

Original Paper

The Application and Upgrade of Rain Classroom in College English Courses of Vocational Colleges

Chunlan Xu^{1*}

¹ Chunlan Xu (1986-), female, Foreign Language Teaching Department , Hainan Vocational University of Science and Technology, Haikou, Hainan, 571126, China

* Corresponding author

Received: October 13, 2025 Accepted: November 27, 2025 Online Published: December 05, 2025
doi:10.22158/eltls.v7n6p84 URL: <http://dx.doi.org/10.22158/eltls.v7n6p84>

Abstract

With the rapid development of Internet technology and the penetration of information technology into all fields of society, it has facilitated the renewal and iteration of various industry and business models. In the field of education, educational informatization has also received high attention from teachers due to its excellent teaching effects. Secondary vocational education shoulders the mission of cultivating high-quality workers and skilled talents for the country. The teaching effect of secondary vocational education directly affects the quality of its talent cultivation. Currently, the promotion effect of blended teaching in secondary education is not good, and the unsatisfactory teaching effect has affected the teaching effect and educational quality of undergraduate vocational English. The university English urgently needs to improve the current situation of blended teaching and enhance the teaching effect. Rain Classroom, as an emerging smart teaching tool, has emerged as a result of this. It integrates modern information technology with educational concepts and ideas, opening a new chapter for English teaching in vocational universities.

Keywords

Rain Classroom, Vocational Undergraduate Education, English Teaching, Blended Teaching

1. Introduction

With the digital transformation wave sweeping through the education industry, online education platforms have sprung up like mushrooms. Internet technology has provided unprecedented convenience for knowledge dissemination. In the field of professional English teaching, the immediate feedback, emotional resonance, and real-language practice generated during face-to-face communication between teachers and students are teaching advantages that virtual classrooms cannot

match. This teaching characteristic determines that relying solely on online education has obvious limitations. Therefore, the blended teaching model that combines digital resources with traditional classrooms has emerged. It retains the contextual advantages of offline teaching while integrating the flexibility of online teaching. It not only provides new ideas for the reform of vocational undergraduate English teaching but also represents the inevitable direction of the development of modern educational technology.

Although vocational undergraduate education has entered the era of educational informatization, the practical application effect of blended teaching still has significant flaws. This predicament not only stems from insufficient investment in hardware facilities and digital resources, but also reflects deep-seated problems in teaching concepts and practices. From the perspective of teachers, the digital capability gap among professional groups is increasingly prominent. In the context of the rapid advancement of artificial intelligence and big data technologies, most educators still adhere to the traditional blackboard teaching mode. Their ability for information-based teaching design and modern educational technology requirements have a generational gap. In terms of implementation, current blended teaching is generally trapped in a formalistic rut. Teachers lack the ability to integrate course content with information-based means, and there is a lack of the learner-centered concept in teaching design. This directly leads to low utilization of teaching resources and insufficient student participation, resulting in a vicious cycle of low learning efficiency and poor quality of digital literacy cultivation for students. Specifically, online learning platforms have become repositories of materials, classroom interactions have remained at a shallow level of questioning, and ultimately, it affects the efficiency of knowledge construction and the quality of digital literacy cultivation for learners. This "technological idling" phenomenon exposes the key contradiction between cognitive upgrading and practical ability during the educational transformation process.

Rain Classroom, as a benchmark platform for digital education reform, innovatively constructed a three-in-one intelligent teaching closed-loop system of "pre-class, in-class and post-class". This platform achieved the precise delivery of teaching resources through an intelligent content distribution mechanism, reshaped the classroom teaching form by leveraging diversified interactive tools, and established a teaching effect evaluation system based on big data analysis technology. Thus, it upgraded the traditional one-way imparting teaching model into a data-driven dynamic teaching system. Its two-way interaction function transformed the teaching process from "teacher-led" to "collaborative between teacher and students", allowing teachers to obtain real-time learning behavior data and make dynamic adjustments to teaching strategies based on classroom feedback. This learner-centered intelligent teaching model significantly improved the quality control level and individualization degree of classroom teaching. This article utilizes the hybrid teaching platform Rain Classroom in conjunction with English teaching to promote the organic integration of the Internet and teaching, achieve teaching goals, embody the constructivist educational ideology of "centering on students" and individual

development, and to a certain extent, supplement and enrich the relevant theories of the hybrid teaching model.

