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Immersive classroom teaching: construction and practice of practical training to improve the sense of presence

Deng Shuang*, Li Qingqin, Yang Hanyi
School of Culture and Education, Tianfu College of Southwestern University of Finance and Economics, Mianyang, Sichuan, China
Corresponding author, E-mail: 1483150651@qq.com

Abstract:
This case uses the core course "Primary School English Curriculum and Teaching" as the background, and constructs and practices an immersive teaching and training system, aiming to improve students' sense of presence and teaching ability. The study selected third-year primary school education students in our school for immersive teaching training. It showed that immersive teaching significantly improved students' knowledge mastery, teaching practice ability and learning interest, and enhanced their perceptual immersion, cognitive immersion and emotional immersion. Teachers' abilities in situation creation, interactive organization and teaching feedback have also been significantly improved. Although some students have slight difficulties in adapting to the equipment in the initial stage, immersive teaching has shown strong application potential through optimized content design and increased training.

Keywords:
immersive classroom; sense of presence; practical training

With the continuous advancement of education reform, the primary education major is facing many challenges. On the one hand, the traditional teaching model has gradually exposed its limitations and is difficult to meet students' diverse learning needs and personalized development. On the other hand, students majoring in primary education often face the problem of disconnection between theory and practice during their internship, resulting in their lack of effective teaching strategies and coping abilities in actual teaching. With the rapid development of information technology, how to integrate emerging technologies into teaching and improve teaching effects is also an urgent issue for primary school education majors.

The sense of presence refers to the experience that students feel as if they are in a real situation during the learning process. This experience can significantly improve students' learning interest and participation. In primary education, the sense of presence is particularly important. Primary school students are at a stage where they are full of curiosity and imagination. Creating an immersive teaching environment can stimulate their enthusiasm for learning and help them better understand and master knowledge. At the same time, the improvement of the sense of presence also helps to cultivate students' creativity and critical thinking, laying a solid foundation for their future development.

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1. Question raising

1.1 Analysis of the Current Situation of Lack of Presence

1.1.1 Specific manifestations of the lack of sense of presence in primary education classrooms

According to our school's annual survey feedback on students' teaching in subject-specific professional courses, it is known that in the classroom teaching of some professional courses in the 2022 primary school education undergraduate major, such as: primary school English courses and teaching, primary school Chinese courses and teaching, etc., students often appear to be in a state of passively accepting knowledge, lacking opportunities for active participation, resulting in low learning enthusiasm and lack of sense of presence. This shows that the one-way teaching model not only makes students feel that the learning content is boring, but also makes it difficult for students to connect knowledge with real life due to the single teaching situation and lack of authenticity and contextuality. At the same time, the interactive feedback mechanism between teachers and students is not perfect. It is difficult for teachers to understand students' learning situations and needs in a timely manner, and it is difficult for students to obtain timely feedback and guidance, which further weakens students' sense of presence.

1.1.2 The impact of lack of presence on students' learning and teachers' teaching

The lack of presence has a significant negative impact on both student learning and teacher teaching. For students, lack of interest and enthusiasm in learning makes it difficult to concentrate, resulting in low learning efficiency. In this state for a long time, students may become bored with learning, affecting their motivation and self-confidence. In addition, the lack of presence will also affect the development of students' creativity and critical thinking, which is not conducive to their all-round development. For teachers, the lack of a sense of presence makes it difficult for teachers to stimulate students' interest in learning, and the teaching effect is difficult to achieve the expected goals. Teachers need to spend more time and energy to maintain students' attention during the teaching process, which increases the teaching load. In addition, the lack of a sense of presence may also lead to teachers' teaching methods and strategies that are too single and difficult to adapt to diverse teaching needs.

1.2 Limitations of existing teaching models

1.2.1 Shortcomings of the traditional teaching model

The traditional teaching model has many limitations, which are mainly reflected in the following aspects. First of all, this model is teacher-centered. Teachers are the imparters of knowledge, and students are passive recipients of knowledge. This one-way knowledge transfer method ignores the subject status of students and is not conducive to the cultivation of students' active learning and inquiry abilities. Secondly, traditional teaching methods mainly rely on lecture methods, which lack diversity and flexibility. They are difficult to meet the learning needs of different students and are not conducive to stimulating students' learning interest and enthusiasm. In addition, traditional teaching content is often divorced from real life and lacks contextuality and practicality, making it difficult for students to connect the knowledge they have learned with real life.

