computing*, vol. 2022, Article ID 1516378, 13 pages, 2022.

[2] L. Ferguson, "Advancing Research Integrity Collaboratively and with Vigour," 2022, https://www.hindawi.com/post/advancing-research-integrity-collaboratively-and-vigour/.

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Research Article

Strategy Analysis of Wireless Internet of Things Technology in College English Teaching

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The results of the enormous use of physical network security know-how in a wide range of fields are already visible in traffic, healthcare, logistics, and other important areas. According to the data obtained from the questionnaire, 56.16% of the students believe that the current teaching progress is relatively fast, while the students themselves are poor in learning, and they hope that teachers will adopt differentiated teaching. Through the Internet of Things technology, teaching methods, teaching resources, high-quality teachers, and other related resources are integrated to form an open teaching environment. It focuses on bringing together in one place via object network of things information about special topics such as international teachers, current methods of living and popular ways of knowing foreign cultures, and lessons taught in particular institutions, which is conducive to cultivating students' autonomous learning ability and learning thinking. Through RFID technology, it is transmitted to data information, processing system, or physical environment to realize the interconnection and interoperability of the Internet of Things era. No matter where, when, or what objects can communicate smoothly, teaching can be worry-free.

1. Introduction

With the continuous integration and penetration of IoT technology and other information technologies, IoT technology has evolved from an isolated application to a new model of "focusing on and cross-border integration." For the current students' inefficiency in learning English by rote memorization, formal English, low learning motivation, and other bad situations cannot be changed by relying on the teaching level of teachers. Countries around the world are showing increasing interest in the Internet of Things (IoT). As the key technology of the perception layer of the Internet of Things, RFID has made great progress in terms of technical level and application scale. By attaching RFID tags to specific target entities, such as products, animals, and people, the reader can realize the identification and data collection of specific target entities without direct contact with the target entities. At present, college English teaching is faced with factors such as low teaching quality, lack of attractiveness to students, and high threshold for introducing teachers in colleges and universities, resulting in a shortage of teachers and the resulting lack of teaching ability. The nature and connotation of the innovation of Internet of things television and information security systems are under the guidance of modern theory of learning and teaching overseas cultures. In the process of instruction of university English, computer network technology is employed scientifically to integrate various teaching resources and teaching elements, to fully raise the college English learning quality to realize the eventual target of its reform.

Education is indispensable for the sustainable development of a country. Education is the driving force of social progress, and the Internet of Things is a development trend based on computing and communication technology. Through the openness of the RFID application environment and its position in the entire Internet of Things, as well as its insurmountable limitations and requirements in application development, in the teaching and learning process, as well as in the design, development, use, management, and evaluation of resources, it is the key to improve the way of cultivating talents and cultivate students' autonomous learning ability and learning thinking.

2. Related Work

The Internet of Things is the development trend of information technology in the future, with the characteristics of multinetwork integration and interconnection. Ni reviewed the structure and features of mist mining with the focus on the crucial functions of mist junction consisting of live streaming services, instantaneous storage, data dissemination, and decentralized computing. He also studied mist-assisted Web of Things in accordance with the different roles of fog nodes and thereafter proposed information on the threats to safety and stability of Web of Things solutions [1]. Rajiv discusses the research challenges associated with designing a new IoT programming paradigm. This paradigm is used to orchestrate the composition of in-thing systems and the treatment of information across heterogeneous telecommunication infrastructures (clock, border line, and object) [2]. He is the pioneer in taking strong research into strong knowledge of things to the end of the world and a pioneering researcher in introducing strong knowledge of things to the Internet and in designing a novel offloading strategy to optimize the behavior of IoT super learning solutions through the end of the world. The evaluation results show that the method outperforms other optimization solutions in IoT deep learning [3]. Yu discussed a new paradigm for addressing IoT and localized computing needs, a strategy for easing resource congestion upgrades. Compared to the well-known cloud computing, edge computing migrates data computing or storage to the network "edge" which is closer to the end user [4]. Lin investigated with the help of a collaborative jammer a secure downlink transmission from the controller to the actuator against multiple passive and non-coexisting eavesdroppers. Several values obtained verify that such a device could improve security (with respect to SOP) as well as performance in terms of energy and power usage [5]. Cai proposed a method for localization based on sensor-based acoustic wave RFI (SAW-RFID) and completed the field test of the actual underground soil environment. The performance and advantages of SAW-RFID in localization have been verified [6]. Mai delves into how university instructors of teaching English as a second language (ELT) frame and conduct the study and deals with issues related to professional concepts [7]. With the newly proposed framework of the L2 motivational ego model, Liu explored the L2 motivational ego of English majors in China. One hundred and one students of English from a renowned Peking-based institution responded to a research survey and 15 of them responded to an ongoing interview for this current study [8]. Allum analyzed the difference between what teachers say to motivate students in Korean universities and what students say motivates them. Using the motivational constructs developed by Bandura and Maslow in previous motivational research, it was determined that both teachers and students believe that teacher characteristics are the most important variable in motivating students, even more important than students' own intrinsic motivation [9]. Yang proposed a collaborative AmBC- (CABC-) based model in which the reader can recover message either directly as well as indirectly as an RF signal from the A-BD. In the case of freq selective decay signals, he suggested a CABC system model for ambient orthogonal spectrum split division multiplexing (OFDM) operators and derived the best ML tester with reduced flexibility based on this [10]. These studies are instructive to a certain extent, but the studies are too single and can be further improved.

3. Wireless Internet of Things Technology and College English Teaching

3.1. Wireless IoT Technology. Network of objects is a system that connects all objects to the Web by means of communication devices like radio frequency ID (RFID) to enable smart detection and control. With the development of modern technology and applications, the connotation and extension of the Internet of Things have undergone great changes [11]. All objects in the world can actively exchange information through communication networks, and radio frequency identification technology, nanotechnology, sensor technology, and intelligent embedded technology will be more widely used. From this, the term Web of Things (IoT) is thus broadly described as a network that enables intelligent object recognition, location, tracking, monitoring, and management by connecting any object to the Internet and exchanging and communicating information according to an agreed protocol through information sensing devices such as radio frequency identification (RFID), laser scanners, infrared sensors, and global positioning systems (GPS) [12]. The topology block diagram of IoT implementation is given in Figure 1.