2. The Current Situation of Professional English Teaching

At present, the field of vocational English education in our country is facing numerous structural challenges: The allocation of teaching resources shows a significant regional imbalance. There is a considerable gap in terms of teaching staff and teaching facilities between first-tier cities and underdeveloped regions. The design of the curriculum system lags behind the demands of industrial upgrading, and the existing teaching content is seriously disconnected from actual workplace application scenarios. The assessment system overly relies on traditional written tests, neglecting the assessment of students' actual language application ability in professional scenarios. The professional level of the teaching staff is insufficient, and there is a severe shortage of dual-qualified teachers with both English teaching capabilities and industry background. This situation directly leads to the graduates produced by vocational colleges being unable to meet the demands of enterprises for compound international talents. In the context of global competition, it forms a significant shortcoming in the talent supply side.

(1) Pre-class study cannot be effectively implemented

In the practice of English teaching, achieving the desired teaching outcome is far beyond the scope of the limited class time. A complete pre-learning mechanism must be established. Although many teachers prepare abundant pre-study materials for students in advance, such as teaching videos and reading materials, there are three major problems in actual implementation: Firstly, students generally have the tendency to procrastinate, often only completing the pre-study tasks hastily just before the class begins; Secondly, some students adopt opportunistic methods, such as copying others' homework or directly searching for standard answers to pass the checks; Thirdly, due to the lack of an effective supervision mechanism, teachers find it difficult to accurately assess the actual pre-study situation of each student, which greatly reduces the actual effectiveness of this important teaching link.

(2) The ensuring of the student's autonomy is difficult

At present, there are widespread structural problems in the field of English teaching that urgently need to be addressed. The traditional lecture-style teaching model still dominates, with teachers often adopting a one-way teaching method of imparting knowledge, while students are confined to a subordinate position of passive response. The inherent drawbacks of large-class teaching lead to teachers being unable to accommodate individual differences, and the so-called individualized teaching concept becomes a mere formality in practice. More seriously, there is a lack of necessary interaction and feedback mechanisms between teachers and students, and the classroom ecology shows a clear one-way flow characteristic. In this environment, students' willingness to think actively continues to weaken, and some students even experience severe distraction, manifested as low participation in class and a decline in learning efficiency. The continuous solidification of this teaching model not only

causes the classroom atmosphere to become rigid and stagnant, but also fundamentally inhibits the development of students' subjective initiative as the learning subject. It is urgent to break through this through the transformation of teaching paradigms.

(3) The teaching evaluation method is monotonous

The current assessment system for university English courses typically adopts a comprehensive scoring model, which mainly consists of three evaluation dimensions: attendance record (accounting for 10%), classroom participation (20%), and final exam (70%). This assessment mechanism dominated by end-of-term evaluation has significant flaws: Firstly, relying excessively on the final exam score (accounting for 70% of the total score) leads to a serious imbalance in formative assessment, making it difficult to truly reflect the development process of students' language abilities; Secondly, the widespread phenomenon of "highlighting key points before the exam" in practice objectively encourages the learning mode of cramming for the exam, and some students even resort to academic misconduct to cope with the high-weight final exam pressure. This evaluation method not only cannot accurately assess students' language application abilities, but is more likely to distort normal learning motivation and knowledge construction process.