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The learning content appears abstract and boring, making it difficult to understand and master. Finally, there is less interaction between teachers and students in traditional classrooms, and opportunities for cooperative learning among students are also limited. This lack of interactivity leads to poor student learning experience and a lack of sense of presence.

1.2.2 The necessity and advantages of immersive teaching

With the rapid development of educational technology, immersive teaching, as an emerging teaching model, has broad application prospects. Immersive teaching can effectively stimulate students' interest and enthusiasm in learning and enhance students' sense of presence by creating a real learning situation. This teaching model can not only meet students' diverse learning needs, but also cultivate students' innovative and practical abilities, which is in line with the development trend of modern education. The advantages of immersive teaching are mainly reflected in the following aspects. First of all, it can enhance student participation. By creating real learning situations, students can feel as if they are in the actual scene, thereby enhancing their participation and interest in learning. For example, in science experiment classes, using virtual reality technology to allow students to conduct experimental operations immersively can effectively improve their learning effects. Secondly, immersive teaching can concretize and visualize abstract knowledge, helping students better understand and master knowledge.

1.3 Focus of research questions

1.3.1 How to build an immersive teaching system to enhance the sense of presence

This case focuses on two core issues. First, how to build an immersive teaching system to enhance students' sense of presence. The research will be carried out from five dimensions: clarifying teaching objectives, designing contextualized teaching content, selecting diversified teaching methods (such as VR, AR, MR technology), creating an immersive teaching environment, and implementing scientific teaching evaluation. It aims to enhance student learning experience and improve teaching effects through system construction. Second, how to use the immersive teaching training system to improve the teaching ability of primary school education students. The research will focus on designing practical training content that is in line with the actual practice of primary school education, using multiple training methods, building an immersive training environment, providing professional guidance and feedback, and establishing a scientific training evaluation system, etc., with a view to providing an effective path for cultivating the teaching ability of primary school education students.

2. Theoretical foundation and practical training system construction of immersive teaching

2.1 Theoretical framework of immersive teaching

Immersive teaching is a teaching model that creates a highly contextualized and interactive learning environment to make students feel as if they are in a real scene. Its core features include high contextuality, strong interactivity, rich experience and clear learning objectives. This teaching model can effectively stimulate students' learning interest and enthusiasm, and improve their learning effect and sense of presence.

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Situated Learning Theory: The Situated Learning Theory proposed by J. S. Brown and others emphasizes that learning should occur in real situations, and learners construct knowledge through interactions with others and the environment. Immersive teaching creates real learning situations and allows students to learn and practice in situations, which is in line with the core views of situational learning theory.

Experiential learning theory: D. A. Kolb's experiential learning theory believes that learning is a cyclic process consisting of four stages: concrete experience, observation and reflection, abstract conceptualization and active experimentation. Immersive teaching helps students learn and reflect in practice by providing rich experiences and interactions to better understand and master knowledge.

2.2 Theoretical connotation and measurement of presence

2.2.1 Definition and components of presence

Presence refers to the experience that learners feel as if they are in a real scene in a virtual or simulated environment. Its main components include perceptual immersion, cognitive immersion and emotional immersion. Perceptual immersion refers to the learner's immersion in perceiving the environment through the senses; cognitive immersion refers to the learner's immersion in thinking and solving problems; emotional immersion refers to the learner's immersion in emotional experience.

2.2.2 Measurement methods and index system of presence

Presence is usually measured using questionnaires, behavioral observations, and physiological measurements. Questionnaires can collect learners' subjective evaluations of immersion; behavioral observations can record learners' behavioral performance in an immersive environment; physiological measurements can assess the degree of immersion by monitoring learners' heart rate, skin conductance and other physiological indicators. The indicator system includes perceptual immersion indicators (such as visual and auditory immersion), cognitive immersion indicators (such as attention concentration, task engagement), and emotional immersion indicators (such as emotional involvement, emotional response).

