

Exploring the Influences of English Learning Environment for Chinese Secondary School Students of English as the Second Language in Jinzhong, Shanxi Province, China

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Abstract

Creating a supportive English learning environment in schools is critical. Despite its importance, research focusing on the secondary school phase remains limited. This study explores the impact of English learning environment on Chinese secondary school students learning English as a second language in Jinzhong, Shanxi, China. A qualitative methodology was employed, utilizing interviews and observations as research instruments. Data were collected through recordings and note-taking and analyzed using a thematic approach. Ethical considerations, including participants' rights, were prioritized throughout the research. The findings are presented from two perspectives: the current construction of English learning environments and their influence on students. This research provides valuable insights for students, teachers, and schools, offering practical guidance to enhance English learning environments and promote effective language education.

Keywords

English Learning Environment; Chinese Secondary School Students; Second Language Acquisition; Language Learning Challenges; Environmental Influences.

1. Introduction

In the context of globalization and the requirement of Chinese education policy for secondary school students, enhancing English language proficiency has become increasingly important for Chinese middle school students. As Zhang (2023) highlights, "The impact of the learning environment on learning is obvious. A learning place that is quiet, comfortable, provides rich learning resources, and promotes social learning can improve students' learning effectiveness and motivation" [1]. This underscores the necessity of constructing conducive English learning environment to support students' language acquisition.

Despite efforts by the Chinese government and schools to improve English learning environments, several challenges persist in constructing effective English learning spaces. One major issue is the general neglect of this aspect. Most Chinese students learn English within a predominantly Chinese language environment, which often results in the use of "Chinglish" rather than standard English. Furthermore, the exam-oriented education system prioritizes grades and performance over creating an enriched teaching and learning environment. As a result, teachers often focus solely on students' academic achievements, with limited attention to fostering interactive and supportive English learning spaces. This approach not only increases students' stress but also impedes their progress in improving English proficiency. [2] Another challenge lies in the lack of research on the learning environments of secondary school students. As Mu Xinhui et al. (2023) state, "The main group of learners in China who are studying English are primary and secondary school students, yet there is limited research focusing on students in these grades" [3]. Searching for the topic "English Learning

Environment” on China National Knowledge Infrastructure yields 1414 research papers, of which only 57 are related to secondary school English. This research gap highlights the need for further investigation into the specific learning environments at the secondary school level, as it directly affects the quality and outcomes of English education. Moreover, existing research predominantly focuses on urban-rural comparisons in developed provinces such as Zhejiang, Jiangsu, and Fujian, or on the integration of modern technologies. There are few relevant studies specific to Shanxi Province, a region still in a developing stage. Consequently, findings from developed areas cannot be generalized in Shanxi. The specific situation and influences of English learning environment in Jinzhong, Shanxi, remain unexplored, presenting a significant research gap.

Additionally, Shanxi holds a crucial cultural role in China. Jin (2023) states, “Shanxi is the hometown of early humans and the cradle of Chinese civilization. It has played an important role in the origin and development of Chinese civilization and holds a significant position in the construction of the modern civilization of the Chinese nation” [4]. As a key region for cultural exchange, enhancing English learning environments in Shanxi is essential for fostering international cultural communication.

The secondary school phase is particularly significant for language acquisition. Li (2020) emphasizes, “The English teaching work in secondary school is an important part of laying a solid foundation for students’ future English learning, and its teaching effectiveness directly affects whether students can walk on a smoother path of English learning in the future” [5]. This highlights the importance of examining English learning environments at this stage to better understand their impact on lifelong language learning.

Liao and Zhou (2021) stress the critical role of the teaching and learning environment in determining the effectiveness of secondary school English education. Their findings reveal that the English teaching environment significantly influences the quality of teaching activities, students’ learning progress, and their interest in learning English. Consequently, both educators and policymakers must optimize the English learning environment to foster better learning outcomes. Students, in turn, should have opportunities to “learn and apply English in an interesting and harmonious environment, thereby further improving their English proficiency” [2].

Given these challenges, it is essential to examine the current state of English learning environments for secondary school students and explore their influence on English language learning. This study aims to investigate how the English learning environments in Jinzhong’s secondary schools influence students’ language acquisition and proficiency. Specifically, it seeks to identify key environmental factors affecting learning outcomes and to investigate the practical application of relevant theories to optimize these environments. This study adopts qualitative research methods, including semi-structured interviews with 31 teachers and students from three secondary schools and systematic observations of the schools’ environments. The findings aim to offer practical insights and references for secondary schools in Shanxi and similar contexts.