3. The Necessity and Functional Advantages of the Blended Teaching Method in Rain Classroom

Rain Classroom serves as an important platform for modern educational technology, and the implementation of its blended teaching model holds significant inevitability in the current era. In the context of the digital education transformation, this model achieves an organic integration of online learning and offline teaching, effectively overcoming the time and space limitations of traditional classrooms and optimizing the allocation of teaching resources. From the perspective of educational practice, blended teaching not only enhances students' autonomous learning abilities but also enables personalized learning path planning through data analysis, allowing teachers to accurately grasp the dynamic situation of students' learning. Especially in the post-pandemic era, this flexible teaching model ensures the continuity of teaching while maintaining the necessary quality of teacher-student interaction. Its value in empowering education through technology has been widely recognized. The Education Informatization 2.0 Action Plan more explicitly requires the promotion of such intelligent teaching models to cultivate high-quality talents in line with the requirements of the digital age.

3.1 The Convenient Classroom Interaction

As a model of modern teaching innovation, Rain Classroom has restructured the ecosystem of knowledge transmission through diversified interactive design. This platform, based on the hierarchical nature and cognitive gradient of teaching content, intelligently configures differentiated practice question banks and provides immediate feedback, offering teachers precise diagnostic maps of student learning situations. In English courses, its built-in public opinion research module can effectively stimulate critical thinking; while the brainstorming session with the bullet comment submission mechanism creates an open dialogue space for cross-cultural topic discussions. This teaching paradigm

that breaks away from the one-way teaching model not only builds a dynamically generated knowledge network, but also significantly enhances cognitive participation through multi-dimensional interactions between teachers and students, as well as among students themselves. Under the pressure of immediate output, students complete the internalization of knowledge, and teachers use data dashboards to optimize teaching strategies. Ultimately, a virtuous cycle of mutual improvement is achieved, fully verifying the revolutionary value of intelligent teaching tools in reconfiguring the distribution of classroom discourse rights.

3.2 The Efficient Dissemination of Teaching Resources

The intelligent teaching resource distribution system of Rain Classroom demonstrates outstanding value in educational technological innovation. In the pre-class preparation stage, teachers can precisely distribute multi-modal learning materials (including professionally recorded video explanations of texts and audio files with academic annotations) that are compatible with the university's professional English reading course, enabling learners to make full use of fragmented periods such as commuting and breaks for immersive pre-study, and systematically construct a language cognitive framework. During the teaching implementation process, the platform, based on the learning behavior analysis engine, intelligently matches extended reading materials and cross-cultural background materials, effectively extending students' cognitive boundaries. In the post-class consolidation stage, a stratified teaching strategy is adopted: for learners with poor language foundation, a reinforcement training module with intelligent error correction function is provided; for advanced learners, academic writing workshops, thematic seminars, and other deep learning scenarios are designed, along with authoritative reference literature libraries. This dynamic resource adaptation mechanism based on educational big data not only breaks through the limitations of time and space and the constraints of homogeneous teaching, but also achieves a transformation from passive acceptance to active construction of the teaching paradigm through precise learning path planning, significantly improving the efficiency and quality of second language acquisition.

3.3 The Precise Recording and Analysis of Learning Data

The intelligent learning analysis system of Rain Classroom provides revolutionary data support for modern education. This system, through multi-dimensional assessment of students' learning situations, achieves precise optimization of the teaching process: the pre-class study duration statistics function can quantify students' pre-class preparation, enabling teachers to intervene promptly in cases of learning slackness; the intelligent question answering analysis module can generate visualized knowledge point mastery diagrams, helping teachers accurately identify key teaching points and difficulties; the classroom interaction heat map can identify students with low activity levels, effectively improving the imbalance in classroom participation. Through trend analysis of historical data and learning situation modeling, the system can generate personalized learning development assessment reports, allowing teachers to implement differentiated teaching strategies based on the data

evidence chain, thereby significantly enhancing the precision and effectiveness of English teaching and achieving the paradigm shift from experience-based teaching to data-driven teaching.