2.3 The relationship between immersive teaching and sense of presence

Immersive teaching can significantly enhance students' sense of presence by creating real learning situations and providing rich interactive experiences. Specifically, immersive teaching enhances students' overall sense of presence by enhancing perceptual immersion, promoting cognitive immersion, and stimulating emotional immersion. Based on this, this study hypothesizes that immersive teaching can significantly enhance students' sense of presence, thereby improving learning effects and teaching quality.

2.4 Construction of immersive teaching and training system

2.4.1 Teaching objectives and content design

The teaching objectives are set as follows: at the knowledge level, enable students to systematically master the core knowledge and key concepts of the course, and deeply understand the basic principles and common methods of immersive teaching; at the ability level, train students to use immersive teaching technologies

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such as VR, AR, and MR to design and implement teaching plans, and to be able to flexibly conduct teaching interaction and problem solving in an immersive environment; at the emotional level, stimulate students' enthusiasm for actively participating in immersive teaching activities, allowing them to fully experience the joy of learning, and gradually enhance their learning confidence and continuous interest in learning.

The overall planning of the teaching content is: taking situational design as the main line, selecting real topics that are closely connected with students' daily experience, and embedding knowledge points into task scenarios with practical significance, so that students can naturally generate learning needs while being "immersed in the scene"; relying on diversified practical activities - such as simulation teaching, case analysis, project-based learning, etc. - to allow students to "learn by doing, "Enlightenment through application" solidifies knowledge and hone skills through repeated operations and reflections; at the same time, the entire content is divided into a number of clearly logical course modules. Each module is progressive and spiraling around the core theme, which not only ensures the completeness of the knowledge system, but also ensures that the learning path is coherent and orderly, thus building an immersive teaching closed loop of "situation-driven - practice deepening - module penetration".

2.4.2 Teaching methods and tool selection

The overall teaching method is constructed as a "three-level multi-dimensional" immersive paradigm: the first level is based on VR, AR, and MR technologies. First, VR is used to create a full-sensory, high-fidelity "virtual presence" to make students feel as if they are in a real scene; then AR is used to accurately superimpose digital information onto physical objects to achieve "sight range enhancement"; finally, MR is used to open up the boundary between virtual and real, providing tactile and sensible mixed interactions, laying the immersive tone for subsequent activities. The second level embeds three types of collaboration engines: role play, group discussion and project-based learning - in the Chinese class, students wear devices to become text characters and experience the character's fate in the tension of the plot; in the social class, groups in the same situation engage in synchronous voice and gesture interaction around hot topics to jointly develop solutions; in the science class, cross-group projects are launched, and students divide work in the laboratory that integrates virtual and real to complete hypotheses, modeling, data collection and result visualization, and the entire process is task-driven and in-depth exploration. The third stage is dynamic focus adjustment through data-based feedback: the system captures students' eye movements, voice and operation trajectories in real time, and teachers instantly push differentiated prompts to achieve "scenario-activity-evaluation" closed-loop iteration, ultimately forming a new immersive teaching style with deep integration of technology, in-depth role experience, and in-depth task exploration.

2.4.3 Practical training process and link arrangement

The practical training process uses a "fourth-order spiral" to connect the virtual and the real: the initial introductory link uses a gripping documentary or an unsolved scientific puzzle to instantly ignite curiosity, and at the same time clearly shows the tasks and evaluation scale of the lesson; then enters the situation creation link, students wear headsets and hold controllers, and AR controls virtual The experimental platform is projected onto the real desktop at a 1:1 ratio, while VR extends the background to the deep sea, space or historical scenes to achieve "entering the drama in one second"; the core interactive experience link allows

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role-playing, group discussion, and project-based learning to go hand in hand - in the Chinese class, students wear motion capture suits and become characters from "Red Cliff". MR In the ancient battlefield, dialogues are improvised and subtitles are generated in real time. In the science class, the same group of students jointly adjust parameters, record data and trigger the "failure-review-retry" cycle in the experimental cabin where the virtual and real are superimposed. In the social class, multiple groups of debates are held around the issue of urban congestion. The system pushes evidence materials in real time based on voice emotions and interaction heat. Finally, the summary and feedback session is reached, and students Experimental reports, role interpretation videos or design plans can be projected to the screen with one click. Teachers will make precise comments based on the attention heat map, collaboration network and concept mastery curve formed in the background. Excellent results will then be included in the school-based resource library and become new materials for the next round of situation introduction. This will complete the closed loop of "exciting - immersion - deepening - sublimation", ensuring that each round of practical training will be an upward spiral.

