Research Article

A Study on the Effectiveness of the iTEST Paperless Testing System in English Listening Course

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Abstract

In the intelligent teaching environment empowered by information technology, the methods and approaches for course examinations have become increasingly diverse, with a greater emphasis on assessing the learning process and linking it to final exams. Computer-assisted testing, as a new examination system, has gained attention and recognition from educators. It has reformed traditional teaching models to a certain extent, liberating teachers from repetitive and labor-intensive teaching activities while improving the overall teaching quality. Taking the application of the iTEST paperless testing system in English Listening course as an example, this study establishes a testing template and evaluates the role of the iTEST system in teaching. The research methods used in this study include quantitative and qualitative research methods, such as interviews and statistical analysis. By collecting feedback from students and teachers who have used the iTEST system, the study aims to understand the advantages and limitations of the iTEST system as perceived by teachers. Through statistical analysis, the study evaluates the examination results of the iTEST system and compares them with those of traditional paper-based tests. The results indicate that the iTEST paperless testing system can effectively enhance the teaching outcomes of English Listening courses, providing students and teachers with a more flexible, efficient, and accurate testing experience.

Keywords

iTEST Paperless Testing System, English Listening Course, Evaluation Process, Evaluation Effectiveness

1. Introduction

In the context of the full integration of artificial intelli-technology into education and teaching, traditional single exams can no longer meet the needs of talent cultivation. Curriculum assessment reform is the trend. Through reviewing relevant literature, it can be found that the application scope of iTEST paperless testing system in the field of education is very wide. For example, in language teaching, the iTEST system can help students to be tested on listening, speaking, reading and writing skills; In professional fields such as science, engineering, and medicine, the iTEST sys-

can be used for computer-assisted measurement, laboratory testing, and clinical diagnosis evaluations. Therefore, conducting systematic research on the iTEST paperless testing system and exploring its application value and actual effects in teaching has important research significance.

The English Listening course, which is a foundational course for sophomore English majors, has embraced innovation in its examination process by leveraging modern information technology. This initiative eliminates the use of paper as the medium for testing information and instead fully uti-

lizes mobile devices to assess students' listening abilities [1].

Since 2021, the college has introduced and implemented the iTEST paperless testing system. After two years of exploration and research, besides incorporating formative assessments and practices on the platform, the English Listening course has broken away from the traditional closed-book written examination format. Instead, the iTEST system has been utilized as the platform for the final exam, demonstrating significant effectiveness.

2. The iTEST Paperless Testing System

The iTEST paperless testing system is a specialized English testing and training platform designed for foreign language teaching in universities. This platform is built on a cloud-based infrastructure and incorporates the core concept of big data analysis. It supports various modes of examination and integrates daily teaching, independent learning, and testing assessment, thereby establishing a multi-dimensional evaluation system for courses. The iTEST system consists of three subsystems: the administrator system, the teacher system, and the student system [2].

The administrator system primarily focuses on data maintenance, exam management, and question bank management. At the data maintenance level, administrators create accounts for teachers and students based on the teaching tasks assigned by the college, organized by department and class. They also update basic data according to adjustments in teachers' teaching tasks and changes in student enrollment.

The teacher system includes five components: class management, exam tasks, question bank management, score statistics, and independent training. The main responsibilities of the teaching staff include maintaining the basic data of their class students, inputting and randomly generating exam questions, publishing class tests, and reviewing the in-class exercises and final test data of their class students. The student system mainly involves daily training, simulated exams, and formal final exams. The iTEST-based English Listening course exam consists of processes such as course requirements analysis, exam analysis, and question writing (as shown in Figure 1). Additionally, the system incorporates high-quality question banks from Test for English Major (TEM) Level 4, TEM Level 8, College English Test Band 4 (CET-4), and College English Test Band 6 (CET-6). The introduction of these question banks provides ample materials for students' self-practice and simulated training in listening skills, enhancing their listening abilities.
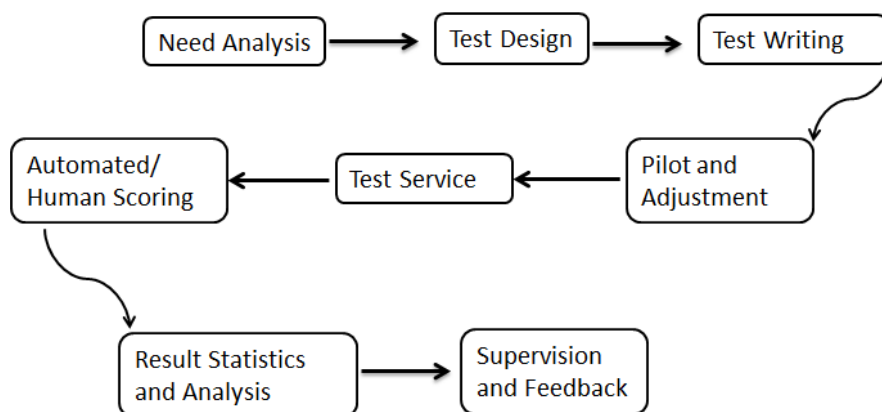