2. Literature Review

2.1. Learning Environment and English Learning Environment

In this research, the concept of learning environment and English learning environment are crucial and require clear definitions.

A general definition of the learning environment is provided by Syafiqurrakhman et al. (2024), who define it as “the overall atmosphere of an educational setting where academic activities take place” [6]. Moreover, Zhang describes it as “the physical, social and cultural environment in which learners learn. For English learners, the quality of the learning environment has a

significant impact on their learning outcomes” [1]. These definitions underscore the idea that learning environments are more than just physical spaces; they are dynamic, multifaceted settings that shape students’ educational experiences and success. According to these definitions, the English learning environment in schools requires an investigation into at least the physical, social and cultural dimensions.

The concept of the English learning environment is multifaceted and encompasses many aspects. Xu (2019) offers a perspective: the English learning environment “can be understood as the overall atmosphere and conditions in which students learn English. It includes the physical environment, such as classroom layout and teaching equipment; it also includes the social environment, such as teacher-student relationships and interactions among classmates” [7]. This perspective aligns with Zhang’s broader definition. Moreover, Yu (2019) defines the English learning environment from the perspective of language learning: “Language environment is a specific type of environment based on language learning. The concept was first proposed to create an atmosphere conducive to language learning. [8]” Combining Zhang’s definition with these perspectives, the English learning environment can be divided into physical, social, and cultural components, all of which aim to students’ English language acquisition and application.

Several past studies highlight various aspects of English learning environments. One study examined the influence of mobile apps and technology on English learning. Titled “Factors influencing the acquisition of English skills in an English learning environment using Rain Classroom” [9], the study found that students who used Rain Classroom performed well in reading, writing, and listening, and that the tool positively influenced learning efficiency and learner satisfaction. This research underscores the role of technology in creating better learning environments and promoting English proficiency. Consequently, technology emerges as an important element to investigate in this research.

Another study explored fostering students’ interactions through post-structural feminist pedagogical learning (PFPL). Liao & Wang (2015) describe PFPL as “a positive participatory learning environment created to initiate empowerment and subjectivity, to incorporate life experiences, and to embrace the voices and diversities of all students to foster dialogical interactions” [10]. Similarly, Xie and Zhang’s (2024) study, “A Study on the Impact of PAD Class Model on Junior Middle School Students’ English Learning Anxiety” [11], emphasized the importance of promoting interaction through the Presentation-Assimilation-Discussion (PAD) model. These studies highlight the significance of interaction-driven social environments, which this research will explore in the context of secondary schools.

A third study, “Study on Motivation Factors for English Learning among Middle School Students in Northwestern China” [12], examined factors influencing students’ motivation. It found that the “growing influence of British and American culture [12]” significantly impacts motivation. This emphasizes the importance of cultural elements in motivating students and enhancing their English learning, which this research will also investigate.

Finally, a study on classroom settings underscores the importance of the physical environment for learning: “Setting up the physical environment for learning is a logical starting point for classroom management” [13]. The study discusses factors such as instruments and furniture, electronic equipments, and visual aids. It also highlights learning resources like libraries, textbooks, technology-based tools. These elements provide a comprehensive reference for investigating physical English learning environments in this research.

2.2. English Learning Environment in the Context of China

2.2.1. Secondary School Students’ English Learning in China

Kang and Lin (2019) note that “as China is playing an active role in the World’s politics, economy, and cultural circles, being able to communicate in English has become one of the basic

life and work skills and a key for global access and integration" [14]. Within the education system, English courses span almost all educational stages, from primary school to doctoral studies, with some areas introducing English as early as kindergarten [15]. Among those with junior high school education, 93.8% have studied English [15]. However, despite this extensive effort, China's English proficiency ranks second to last in Asia.

Secondary school students face particular challenges in English learning. Luo (2020) highlights three major issues contributing to polarization in English proficiency: the increased difficulty of English in secondary schools, disparities in learning strategies, and individual differences in comprehension abilities [16]. These challenges underline the importance of investigating how the English learning environment influences students' language acquisition and motivation.