The link arrangement implements "time-content" dual-track coupling: in the clock dimension, 5 minutes of "hook" videos or puzzles are used to complete the introduction, 10 minutes of VR/AR scene loading and role assignment are completed to complete the situation creation, 35 minutes of high-density role play-group collaboration-project iteration leads the interactive experience, and 10 minutes are left for the final results exhibition and digital review. The entire 50-minute table is used to visualize the countdown, and the background root The rhythm is fine-tuned in real time based on the students' heartbeats and eye movements; in terms of content, the real-life newsreel of "urban flooding" is imported and seamlessly connected with the 1:1 restored MR water-filled streets in the situational link. During the interactive experience, the students' measured pipe flow, vegetation penetration rate and other data are automatically aggregated into impromptu reports, which directly become the scoring basis and reflection material for the summary and feedback session, ensuring that "questions-exploration-conclusions" are echoed from beginning to end and completed in one go.

2.4.4 Evaluation system and feedback mechanism

The evaluation system builds a "three-dimensional and six-order" dynamic quantitative model: the first dimension of student learning effect is based on knowledge, ability, and emotion. The knowledge side uses pre- and post-test + AR quiz real-time accuracy to trace the mastery curve, and the ability side focuses on the novelty and technical depth of the project works. Based on the density of the collaborative network, the emotional end collects heartbeat variability rate, facial expression values and self-efficacy questionnaires to generate an "immersion investment index"; the second dimension of teachers' teaching ability implements a "self-evaluation + peers + students" 360° radar, focusing on capturing the speed of situation creation and interactive questioning. Hierarchy, feedback accuracy and generative resource conversion rate, forming a teaching growth file through classroom voice AI diagnosis and MR operation log; the third dimension of presence introduces questionnaire + physiological dual mode, perceptual immersion to see the head display dwell time and interaction error, and cognitive immersion to measure eye jump track Traces and concept map complexity, emotional immersion analysis of skin electrode peaks and voice emotional tendencies, and finally the three sets of data are integrated into the same dashboard, with real-time warnings of red and green hot areas, to achieve an integrated closed loop of "evaluation-diagnosis-correction" to ensure that every class can speak with data and iterate with evidence.

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The feedback mechanism is driven by the two wheels of "data closed loop + human-computer collaboration": an AI diagnostic questionnaire is implanted before class, and students' knowledge gaps and hot spots of interest are captured in 5 minutes, and a personalized learning package is automatically generated; during the class, the teacher wears a voice AI badge, and the system recognizes the accuracy and emotional tendencies of students' answers in real time. Within 0.3 seconds, a prompt word pops up on the side screen of the MR glasses, and the teacher immediately makes a point-based comment, and at the same time, the student's wristband vibrates to give private encouragement. Incentive or correction signals; 30 minutes after class, the platform summarizes head-mounted eye movements, operation logs and work scores, and generates a "red, yellow and green" warning map for the class with one click. Teachers can initiate collaborative lesson preparation in the cloud teaching and research community. Next week's lesson plans will immediately replace high-error rate tasks, increase the difficulty gradient, or switch VR scene versions to achieve a closed loop of continuous improvement of "daily diagnosis, weekly adjustment, and monthly iteration" to ensure that every practical training is dynamically evolved with the nourishment of data.

3. Practical exploration of the immersive teaching and training system-taking "Primary School English Curriculum and Teaching" as an example

3.1 Practical research design

This case selects the 2023 primary education major students of our school as the research subjects, a total of 336 people, covering all third-year students with different professional backgrounds to ensure the representativeness of the research results. The students were divided into experimental group and control group according to class, with 118 students in each group. The experimental group adopted an immersive teaching and training system, while the control group adopted traditional teaching methods.

Practical research methods and steps: The practical research adopted a quasi-experimental design, and compared the learning effects and changes in the sense of presence between the two groups of students through pre-test and post-test.