In the IoT system architecture, RFID labels are used to hold standardized as well as fully operable pieces of knowledge. They are picked up to a central message system by a mobile computer through a linear data traffic network for item identification, and then, the items are managed "transparently" through an open computer network for data exchange and sharing [13].

The key to the realization of the Internet of Things lies in the common development and combined application of technologies such as RFID, sensors, embedded software, and data transmission computing [14]. In order to better understand the concept and characteristics of the Internet of Things, the basic characteristics of the Internet of Things and the Internet are compared, as shown in Table 1.

It can be clearly seen from the table that the Internet of Things is different and related to the Internet. The Internet of Things is a more advanced technological product built on the Internet. Their similarities are as follows: the information collection methods are all digital networks, that is, their technical foundations are the same, and they are all based on packet data technology. The difference between the Internet of Things and the Internet is that the main body of the connection of things, the information transmission processing, the network organization form, etc. are all different. The Internet is a network regardless of the protocols and technologies used, and it does not have strict requirements on trustworthiness, controllability, and manageability [15]. However, the Internet of Things is just different. It has very high requirements on the network and has clear requirements for security, real-time performance, and resource sharing. So from these aspects, they are very different.

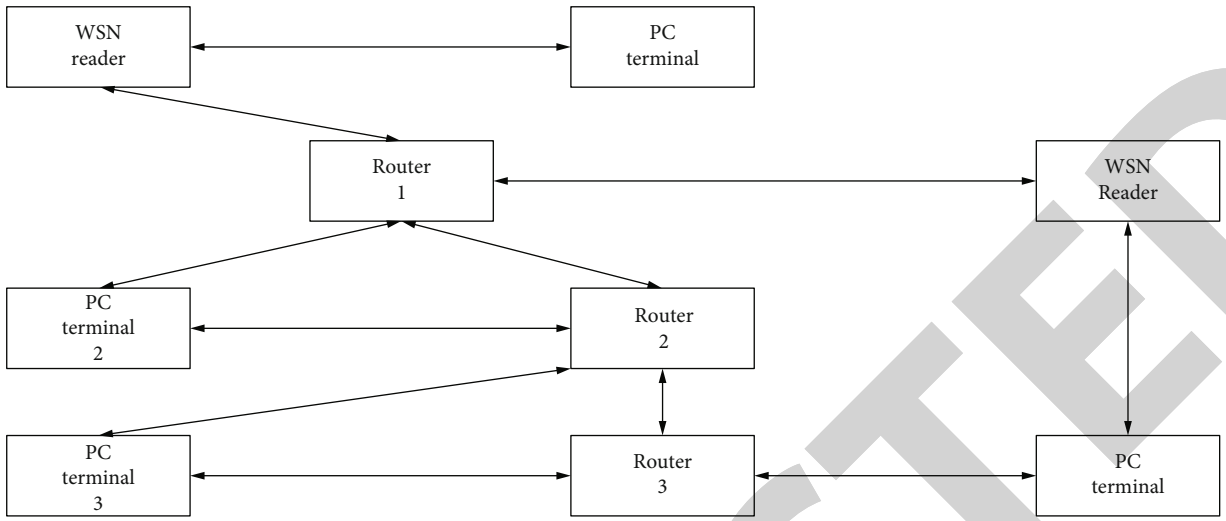

Figure 1: IoT application topology block diagram.

Table 1: Basic characteristics comparison between IoT and Internet.

	Connection body	Information transmission	Information collection	Information processing	The state of network society
Internet of Things	People and things, things and things	Automatic	Network digitization	Intelligent	Reality
Internet	People and people	Manual	Network digitization	Exchange	Virtual

The structure of the Internet of Things can be clearly seen in Figure 2. The lowest layer of the Internet of Things is the perception layer, which enables the physical world in which it is located to realize the comprehensive interconnection between people and people and between people and things. RFID is a type of technology for automatic recognition and data collection. In RFID-based systems, tags have incredibly finite computing and storage capabilities, while readers have similarly finite computing and storage capabilities, but they are far greater compared to labels. Using RFID technology, wireless sensor technology, electronic two-dimensional code, and other equipment collect data on items and the surrounding environment. Then, it obtains the information and knowledge that users are interested in through these basic data and completes the cognition and identification of the real physical world.

Realizing the connection between things is the most essential technical feature of the Internet of Things. The information collected by practical sensors must ensure the accuracy and integrity of the information. The Internet of Things classifies, manages, and analyzes the real-time collected data information of objects (commodities) through different transmission methods such as active and passive and then transmits it to the data information processing system or physical environment accurately and reliably, to realize the interconnection and interoperability of the Internet of Things era: no matter where, when, or what objects can communicate smoothly.

The Internet of Things was quickly revolutionizing everyone's lifestyle, not least because it was driving the emergence of a digital web as a modern ecosystem of shared information and mobile access. It expands the mobile communication business into a comprehensive service system of comprehensive perception and transmission. Smart web services enabled by the IoT will also be incorporated into everyday life at the workplace and at school.

Regarding faculty, a series of studies have been carried out by academics on the role that faculty should play in the pedagogical reform model [16]. Teachers have changed from traditional knowledge transmitters to curriculum designers, task managers and evaluators, learners' partners, mentors, and facilitators. Teachers teach through the Internet of Things model, which is conducive to teachers' discussion of teaching methods, understanding of general students' learning psychology, and prescriptive medicine and also conducive to academic research.

Regarding learners, pupil characters as well as self-directed learning with a learner-centered approach are key elements of the pedagogical reform model [17]. Currently, college graduates have a favorable opinion about the new instructional paradigm, which facilitates the smooth implementation of independent learning. Pupils are equipped with fundamental levels of computer literacy; however, the pupils depart from the required learning strategies, particularly in terms of metal cognitive skills and independent learning skills [18]. Using the Internet of Things teaching method can bring students to a better learning environment so that they can get a more systematic and comprehensive teaching plan. It can assist students in learning and improve learning interest and academic performance.