2.2.2. English Learning Environment in China

In recent years, the internationalization of China has led schools to pay greater attention to students' English learning environment. Muratibek (2020) identifies strategies such as "increasing English communication in class and providing extracurricular learning resources" [17]. However, Hu (2018) notes that "students are easily influenced by the dominant Chinese language environment" [18]. Xiang (2018) observes that teachers are shifting from traditional translation methods to creating language-rich environments [19]. Although schools and teachers are making efforts to construct English learning environments, there is limited research specific to Shanxi province. Research from developed regions cannot necessarily be applied to Shanxi due to its distinct socioeconomic context.

Shanxi plays an important role in cultural output and exchange. Jin (2023) highlights Shanxi's significance as "the cradle of Chinese civilization" [4], emphasizing the province's cultural and historical importance. Enhancing English learning environments in Shanxi could support both students' language development and cultural exchange efforts. Therefore, exploring how to build better English learning environments in this region is essential.

2.3. Information Processing Theory of English Learning Environment

2.3.1. Past Relevant Use of Information Processing Theory in Education Area

"Information processing theory describes the process of information being received, processed, and stored in the human brain and the way it is retrieved" [20]. This theory primarily addresses the process of managing information and falls within the domain of cognitive science. To the researcher's knowledge, information processing theory has been applied in three main directions in past studies.

The first direction involves multimedia learning, such as mobile-based English learning. Bidabadi et al. (2014) focused on sensory memory, working memory, and long-term memory [21] within the retention stage of the information processing model. Their research connects information processing theory with multimedia and mobile apps.

The second application relates to specific areas of teaching and learning, including reading, listening, teaching methods, and materials. Zhou and Li (2023) state that "psychologists stress the information processing paradigm, which shapes teaching and learning throughout schooling. This paradigm has inspired instructors and scholars to study the intricacies of teaching and learning to improve these processes" [22]. This research focuses on integrating aspects such as English reading classes, listening classes, and teaching materials with information processing theory, aiming to enhance English teaching and learning processes.

The third application involves guiding classroom instruction and encouraging active exploration. Studies such as Ding (2013) and Zhang and Hu (2010) demonstrate the use of information processing theory in biology education [23, 24]. These studies examine how to integrate the theory into broader classroom practices, such as biology instruction, rather than

focusing on specific aspects of teaching. However, these studies are not directly related to English teaching or learning.

In conclusion, few studies truly connect information processing theory with English learning environments. Most focus on narrower perspectives, such as specific aspects of learning (e.g., teaching materials, reading, or listening) or apply the theory to other disciplines. Therefore, this research aims to explore the relationship between information processing theory and English learning environments more comprehensively.

2.3.2. The Relation between Information Processing Theory and English Learning Environment

A review of the literature reveals that information processing theory can serve as a framework for understanding English learning environments. This theory addresses the comprehensive process of handling information and is closely linked to cognitive science. Language learning begins with cognitive mechanisms, which are directly related to the learning environment. As noted, "it is the individual's perception, analysis, and processing of external language information, including various levels of information processing such as phonetics, vocabulary, grammar, and semantics" [25]. The term "external language information" often refers to the English learning environment in schools, making information processing theory a relevant theoretical underpinning for this study.

Information processing theory, as described by Gagne, consists of eight stages: motivation, comprehension, acquisition, retention, recall, summarization, homework, and feedback [26]. Several of these stages are directly relevant to the English learning environment. For example, in the motivation stage, students' interest in learning English can be stimulated by introducing cultural elements from English-speaking countries, such as customs and traditions. This approach helps students view English as a tool for cultural exploration and increases their engagement with the language. In the comprehension stage, students' attention must be strengthened and their selective focus expanded. Schools should provide opportunities for substantial understanding input, thereby enhancing sensory memory and ensuring that students remain focused on improving their English rather than on unrelated distractions. The retention stage emphasizes the frequency of knowledge reproduction, such as by creating and displaying knowledge summary trees in classrooms to help students review and consolidate recently learned material. Finally, the summarization stage encourages learners to transfer acquired knowledge to new contexts, such as real-world applications. Activities like English competitions on campus allow students to practice their language skills in meaningful and engaging ways.