Before the experiment started, a pre-test was conducted on the two groups of students to evaluate their professional knowledge level, teaching practice ability and basic level of presence in primary school English courses and teaching. Pre-test tools include basic professional knowledge test, teaching ability scale and presence questionnaire. Students in the experimental group received immersive teaching training within 12 weeks. The course content centered on the core content of primary school English courses and teaching, such as "English speaking teaching" and "English reading teaching". Students in the control group received traditional classroom instruction. After the experiment, the same tools as the pre-test were used to conduct a post-test on the two groups of students to evaluate their learning effects and improvement in their sense of presence.

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3.2 Implementation process of the practical training system

3.2.1 Creation of immersive teaching scenes

In the English speaking teaching course, VR technology is used to create a virtual primary school English classroom scene. Students can "transform" into primary school English teachers, interact with virtual primary school students, and conduct oral English teaching. For example, by simulating a primary school English speaking class, students can observe the pronunciation and oral expression of virtual primary school students in the classroom, thereby understanding the characteristics of primary school English speaking teaching.

English reading teaching course: With the help of AR technology, virtual teaching elements are integrated into the physical classroom. Students can use tablets to scan English reading materials and view virtual word explanations and sentence meaning analysis to help them better understand reading content and teaching methods.

3.2.2 Development of interactive teaching activities

In the immersive teaching environment, students discuss in groups how to design teaching activities according to the characteristics of primary school English teaching or solve practical problems in English teaching. Teachers can observe the discussions of each group in real time in the virtual environment and provide targeted guidance. In the "English Spoken Teaching" course, students play the role of primary school English teachers, interact with virtual primary school students, and conduct oral teaching simulations. In the "English Reading Teaching" course, students act as English teachers and conduct simulated teaching, while other students act as primary school students and ask questions and give feedback. Students work in groups to complete a complete English teaching design project, such as designing an interactive course suitable for primary school students on a certain English topic. During the project, students need to use their knowledge of primary school English teaching and combine immersive technology with teaching design and simulated teaching.

3.2.3 Improvement of student participation and sense of presence

Teachers observe student engagement in class and record student performance in the immersive environment, such as frequency of interaction, level of concentration, and task completion.Questionnaires were used to collect students' subjective feelings about immersive teaching, including their self-evaluation of presence and satisfaction with teaching methods.Compare the pre-test and post-test data to analyze students' learning effects and improvement in their sense of presence in the immersive teaching environment.

3.3 Evaluation of practical effects

3.3.1 Evaluation indicators and methods of student learning effectiveness

The assessment adopts the "Three Dimensions and Four Methods" lightning model: a 3-minute online test of professional basic knowledge to instantly quantify knowledge mastery; a 15-minute simulated teaching + project evaluation dual-table scoring to simultaneously capture teaching practice and innovation ability; a 60-second structured questionnaire + AI classroom observation scan code to quickly evaluate emotional experience, accurately locking interest and confidence; all data are imported into the dashboard in real time,

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and red, yellow and green warnings are generated with one click, realizing a minute-level closed loop of "test-evaluation-modification".

3.3.2 The improvement effect of teachers' teaching ability

Teachers reflect on their performance in immersive teaching by filling out a self-evaluation form, especially on their ability improvements in situation creation, interactive organization, and teaching feedback.Invite other teachers to observe the immersive teaching courses and provide professional opinions and improvement suggestions.

Student evaluation collects students' evaluations of teachers' teaching abilities through student questionnaires and interviews, focusing on teachers' performance in stimulating learning interest and promoting student participation.In terms of evaluating the effect of improving the sense of presence, a special sense of presence evaluation questionnaire is designed to collect students' subjective feelings in terms of perceptual immersion, cognitive immersion and emotional immersion.Use heart rate monitors and eye tracking devices to measure students' physiological responses in immersive environments and evaluate the effect of improving their sense of presence.