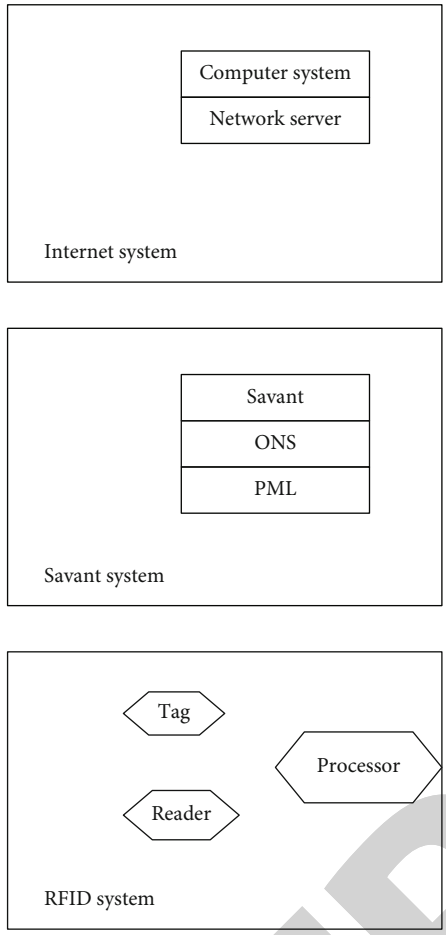

Figure 2: IoT architecture.

Regarding building a culture for linguistic training, the locale is crucial to studying a particular language. Thus, qualified institutions of higher education need to create a good English learning environment by building a local network platform for exchanging, studying, and working in an entirely electric field. Design of the online language setting needs to utilize the features of the Internet to reflect independence and individuality of students and carry out research on teaching evaluation and testing for the purpose of realizing students' knowledge construction [19].

Formative assessment should be adopted in college English teaching under the current network environment [20]. Formative assessment can not only comprehensively examine students' learning process, learning strategies, learning attitudes, learning interests, and emotions but also give full play to students' subjectivity and cultivate students' autonomous learning and cooperative learning ability. Some scholars have conducted research on evaluation systems and model systems in different fields of college English teaching and explored the scoring behavior.

College English teaching under the ecological environment system can only achieve healthy development when the relationship between the four factors of teachers, students, teaching media, and teaching content reaches a dynamic balance [21]. The development of network technology to this day has provided a platform for the reform of the education model. The introduction of the network into the education ecology is undoubtedly of great theoretical and practical significance.

The campus teaching platform built by School A utilizing technology revolutionizes what teachers teach during class and by guiding pupils to use it, it cultivates good habits of independent learning and transforms the previous passive teaching towards independent instruction. And by learning on the learning experience on the web-based teaching system, pupils alter their way of learning, increase their interest in learning English, and improve their attendance in English lessons. So they liked English classes and improved their comprehensive English ability. Learn voluntarily from reactive hearing in class to taking the initiative before. During and after class, it has completely changed the college English teaching mode of the teaching reform practice class in School A.

After finishing the teaching reform practice, in order to fully understand the students' attitude towards the English teaching reform and their interest in learning English after the reform, the author once again conducted a questionnaire to the teaching class. The survey is as follows: survey object: 100 students were randomly selected from a university campus; questionnaire survey method survey analysis: after the reform of English teaching, students use the questionnaire of the online teaching platform to conduct surveys. This questionnaire contains 20 questions. The main question is what obvious changes have been made by each class in the students' attitude towards English learning and confidence in learning English well after the basic English course teaching based on the network platform and what are the better suggestions for teaching reform. A total of 100 questionnaires were distributed in this survey, and 89 were returned. After excluding 2 unqualified questionnaires, there were 87 valid questionnaires, accounting for 87% of the total questionnaires issued. The results are shown in Figure 3.

In the aspect of English achievement improvement, 32.19% of the students reported that their English achievement has been greatly improved, 44.52% of the students reported an improvement than before, and only 12.32% of the students came to the conclusion that there was no change. In the question of which aspect of English has the most obvious improvement through the learning of the new teaching mode, 69.17% of the students chose listening and translation to improve significantly. The biggest difference in the original teaching mode is that 36.2% of the students proposed to increase the application of online teaching. Combined, nearly 70% of students believe that through teaching reform, on the one hand, the original teaching mode has been changed, on the other hand, the ability of students to learn by themselves has been enhanced, and the good habit of self-study has been cultivated. Areas to be improved in teaching: 56.16% of the students believe that the current teaching progress is relatively fast, while the students themselves are poor in their own learning, and they hope that teachers will adopt differentiated teaching.

Whether there is a causal relationship between factors such as teaching interaction and results such as learning value, there are obvious results in Figure 4. Regarding the

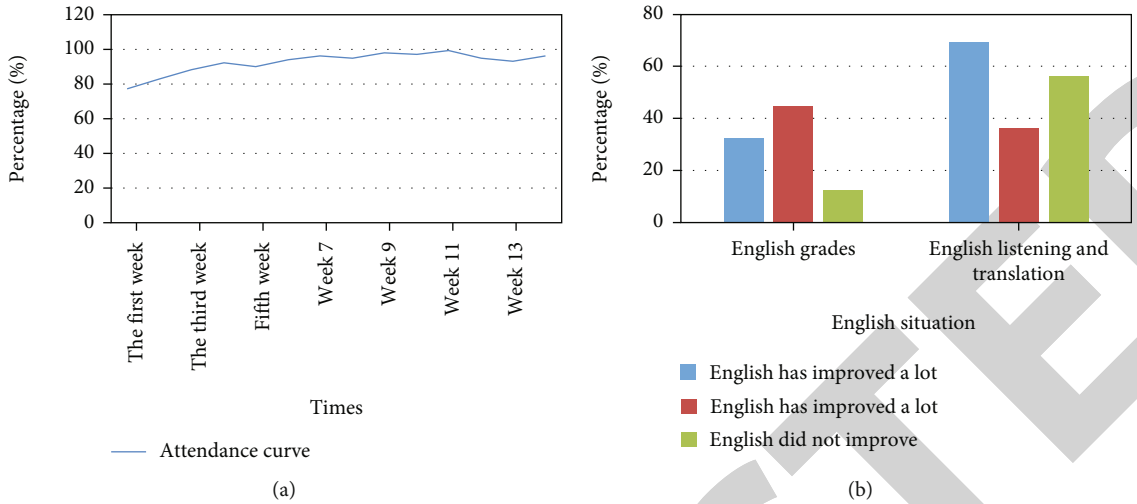

Figure 3: The attendance rate and English performance of the students in the questionnaire.