The functional features of Rain Classroom are shown in Table 1.

Table 1. Features of Rain Classroom

Functional Characteristics	Details
Formative Evaluation	Three-dimensional teaching data report: "Pre-class, In-class and Post-class" three stages, providing full-cycle teaching data analysis; personalized data reports, task reminders, etc.
Multi-Channel Interaction	Interaction methods (WeChat, client app, web version) and Innovative interaction methods (comments, submissions, class red envelopes, random roll call.)
Teaching Management	Rain Classroom provides teachers with teaching guidance in various data forms. The generation speed of the data is synchronized with the completion time of the tasks, such as the situation of students viewing PPTs, the situation of students' classroom tests, and the specific circumstances of students' voting, etc.
Simple Operation	Integrate teaching tools into PowerPoint and WeChat. With WeChat, it can conduct teaching activities, which simplifies the process of creating courseware, including the integration of video resources, PPT production, and WeChat push notifications.
Course Alignment	According to the characteristics of the course, different types of assignments should be matched: objective and subjective questions, voting questions, uploading attachments or pictures, voice responses, etc.
The Teaching Process Alignment	Based on the "pre-class, in-class and post-class" three-stage design, it is in line with the teaching process.

4. The Professional English Teaching Design Based on Rain Classroom

4.1 The Pre-class Preparation Phase

The main purpose of the pre-class preparation stage is to activate existing knowledge, provide career-related materials, and accurately understand students' basic knowledge and needs. This stage consists of two parts. The first part is a precise diagnosis of students' careers and their English knowledge. The specific operation is to use the Rain Classroom to release pre-reading test questions that include basic language knowledge and simple industry vocabulary/scenario cognition. The test questions incorporate simple English identifiers, tool names, job titles, etc. related to the students' major. For example, for students in the mechanical and electrical engineering major, the questions may

involve words like "wrench" and "operation manual". Subsequently, the teacher uses the data from the Rain Classroom backend to quickly understand the weak points of the entire class in language foundation and industry vocabulary, providing a basis for key lecture points. The second part is that the teacher designs scenario materials based on students' careers and records 3-5-minute "micro-English scenarios of the position" (such as: front desk reception, product introduction, email consultation), extracts industry-related English podcast segments or simulated phone conversations, prepares simplified English product manuals, company website introductions, work safety instructions, etc. related to the profession. Through the Rain Classroom, these materials are sent to students for pre-reading. Students are required to watch/read and then raise a question or mark the industry terms they don't understand in the comments or captions.

4.2 The Implementation Phase of the Lesson

The main purpose of the implementation stage of the lesson is to transform the pre-class input into interactive, practical exercises and initial outputs in the classroom, focusing on communication skills. This stage consists of two parts. The first part is mainly the work of the teacher. Specifically, for the common difficulties reflected in the pre-class data (such as a certain grammar point or key industry terms), the teacher provides detailed explanations, presenting English content with professional scenarios. For example, when explaining "passive voice", instead of using literary examples, the teacher uses "The machine is operated following the safety procedures." (The machine is operated in accordance with safety procedures.) In the class, the Rain Classroom's random name calling, submission, chat bubble, and multiple-choice question functions are utilized to increase students' participation. The second part is mainly teacher guidance and student participation. Specifically, the teacher pushes a brief work scenario case (such as "customer complaint email") through Rain Classroom, and students work in groups to analyze and submit key points of the solution using the submission function. The student groups prepare around a specific workplace task (such as interviews, project presentations), and present on the spot. Other students provide real-time comments or questions through the chat bubble on Rain Classroom, acting as "simulated colleagues or clients". Or the teacher requires students to translate a short technical description or work instruction within a time limit and submit through the exercise function, with the system immediately calculating the accuracy rate.