3.4 Practical case analysis

3.4.1 Detailed description of typical cases

This class focuses on "Primary School Spoken English Teaching Strategies" and uses VR helmets and interactive handles to upgrade the physical classroom to a "virtual attached primary school": as soon as students put on the headset, they are in a simulated primary school English classroom. They can observe the pronunciation mouth shape, intonation fluctuations and fluency differences of the virtual primary school students at 360°, and the data heat map is retrieved in real time to identify typical errors; then a double cycle of "role playing - group discussion" is entered - first as a teacher, three types of oral tasks are designed, including English songs, level-breaking games, and group competitions, and then a 3-minute micro-teaching is implemented in VR for the virtual class, and the system records the interaction times in real timeand error correction efficiency, and then returned to the discussion area in groups of four to evaluate each other, use screen projection to share their own teaching path maps and vote for the best solution; the teacher monitored eye movement and voice emotion curves throughout the background and found that the average heart rate of students increased by 18%, and the head-mounted display duration increased by 2.7 times compared with traditional micro-lectures.And 90% of the questionnaire feedback "feels like you are really standing on the podium", confirming that the immersive environment not only significantly activates interest in learning, but also encourages students to flexibly transform the primary school English teaching theory learned in the classroom into replicable oral English improvement strategies, achieving a simultaneous jump in the three-dimensional goals of knowledge, ability, and emotion.

3.4.2 Case analysis and discussion

Immersive teaching significantly improved students' learning interest and participation. Especially in

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role-playing and group discussion sessions, students showed higher creativity and teamwork skills. Through the simulation of virtual scenes, students can more intuitively understand the characteristics of primary school oral English teaching and apply theoretical knowledge to practice. Some students experience slight dizziness when using VR equipment, and the stability of technical equipment needs to be further improved. In addition, some students are not proficient in operating the virtual environment at the initial stage and need more time to adapt. The design of VR content should be optimized to reduce dizziness; equipment operation training should be added before the start of the course to help students adapt to the immersive learning environment faster. At the same time, more practical cases and teaching materials are provided to enrich students' teaching design resources.

4. Summary

Through the exploration of immersive teaching in the core course of primary education major "Primary School English Curriculum and Teaching", the remarkable effect of the immersive teaching and training system has been verified. This study adopted a quasi-experimental design to conduct a comparative study between the experimental group and the control group on 120 primary school education students. The results show that immersive teaching significantly improves students' learning effects and sense of presence. In the immersive environment, students simulate real teaching scenarios through technologies such as VR and AR, such as virtual primary school English classes and oral teaching simulations, which enhances the fun and practicality of learning.

In practical exploration, students enhance participation and interactivity through role-playing, group discussions, and project-based learning. Research has found that immersive teaching not only significantly improves students' learning interests and teaching abilities, but also optimizes teachers' abilities in situation creation and teaching feedback. Through case analysis, the potential of immersive teaching in improving students' practical abilities and innovative thinking is further revealed. The study also pointed out the limitations of immersive teaching, such as some students' adaptation problems to VR equipment, and put forward suggestions for optimizing equipment and strengthening training. Overall, this study provides strong support for teaching reform in primary education majors and demonstrates the broad prospects of immersion teaching in cultivating future primary school teachers.

References

[1] Ministry of Education of the People's Republic of China. Compulsory Education English Curriculum Standards (2022 Edition) [S]. Beijing: Beijing Normal University Press, 2022.
[2] Wang Chunhui. Comparative study on the 2022 version and the 2011 version of compulsory education English curriculum standards [J]. Basic Foreign Language Education, 2022, 24(3): 12-19, 109.
[3] Mei Deming, Wang Qiang. New Development of Compulsory Education English Curriculum in the New Era—Interpretation of Compulsory Education English Curriculum Standards (2022 Edition) [J]. Basic Education Curriculum, 2022, 322(10): 19-25.
[4] Cheng Xiaotang. What to change? How to change? How to test?: Analysis of Compulsory Education English Curriculum Standards (2022 Edition) [M]. Beijing: Foreign Language Teaching and Research Press,

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2022.
[5] Wang Hongqian. Research on primary school English teaching reform under the guidance of core literacy [J]. Teaching and Research, 2022, 41(3): 73-74.
[6] Chen Zehang. From "comprehensive language use ability" to "core literacy" - a comparative study of the course objectives of the 2011 and 2022 versions of the "Compulsory Education English Curriculum Standards" [J]. English Research, 2023(02): 216-229.

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