Figure 1. The process of iTEST-based English Listening course exam.

3. Evaluation Process of English Listening Course Based on the iTEST Paperless Testing System

English Listening course training designed on the iTEST system covers pre-class, in-class, and post-class training, with the main purpose of providing supplementary training for teaching content to assist students in their listening study. This design requires teachers to sort out the original teaching materials and add difficulty levels in question design. Throughout the entire English Listening course, teachers need to internalize the content of the teaching materials, reorganize the content, set up training on the iTEST system, and then publish training tasks to the class they teach.

For example, in the teaching of Unit 3 Law Part 1, the teacher set up a total of three training tasks on iTEST. The first task is vocabulary preview, which appears in the form of multiple-choice questions. Through this task, students can learn the commonly used legal vocabulary that will be involved in the difficult audio later. The second task is fill-in-the-blank dictation training, which is based on the foundation of the first task. After understanding the meanings of the words, students can better understand the sentences in the audio during the listening training. The second

task requires students to fill in the missing words in the paragraph while listening to the audio. After completing this task, students will have a deeper understanding of the use of words learned earlier in sentences and legal-related fields. They will also have a better understanding of the definition and classification of law, and grasp the main idea and general content of the audio. The third task is compound dictation, which is more difficult than the previous two tasks. Its main purpose is to help students organize the logical structure of the audio content, which is in line with the teaching objectives of this unit. Finally, the teaching instructor checks the training results on iTEST, summarizes the class's learning situation, tracks students' learning progress and conditions, and provides personalized feedback based on individual student's issues.

According to different course content and teaching objectives, the instructor designs different test templates on the iTEST system and keeps records of the testing process according to the requirements of the tests. The iTEST system provides test templates and question bank items, which teachers can combine with them to create their own test questions. Through long-term accumulation, a distinctive question bank for the course is formed [3]. One difference between paperless exams and traditional paper-based exams is that teachers use the iTEST system to establish a question bank, allowing them to quickly generate test papers and manually select questions, reducing the time spent on creating tests and improving efficiency [4]. Administrators allocate examination rooms based on class assignments, determine the examination time, label the examination name, and announce the examination results to the examinees. Examinees can view the examination notifications on iTEST and enter the examination for answering within the specified examination time [5].

The iTEST evaluation system can use random selection and multiple sets to ensure that each student's test paper is different. Although the students are taking the same exam, the options for the questions on the interface are scrambled, which to some extent avoids cheating. In addition, the system has a snapshot function during the exam process, and can also be set to automatically submit the paper and terminate the exam if the student switches screens during the exam. The question bank provided by the system cannot be viewed online, which is also a preventive measure [6].

The iTEST cloud platform evaluates and analyzes the test papers through the iTEST system [7]. After the teacher sets the exam time, the system automatically grades the papers and displays the exam scores for each student. The objective questions are directly scored by the system, while the subjective questions are scored through a "human-machine collaboration" approach. For subjective questions, if the student's answer is exactly the same as the reference answer, the system will automatically give full marks. However, if there are a few words that are inconsistent or the expression order is different, the system will leave it blank for the teacher to score based on the student's response. After grading is completed, the teacher can directly view and download the students' score sheets and test papers [8].