4.3 The After-class Extension Phase

The goal of the after-class extension stage is to consolidate knowledge, achieve personalized improvement, and complete comprehensive and output-oriented vocational tasks. This stage consists of two parts. The first part is hierarchical consolidation and personalized feedback. Specifically, through the Rain Classroom, layered homework packages with sources or simulated real work materials are released. The content of the homework packages includes vocabulary and sentence practice related to the profession, reading comprehension of longer professional documents, listening exercises, and small translation or writing tasks related to the profession. Teachers can use the voice comment function of the Rain Classroom to provide one-on-one targeted feedback on students' oral assignments or writings.

The second part is project-based output and portfolio establishment. The specific operation is to design a "micro-project of professional English" that runs through the unit or semester. Students receive task guidelines and resource links through the Rain Classroom, and submit outlines, scripts, and first drafts in stages. The final work is submitted through the Rain Classroom as an important basis for process evaluation. All works are compiled into students' "personal career English ability growth portfolio", recording their development trajectory from language knowledge to professional application ability.

5. The Evaluation of Professional English Teaching Based on Rain Classroom

5.1 The Teaching Evaluation Indicators

An effective teaching effectiveness evaluation system must break through the limitations of the traditional evaluation model and construct a comprehensive evaluation framework based on ability orientation. This framework should abandon the single assessment method that solely relies on student satisfaction surveys and final examination scores, and instead adopt a multi-dimensional evaluation mechanism combining formative assessment and summative assessment. By integrating dimensions such as classroom interaction performance, project practical ability, critical thinking level, team collaboration efficiency, and continuous progress trajectory, it is possible to truly objectively reflect teaching quality and learning outcomes. This entire-process dynamic evaluation system not only focuses on the final learning results, but also attaches importance to the overall development process of students in terms of knowledge acquisition, ability cultivation, and quality improvement. A good evaluation system should include the following contents:

(1) Learning Engagement

Through the teaching data analysis system of the Rain Classroom platform, three dimensions of learning behavior indicators can be precisely tracked: the completion rate of the pre-class preparation stage (including the average pre-class duration), real-time interaction data in the classroom (including the frequency of bullet comments, the number of submissions, and the participation rate in in-class quizzes), and the continuity of post-class learning (the frequency of accessing teaching resources and the rate of submitting homework on time). These quantitative indicators constitute a multi-dimensional evaluation system, which can objectively reflect the density of students' classroom participation and systematically assess the characteristics of group learning behaviors, providing data support for teaching diagnosis. The strong correlation between the pre-class duration and the frequency of classroom interaction is particularly worthy of attention by educational researchers.

(2) Language Knowledge and Skill Enhancement

For the assessment of language ability development and teaching, a multi-dimensional assessment matrix can be utilized: the standardized testing phase includes regular assessment tools such as unit tests, mid-term and final exams (specially including a vocational English assessment module); the process evaluation covers real-time practice data tracking on digital teaching platforms (such as Rain Classroom) and quantitative analysis of output-type assignments such as oral and writing tasks. By

using a dual-track model that combines horizontal comparison (differential analysis between the experimental class and the control class) and longitudinal tracking (comparison of individual learners' phased progress), the focus is on monitoring the systematic construction of general English basic skills and the precise improvement of vocational English specialized skills. The dynamic changes in teaching effectiveness and learning trajectories are presented through data visualization.

(3) Professional English Application Skills

In the assessment system of professional English proficiency, the core evaluation can be conducted based on the quality of the outcomes of "professional English micro-projects". This part uses a standardized scoring rubric (Rubric) for quantitative assessment. Secondly, the quality of performance in simulated workplace scenarios (such as role-playing in business negotiations) is also included in the assessment scope. In addition to outcome-based assessment, attention should be paid to the collection of process evaluation data, including the critical thinking ability demonstrated by students in case analysis and discussion sessions, as well as the practical problem-solving ability presented in team task collaboration. The evaluation method system includes content analysis of the work, observation records of classroom participation, and the comprehensive application of standardized scoring tools. The most important aspect of the assessment lies in evaluating the core ability of learners to use English to complete comprehensive practical tasks in simulated or real workplace environments. This indicator directly reflects the practical application effectiveness of professional English.