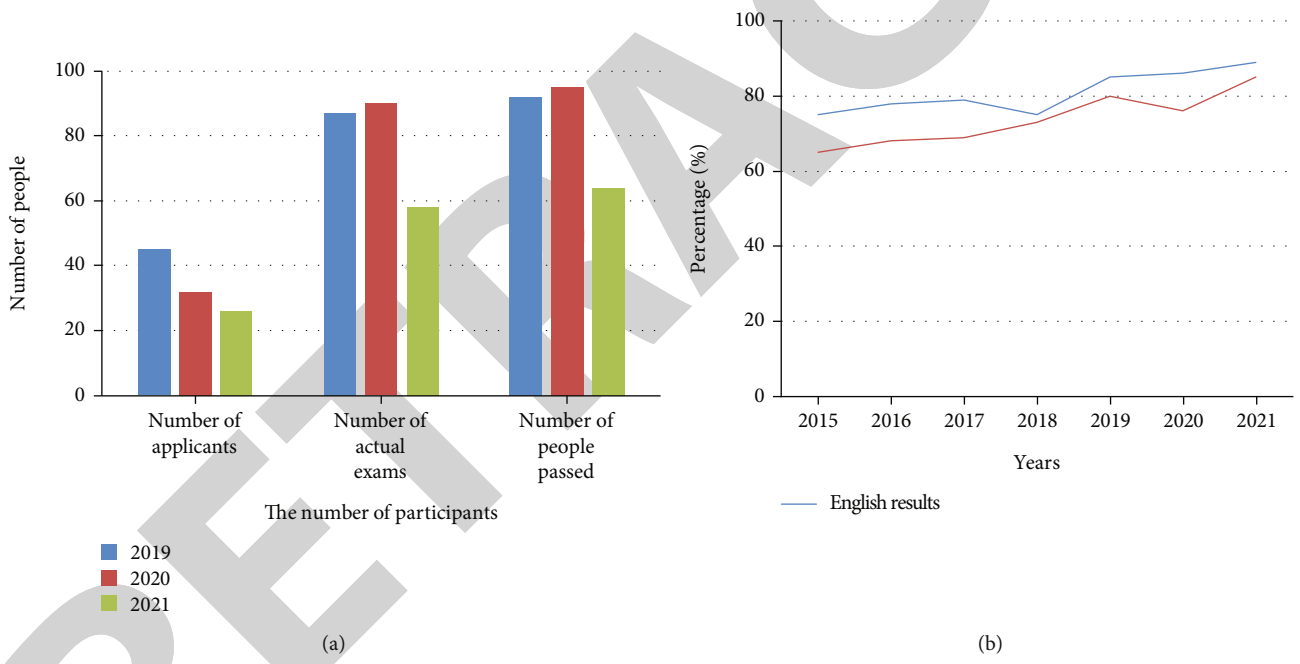

Figure 4: CET 4 after the teaching reform.

requirement of strengthening pupil's skills in hearing and writing, the formation of pupils' English listening and speaking skills is of great importance to the country's overall growth, the progress of society, and the improvement of the international competitiveness of talents. Therefore, it is imperative to develop students' English language skills in hearing and talking. However, we cannot just focus on improving students' listening and speaking skills, while neglecting the development of reading and the training as a writer. The overall task of this course is to develop the four skills of language skills: English, spoken English, written English, and spoken language.

3.2. The Sex Education Model in the Internet Age. After the 1990s, with the development of the three key technologies of computer, the function of computer-aided teaching has become more three-dimensional and wider in scope, which makes the computer gradually move from assisted foreign language teaching to the foreground of teaching [22]. Teachers can truly teach based on the features of various pupils as well as access to time and space in the laboratory, allowing more freedom in respect of leisure and space. Every assessment and test, trouble shooting, and job allocation can be managed and automated in the form of electronic documents, electronic works, and electronic records.

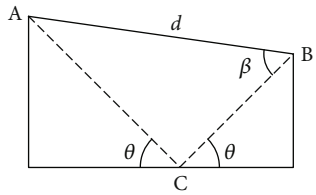

Figure 5: Two-path interference model.

In the computer-assisted teaching pattern of raising abroad, instructors use machines to educate pupils. Rather than being proactive constructors of information, pupils' characters are targets of indoctrination and are not free from the yoke of the classical pattern of learning [23]. The highly intelligent computer plays a leading part in teaching and learning, serving as a teacher as well as a student. It is an electronic tool that can enhance teaching and learning in a holistic and 3D way. The superpowerful functions of computers can fundamentally change the traditional inefficient foreign language teaching status quo.

The sensor electronic education technology presents to the students a practical intelligent control system composed of voice control, light control, temperature control, ultrasonic wave, electromagnetic wave, infrared light, smoke, acceleration, geomagnetism, gravity, pressure, solar energy, etc. Using transparent and colorful 3D creative acrylic plates, students can conceive various imaginative and creative works based on what they have seen, heard, and felt in their own lives. During the whole learning process, students fully use their hands, brains, and mouths to stimulate multiple brains, thereby significantly improving the learning effect. This changes the status of students, promotes the role of students as the main body, enhances the role of technology, and makes sensor electronics a tool for students' cognition. This also shortens the process of students' understanding of things during the course of education, which is beneficial for the development of pupils' minds and unintellectual elements.

The propagation of radio signals in the interior space causes the signal to slow down; this loss is related to the coverage. The application layer of RFID builds a safe, credible, stable, and reliable operating platform so that application protocols and services can concentrate on the application layer. The RFID system consists of two parts; one is the part between the reader and the tag and the other is the part between the reader and the server.