By aligning the construction of English learning environments with the stages outlined in information processing theory, educators can create conditions that enable students to absorb and apply English knowledge more effectively. This approach underscores the potential for theory-driven strategies to enhance language learning outcomes. Building on the literature review, this paper seeks to address the above-mentioned gaps and issues by exploring the following research questions:

RQ1: What is the current English learning environment for Chinese secondary school students of English as the second language in Jinzhong, Shanxi, China?

RQ2: What are the influences of English learning environment for Chinese secondary school students of English as the second language in Jinzhong, Shanxi, China?

3. Methodology

This section provides an overview of the research process, including a description of the target participants, data collection procedures, and data analysis methods. A qualitative approach was

adopted for this study, focusing on students and English teachers from three secondary schools in Jinzhong. Regarding sampling, the participants included students and English teachers from at least three secondary schools in Jinzhong, with their characteristics and number detailed. Observation and interviews were employed as research instruments. Observations focused primarily on the English learning environments in the schools, while interviews were conducted with both students and English teachers to gather their perspectives. Additionally, data collection procedures are outlined in this section, followed by an explanation of the data analysis methods. Figures or tables are also included to provide readers with a clearer and more detailed understanding of the research design and plans.

3.1. Participants

The participants included students and English teachers from secondary schools in Jinzhong, Shanxi, China. The study primarily targeted ordinary secondary schools in Jinzhong, using purposive sampling to select participants fitting the study's criteria. Initially, three schools were chosen, with 6 teachers and 6 students from each school. However, some participants quitted in the middle, resulting in a final sample size of 31: 13 English teachers and 18 students. Due to time constraints, the sample size is reasonable. The teacher sample was evenly split between those with less than 10 years and those with 10 or more years of experience, providing balanced perspectives on the English learning environment. Similarly, students were selected from different grades to minimize the influence of grade-level differences.

Table 3.1. Overview of participants

Sample	Number	Percentage
Students	18	58%
Teachers	13	42%
Total	31	100%

3.2. Data Collection

Data for this research were gathered using two primary instruments: semi-structured interviews and observations. These methods were selected to provide a comprehensive understanding of the English learning environment in Jinzhong's secondary schools from both students' and teachers' perspectives, allowing for triangulation and enhancing the validity of the findings. Observations focused on the English learning environment within the schools, while interviews targeted both students and English teachers.

Semi-structured interview

Semi-structured interviews were conducted with students and English teachers from three secondary schools in Jinzhong. This approach enabled the researcher to maintain a flexible interview structure, adapting questions based on participants' responses to gain deeper insights into their experiences and perspectives. As Melissa et al. (2019) note, "Semi-structured interviews allow researchers to collect open-ended data, explore participants' thoughts, feelings, and beliefs about a particular topic, and delve deeply into personal and sometimes sensitive issues" [27].

Before each interview, participants were briefed on the study's purpose and their rights, including voluntary participation, anonymity, and confidentiality. This briefing aimed to foster trust and ensure participants felt comfortable sharing their honest experiences. Participants were also informed of their right to withdraw at any point without penalty. Verbal consent was obtained prior to recording each session, and recording devices were tested beforehand to ensure they functioned correctly.

The interview questions were designed to cover a range of topics, beginning with general questions about participants' backgrounds and progressing to more specific questions about their experiences within the English learning environment. This structure facilitated a natural flow of conversation, encouraging participants to share openly while allowing the researcher to probe further into areas of interest that emerged during the discussion. Questions explored key areas, including participants' perceptions of the English learning environment, their personal or professional experiences, and the challenges they encountered in English language teaching or learning. Each interview lasted approximately 20–30 minutes, depending on the participants' responses and the depth of their relevant experiences.

To ensure data accuracy and reliability, the interviewer clarified any unclear or ambiguous responses, verifying participants' answers to minimize potential misinterpretations. This member-checking strategy enhanced the credibility of the qualitative data. After each interview, recordings were reviewed to confirm that all information was captured accurately before transcription.

Observations

Observations were employed to complement and validate the findings from the interviews, focusing primarily on the schools' English learning environments. As Rv et al. (2021) emphasize, "Validity is stronger with the use of additional strategies alongside observation, such as interviews, document analysis, surveys, or other quantitative methods" [28].