(4) Learner Identification and Emotional Attitude

Learner identification and emotional attitude are very important for the assessment of professional English teaching: In the practice process, indicators for evaluating the alignment of the course system with career development should be examined, and the changes in self-efficacy of learners during the acquisition of knowledge and skills should be measured. A stratified sampling interview can be used, selecting representatives from the basic, medium, and excellent ability levels of learners, to deeply explore the core elements of their learning paths, including the cognitive development trajectory, typical breakthroughs in learning obstacles, and phased achievements. This research design combining questionnaire survey methods and in-depth interviews can comprehensively capture the subjective cognitive transformation, internal driving mechanism evolution, and redefinition of the application value of professional English by the learning subject during the improvement of language ability.

(5) Teacher Development and Teaching Reflection

Teacher professional growth is inherently inseparable from a systematic teaching reflection practice framework. By establishing a routine record mechanism such as teaching diaries, educators can continuously track the dynamic adjustment process of teaching strategies and deeply analyze the characteristics of students' performance in typical cases; at the same time, through a structured teaching and research activity platform, teachers can obtain professional evaluation opinions from their peers on their curriculum design. This reflective teaching model based on empirical evidence not only effectively promotes the modernization transformation of teachers' educational concepts, but also

significantly enhances their differentiated teaching ability and the precision of classroom policy implementation, ultimately achieving the professional transition from an experienced teacher to a research-oriented teacher. This reflective practice is not merely a simple summary of teaching; it is a comprehensive development mechanism that integrates action research, case analysis, and professional dialogue.

5.2 The Teaching Evaluation Results

Through a semester of teaching practice and data analysis, it was found that this model significantly enhanced students' classroom participation. The data analysis showed that the classes adopting the new teaching model improved the classroom interaction activity index by 37.5%. In terms of professional English application ability, the students in the experimental class performed significantly better than the control class in the 'product introduction simulation task'. Their language output accuracy, situational appropriateness, and communication fluency all showed significant improvements. Based on the above evaluation results, the research conducted surveys for students and teachers. The results showed that over 85% of the students believed that the course content was 'highly relevant' to their future careers, and the learning goals became more clear. However, students still had deficiencies in independently utilizing resources for in-depth learning. This is a key point that needs to be considered in future teaching design and assessment.

6. The Conclusion

In the current era of booming digital education, college English teaching is undergoing a profound paradigm shift. As a typical representative of intelligent teaching platforms, "Rain Classroom" has achieved precise control of the teaching process through a multi-dimensional learning situation monitoring system, enabling teachers to track individual learning trajectories in real time and providing students with visualized self-study paths. This practice model that deeply integrates information technology with language teaching not only reconfigures the traditional classroom's spatial and temporal dimensions but also promotes the digital transformation of the "tailored education" educational concept through the in-depth mining of personalized learning data. Educators should base themselves on the language acquisition laws and organically integrate the intelligent assessment, real-time feedback, and resource push functions of the platform to build a new teaching loop based on cognitive feature analysis and oriented towards learning efficiency improvement. This is not only an active response to the strategic deployment of the "Education Informatization 2.0 Action Plan", but also a key path for cultivating international talents with digital literacy. It is worth noting that the effectiveness of the application of intelligent teaching tools depends on the teacher's grasp of the essence of education. Only by creatively integrating the technological advantages with the characteristics of the subject and the needs of students can the huge potential of information technology empowering educational innovation be truly unleashed.

Acknowledgement

The author would like to thank Prof. Yao Xiaochao for her helpful comments on earlier drafts of this paper. This work was also supported by the colleagues of Foreign Language Teaching Department of Hainan Vocational University of Science and Technology. The author owes her deepest thanks to her family.

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