It is assumed that the power of a radio signal transmitted in a certain segment is P_t, and the signal is uniformly covered within the transmission range. The distance from a point to the signal transmitting point is r, and then, the power received by the area is

$$S = \frac{P_t}{4\pi r^2}. \tag{1}$$

The unit of G_t is dB, which represents the power of the received signal. A is used to represent the effective area of the receiving antenna somewhere, and λ represents the wavelength of the electromagnetic wave, so the power P_r obtained by this antenna is

$$A = \frac{G_t\lambda^2}{4\pi}, \tag{2}$$

$$P_r = G_t AS = \frac{G_r G_t P_t \lambda^2}{(4\pi d)^2}. \tag{3}$$

This formula is also known as the Frithian signal diffusion formula. This formula can be used to calculate the signal received by the reader after a certain distance, or it can be set to propagate the signal within a certain range. The signal path loss value is calculated as follows:

$$PL(d) = PL(d_0) + 10n \lg\left(\frac{d}{d_0}\right) + X_\sigma. \tag{4}$$

Combined with the path loss formula, $P_d(r) = P_t - PL(r)$ can be obtained, so the relationship between RSSI and r is expressed as a function:

$$P_t(d) = P_t - PL(d_0) - 10n \lg\left(\frac{d}{d_0}\right) + X_\sigma. \tag{5}$$

Radiation occurs when it is transmitted in the atmosphere, and the emissivity D is the ratio of the incident wave to the reflected wave. It can be calculated by the following formula:

$$D = \frac{\sin\theta - Z_1}{\sin\theta + Z_2}, \tag{6}$$

$$Z_1 = \frac{\sqrt{\xi_0 - \cos^2\theta}}{\xi_0}, \tag{7}$$

$$Z_2 = \sqrt{\xi_0 - \cos^2\theta}. \tag{8}$$

$$\xi_0 = \xi - j60\sigma\lambda. \tag{9}$$

Z_1 represents vertical polarization, Z_2 represents horizontal polarization, λ is wavelength, ε is dielectric constant, and σ is conductivity.

The two-layer interference propagation model is shown in the figure; A represents the transmitting antenna, B represents the receiving antenna, AB represents the direct wave path, and ACB represents the reflected wave path as shown in Figure 5.

The signal power received at point B is expressed as follows: P_t is the transmit power, G_d is the gain of the receiving antenna, G_t is the gain of the transmitting antenna, and the phase difference is

$$\Delta\Phi = \frac{2\pi\Delta I}{\lambda}, \tag{10}$$

$$\Delta I = (AC + CB) - AB. \tag{11}$$

Extended to multipath propagation to get the received

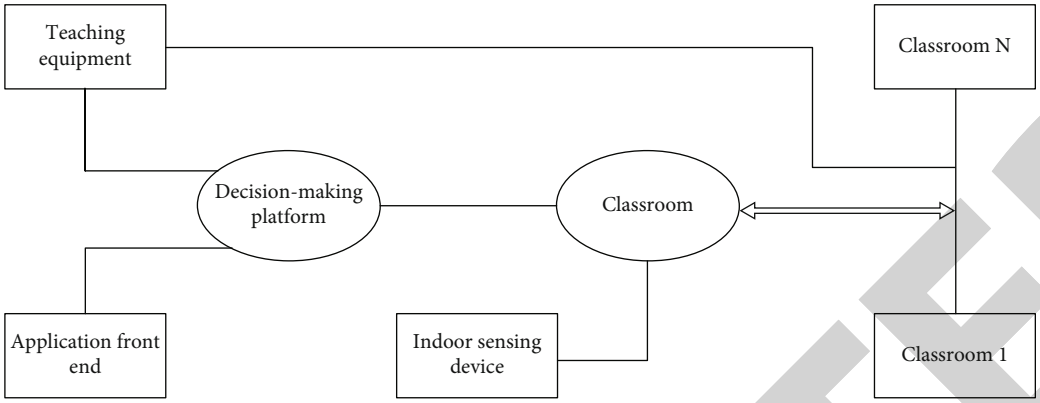

Figure 6: Data forwarding network architecture.

power:

$$P_d = P_d\left[\frac{\lambda}{4\pi r}\right]^2 G_r G_t \left|1 + \sum_{i=1}^{N-1} R_i \exp\left(i\Delta\Phi_i\right)\right|^2. \quad (12)$$

Once a localization algorithm is determined, it must be evaluated by specific criteria, and the implementation of the algorithm and the localization accuracy of the algorithm need to be discussed to evaluate the localization performance. Common location performance analysis criteria: EE rating error, MSE squared error, and RMSE standard error distribution function. Assuming that the real coordinate of a certain position is set to (a, b), the coordinate calculated by the positioning algorithm is (a', b'), and the possible error between the two coordinates can be expressed by the estimated error:

$$e = \sqrt{\left(a - a'\right)^2 + \left(b - b'\right)^2}. \quad (13)$$

Assuming that the real coordinate of a certain position is set to (a, b), the coordinate calculated by the positioning algorithm is (a', b'). By repeating multiple localization measurements for a certain label, the average value is calculated based on the parameters of the multiple measurements to represent the error expectation. The mean squared error is calculated as follows:

$$\mathrm{MSE} = E\left[\left(a - a'\right)^2 + \left(b - b'\right)^2\right]. \quad (14)$$

The standard error is calculated as

$$\mathrm{RMSE} = \sqrt{E\left[\left(x - x'\right)^2 + \left(y - y'\right)^2\right]}. \quad (15)$$

These algorithms will be evaluated by the above criteria, and the rationality, stability, and accuracy of the algorithms will be analyzed from multiple perspectives.

4. Design of College English Teaching System Based on Internet of Things Technology

College English teaching is a product of the times and a witness to the reform and development of national political and economic education [24]. This kind of teaching refers to the enhanced classroom integrating high-tech software and hardware equipment to realize intelligent classroom management, which is conducive to the seamless access of resources and provides technical support for various advanced teaching designs. Tracking the effectiveness of college English teaching is a historic task and a real need to address today. College English teaching begins with people's desire for "professional and foreign language" talents, and this desire has not changed until now [25]. The college English teaching system based on the Internet of Things technology can enhance the information management of college classrooms and promote the integration of diverse college theories and applied practices.

The nature and connotation behind combining a course on computer technology and college English is guided by advanced foreign language instruction principles. In the process of college English teaching, the scientific use of computer network technology can promote students' cognition, stimulate students' emotions, and enrich the teaching environment. It integrates various teaching resources and teaching elements, gathers relevant information of college English teaching with the support of Internet of Things technology, comprehensively improves the quality of college English education, and achieves the ultimate goal of teaching reform.

4.1. System Network Architecture Design. Software development is the main stage of the network infrastructure for data forwarding in the IoT application layer, which is backed by digital media services, as shown in Figure 6.