The paperless examination system of iTEST can adjust the difficulty of the exam based on the scores of the examinees. Teachers can store information such as the scores of student assessments in the system and generate class evaluation tables. The system automatically analyzes the highest score, lowest score, average score, median score, and standard deviation of the current exam, allowing teachers to quickly understand the exam situation of each class. In addition, subject teachers can share and collaborate with other teachers to establish a database, analyze data, and provide data support for the implementation of English proficiency-based teaching.
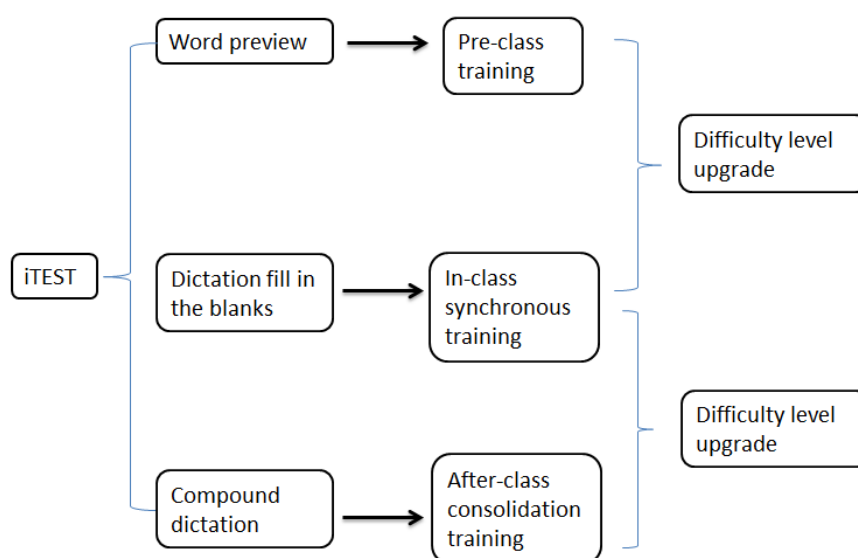

Figure 2. The design of English Listening course on iTEST.

4. Evaluation Effectiveness of iTEST Paperless Testing System

Based on the result of experiment, it can be observed that the application of iTEST paperless testing system has a significant impact on innovative teaching methods, demonstrating superior effectiveness in capturing key points, generating language, and identifying problems compared to the use of the previous evaluation method.

The advantages and effectiveness of the iTEST paperless testing system are mainly manifested as follows: Firstly, it standardizes and makes end-of-term examinations more scientific [9]. The traditional closed-book written examination involves procedures such as binding, stamping, distributing, setting up exam rooms, checking student information, publishing exams, grading, and calculating scores, with each step being closely related and the process being relatively complex [10]. With the iTEST paperless testing system, teachers only need to edit the test questions on the system and generate the exam paper by combining the question bank. Paperless testing not only saves processes such as papermaking, printing, distribution, and sealing but also significantly reduces paper waste [11]. Secondly, using the iTEST system for evaluation [12], an English major examination database can be gradually constructed, which can facilitate curriculum and professional development [13]. During the two-year actual operation, the system's test questions have formed a certain scale and can meet the needs of English testing. Thirdly, it can help prevent students from cheating [14]. In paperless testing, teachers can randomly select questions to form the exam paper, and the question options will be automatically shuffled and rearranged. The system also has monitoring measures such as screen cutting and photo-taking to prevent cheating. Fourthly, the iTEST system has intelligent essay scoring engine, intelligent speech scoring engine, translation scoring engine, and intelligent scoring engine, which enable collaborative evaluation between humans and machines for subjective questions. This allows for quick scoring and feedback, improving scoring efficiency and minimizing errors that may arise from subjective judgment. Through the iTEST paperless evaluation system, the summative assessment of students can be more scientific, fair, and objective.

5. Conclusion

The iTEST paperless evaluation system has been widely recognized and favored by teachers and students. Through more than two years of continuous learning and exploration, the paperless testing system based on iTEST has initially formed a comprehensive evaluation system. The assessment method for the "English Listening" course has undergone bold reforms using modern means and has achieved innovative results in smart teaching. Currently, the iTEST system is still being continuously improved internally to better support curriculum assessment and professional development. The scale of this research is relatively small, and the institution will continue to enhance and expand its application, aiming to achieve deep integration of the iTEST system in English teaching [15], fully leveraging its platform to promote the improvement of students' listening, reading, and writing abilities, and facilitating the enhancement of students' English proficiency.

Abbreviations

TEM: Test for English Major
CET: College English Test

Fund

Conflicts of Interest

The author declares no conflicts of interest.

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