Among them, the multimedia acquisition and multimedia equipment control part in the classroom collects front-end equipment and wireless access nodes, connects the multimedia data and sends it to the server, and stores the multimedia equipment control part [26]. It can be preordered on the software platform through classrooms or administrators, and detailed information can be sent to indoor teaching equipment through wireless base stations or campus

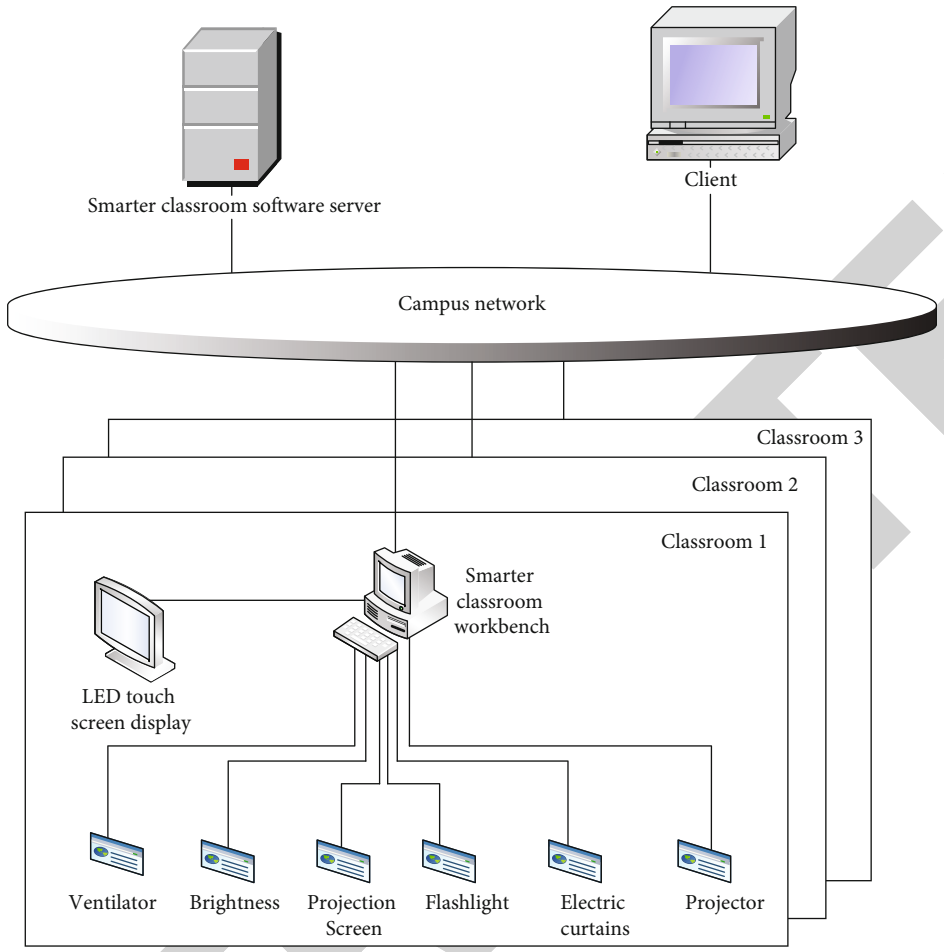

Figure 7: Overall network architecture.

networks and controlled. In the teaching process, organically combine information technology, information methods, information resources, and course content into a new teaching method to jointly complete the course teaching task. In response to the connection between smart classrooms in colleges and universities, a number of the various guestrooms may be linked to the university suite of systems via campus wide web or mobile base stations or radio base stations offered by cellular carriers on the Internet, as well as star-shaped systems. The nodes use a distributed network structure system. The overall network access architecture is shown in Figure 7. The workstations in each classroom communicate with each other through the campus network and the server client [27].

4.2. Database Design. The English teaching information database is based on modern storage and integrates, optimizes, cleans, and analyzes the data in the teaching process. The traditional teaching method is based on the teacher, and the students passively accept it. In modern teaching with information database, students can choose courses according to their own interests and learning progress. Classroom teaching effectiveness standard research evaluates classroom teaching from the dimensions of teaching objectives, teaching activities, teaching feedback, and teaching organization and management [28, 29]. The standard can be used both as a standard to guide teaching and as a scale to measure. The entire teaching information system involves users, classroom information, classroom reservations, equipment road control, teaching records, authority settings, classroom courses, etc. Teaching involves four major sections; the specific correspondence is shown in Table 2.

The login user series includes the user's serial number, user password, and user group, and its entity diagram is shown in Figure 8. On-campus users can access the real-time information set of the internal environment of the classroom through wireless network or mobile network access through computers or smart phones and implement multiple types of in-depth queries and controls on classroom information and its status.

The physical map of the classroom information table (classroom number, classroom name, whether it contains multimedia, classroom capacity, location, and whether it is currently used) is shown in Figure 9.

The physical diagram of the classroom reservation form (classroom number, course number, usage time, applicant, application time, revisioner, revision time, reviewer, and review time) is shown in Figure 10.

Table 2: Sections and components of the teaching framework.

Plate 1: classroom environment	Plate 2: plan and prepare	Plate 3: classroom teaching	Plate 4: professional responsibilities
Mutual respect and harmonious classroom environment	Master the disciplines and methods	Communicate with students	Reflective teaching
	Establish teaching goals	Use questioning and discussion skills	Keep accurate records
Build study habits	Learn about teaching resources	Involve students in learning	Communicate with student families
Classroom teaching order	Designing coherent teaching	Using evaluation in teaching	Participate in professional bodies
Student conduct management	Design a student evaluation system	Flexible handling and proactive response	Professional growth and development
	Get to know students		

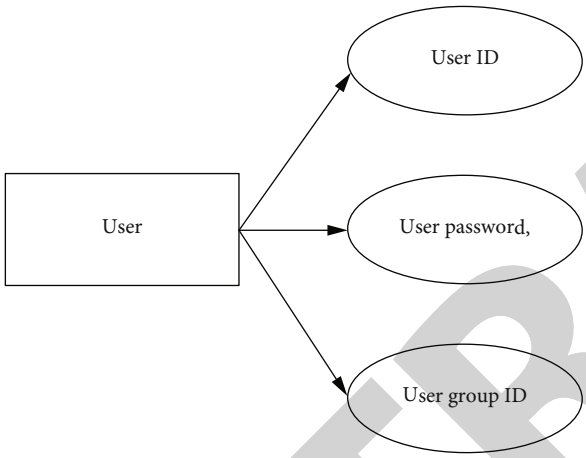

Figure 8: User entity.

The equipment road control series includes the number of the equipment, the type of the equipment, the name of the equipment, the starting time of the equipment, the closing time of the equipment, the operator, and the control time. Its physical diagram is shown in Figure 11. The device road control can track the user's login time, location, course progress, browsing time, and other related data to evaluate the user's class status.

The teaching record is set with course number, course name, number of students, course time, classroom number, etc. The entity diagram is shown in Figure 12. The teaching records can reflect the teaching situation of teachers, teachers' attendance, students' attendance, class time, teaching atmosphere, etc. and realize multidirectional monitoring.

The entity diagram of the authority setting table (authority number, authority name, and remarks) is shown in Figure 13.

The classroom schedule (classroom number, course number, usage time, and remarks) and its entity diagram are shown in Figure 14.

Artificial intelligence technology is the core technology of computer application in teaching, which enables the individualization of foreign language teaching, the virtualization of environment, and the automation of management. The basic elements of teaching include students, teachers, and media materials. The new teaching mode emphasizes learning as the center, and students are transformed from passive recipients and objects of knowledge instillation to builders of knowledge and subjects of processing information. Teachers change from teaching authority to designers, collaborators, and instructors of classroom teaching activities.

4.3. System Function Realization. The whole teaching system cannot be controlled without the help of supporting hardware and software, indoor multimedia instructional tools, long-term condition testing, and smart management [30, 31]. The daily work is automatically opened or closed by the system according to the data of the teaching plan. Users or administrators can set the control of multimedia teaching equipment according to indoor activities or teaching site conditions. In addition, every operation of multimedia teaching equipment and intelligent control must be recorded to the server for historical inquiry. In addition, for the real-time video recording of the teaching site, data such as students' class status, image capture, and on-site sound recording should be uploaded to the server in time. Therefore, larger data scales tend to increase the storage load of indoor sensors or servers, the page layout, content update, content dynamic adjustment, etc. Display screens or smart screens or projectors in your multimedia education system require real-time monitoring, giving back, and responding to the actual situation and conclusion of policymaking based on dynamic data.

The statistics of the number of people in the classroom is also the focus of the research, mainly using the traditional photocell to detect the flow of people and using the camera to collect image information and analyze it to detect the flow of people. According to the advantages and disadvantages of the above two schemes and combined with their own professional knowledge, the camera is used to collect image information and analyze it to detect the flow of people. On the basis of this scheme, the accurate statistical identification process for multiple people entering and leaving the classroom at the same time is shown in Figure 15.

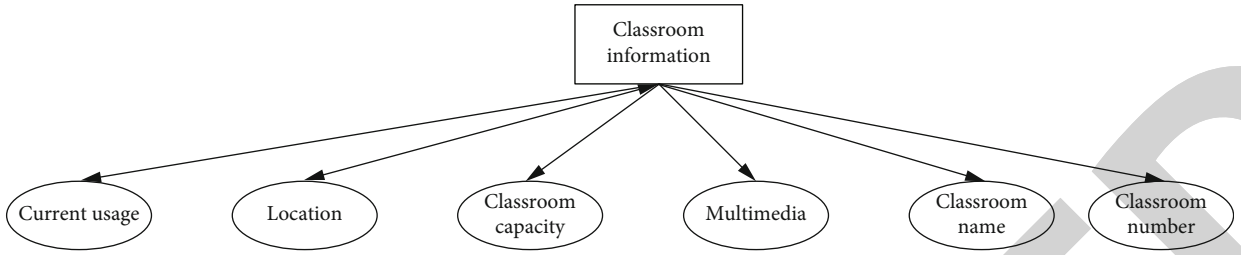

Figure 9: Classroom information entity.

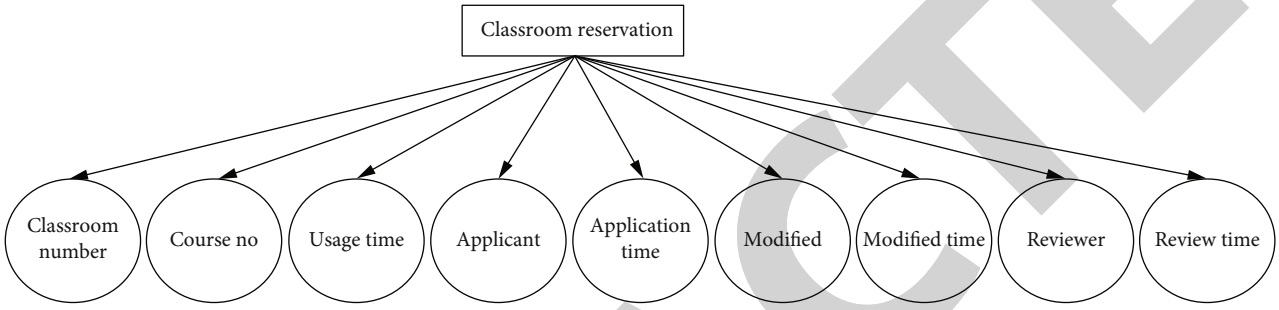

Figure 10: Classroom booking entity.

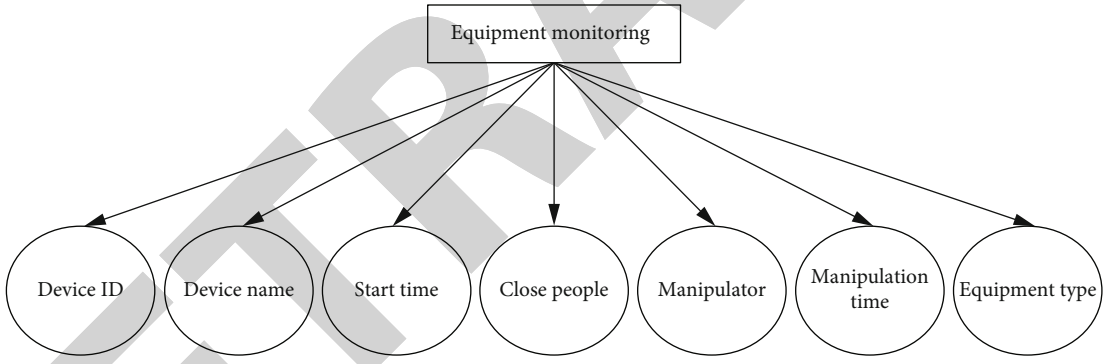

Figure 11: Device monitoring entity.

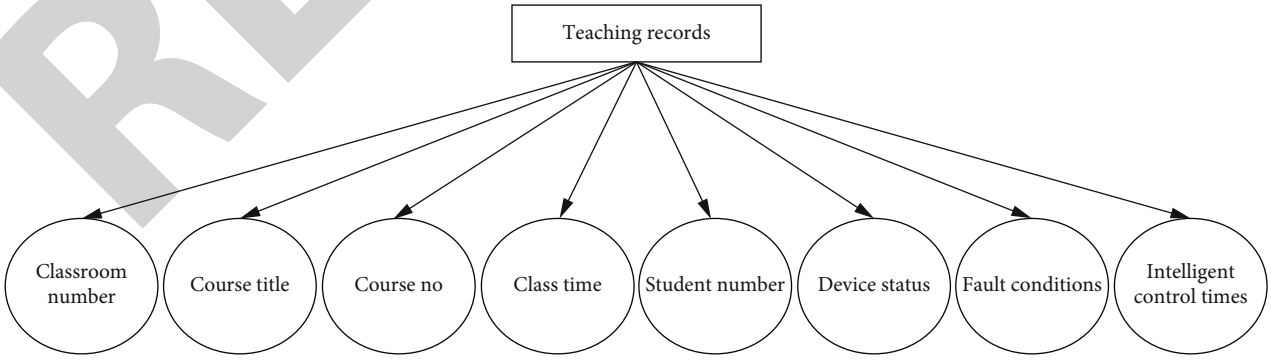

Figure 12: Teaching record entity.

The software and hardware integration platform realizes the management of multiple types of user rights distribution, such as administrators, teachers, and students, including modules such as user information, user authentication, and communication between users. Because user operations directly involve the control of various devices in the indoor environment, user permissions are strictly managed for this purpose. After the user issues the device operation control command,

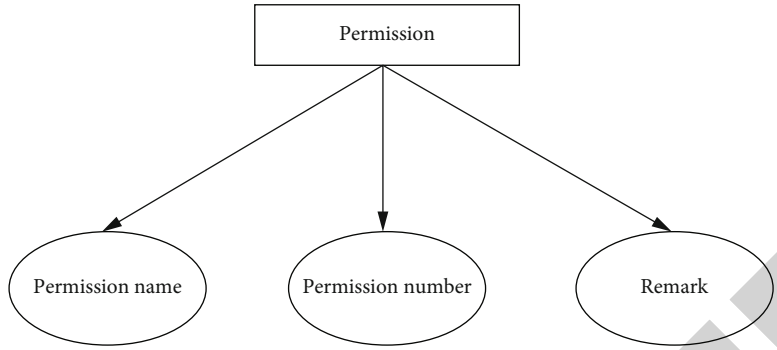

Figure 13: Permission setting table.

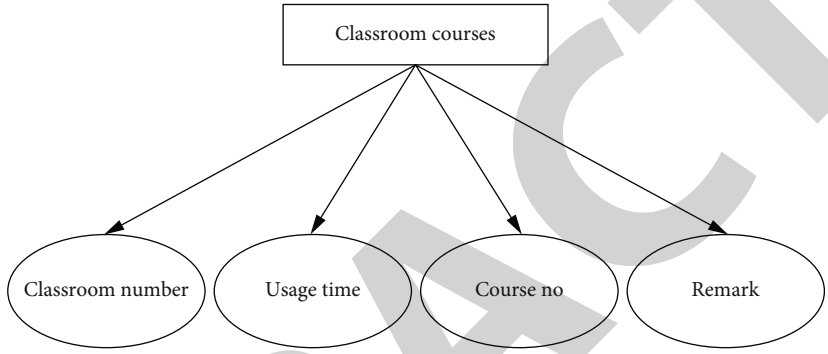

Figure 14: Classroom course entity.

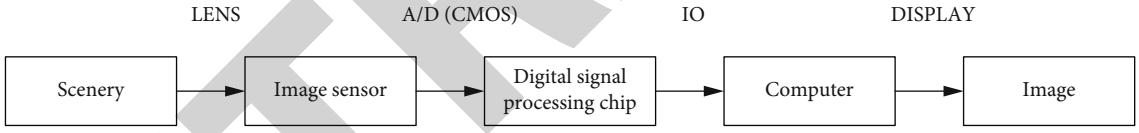

Figure 15: People counting is a diagram of the identification process.

secondary authentication and device status comparison are required. The effect evaluation of this type of operation is given through mobile data analysis, and then, it is decided whether to issue this type of operation control command to the indoor server.

5. Discussion

Integrate the intelligent technology of the Internet of Things with the teaching content of the subject, so as to improve the learning ability of students and obtain high-quality teaching effects. In the process of teaching and learning, as well as in the design, development, use, management, and evaluation of resources, it is critical to use IoT technologies and products to improve the way of cultivating talents and cultivate students' autonomous learning ability and learning thinking.

Education is indispensable for the sustainable development of a country. Education is the engine of industrial development and a feature of the shift to a learning environment. The modern knowledge-based society urgently needs human resources to serve as a sound platform. The core of talent training lies in education, and the implementation of knowledge depends on ideas and technologies. The third wave of information technology in the world information industry brought by the Internet of Things will be of great significance to education and personnel training. With the increasing scale of the Internet of Things, the security of the Internet of Things has increasingly become the focus of attention.

6. Conclusion

The Internet of Things is based on the development trend of computing and communication technology, especially RFID technology, nanotechnology, sensing technology, etc. Technology will be the bottleneck of IoT growth. The openness of the RFID application environment and its position in the entire Internet of Things, as well as its insurmountable limitations and requirements in application development, such as low cost, small size, and fast response, make it easier to face various security and privacy threats. Information and network technology have brought about "virtual education," which makes the interaction and autonomy of students' learning a reality through information and network

technology. The school has no walls. The fact that faculty and pupils have altered their classical attitudes about learning and doing has brought along fresh chances for the growth of teaching in English lessons at university. With the emergence of high-tech content, computer functions are becoming more and more complex in the teaching field, and effects such as scene rendering and simulation effects can be completely realized by computers.

Data Availability

No data were used to support this study.

Conflicts of Interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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