An observation form was developed to systematically record aspects of the English learning environment. The form included specific categories, ensuring consistency and a systematic approach across all schools, thereby reducing observer bias. Notes were taken during each observation to document observed elements accurately, and supplementary notes were added to capture unique or particularly relevant features. Following each observation, the researcher recorded reflective notes to document initial impressions and identify patterns across different school environments. This reflective practice facilitated the identification of recurring themes and informed subsequent analyses.

3.3. Data Analysis

Thematic analysis was employed to process the data, following Perera's (2023) definition of thematic analysis as "a process of identifying, analyzing, and searching for themes or patterns to identify repeated items particularly related to the research topic" [29]. This approach enabled a systematic examination of the data, identifying key themes that reflected participants' experiences and perspectives on the English learning environment in Jinzhong's secondary schools.

The data analysis followed a series of steps. First, the researcher familiarized themselves with the data, ensuring all interview responses and observation notes were accurately recorded. Next, initial coding was conducted to identify significant information related to the English learning environment and its influences, such as "teachers' encouragement," "project-based learning classes," and "promotion of English learning." These keywords were listed as primary codes.

The researcher then reviewed each code, counting the frequency of participants who mentioned them to identify the most relevant ones. The codes were grouped into categories to facilitate summarization. For instance, the codes "possessing cross-cultural thinking," "expanding international perspectives," and "fostering cultural understanding" were grouped under the category "influences on students' cultural understanding and international thinking." After completing the categorization process, overarching themes were developed.

For themes related to the English learning environment, the researcher referred to Zhang Jiani's (2023) categorization in her article [1] and combined it with participants' responses. For example, the categories "teaching-related settings and designs" and "competent English

teachers” were grouped under the theme “teaching and teaching-related environment,” while categories such as “competitions and performances,” “group dynamics,” and “communication activities” formed the theme “social English learning environment.”

Themes related to the influences of the English learning environment were summarized based on the compiled codes and categories. For instance, the theme “promotion of students’ English language study” included codes and categories specifically addressing improvements in students’ language skills and learning outcomes.

Lastly, the researcher reviewed and refined the categorization and thematic structure for clarity and specificity. For example, under the theme “students’ personal development,” the category “students’ personal changes” was divided into two subcategories: “students’ observable changes,” such as improved grades and broadened horizons, and “students’ internal changes,” such as enhanced moral character and improved self-confidence. This refinement ensured a more nuanced understanding of the data.

4. Findings

4.1. Teachers and Teaching-Related Environment

Teachers and teaching-related settings were identified as pivotal in shaping the English learning environment. This category was divided into two subthemes: teaching-related settings and designs and competent English teachers.

4.1.1. Teaching-Related Settings and Designs

Teaching-related settings and designs were highlighted by most participants, encompassing English teaching and learning resources, English stratification, and project-based learning classes. Among these, project-based learning classes emerged as the most frequently discussed factor, mentioned by 10 participants (4 students and 6 teachers). These classes were considered highly effective in fostering students’ interest in English, promoting cultural understanding, and encouraging deeper engagement with the language. For example:

Student A4: “Our project-based class also improves my interest in English language learning.”

Teacher B8: “Project-based learning classes promote cultural understanding, enhance motivation, and deepen students’ understanding of English knowledge.”

Participants also emphasized the importance of English teaching and learning resources, such as textbooks, multimedia equipment, and online platforms. These resources were viewed as essential tools for both teachers and students. Teachers used them to structure lessons effectively, while students found them valuable for diverse and enriched learning experiences. This indicates that teaching resources not only facilitate structured lesson planning but also offer students opportunities to engage with English in various ways.

English stratification, a system grouping students based on their proficiency levels, was specifically noted in School C. Participants from this school highlighted its benefits, particularly in improving learning efficiency:

Student C10: “Through stratified learning, my efficiency has improved in class.”

Teacher C6: “English stratification meets the diverse needs of students at different levels.”

The absence of stratification in Schools A and B suggests inconsistencies in teaching quality and highlights the need for broader implementation of this approach to ensure equitable learning opportunities.

In summary, teaching-related settings and designs significantly contributed to enhancing students’ learning efficiency, fostering interest in English, and promoting cultural understanding. However, disparities in the adoption of stratification point to areas for improvement in teaching practices across schools.

4.1.2. Competent English Teachers

The role of competent English teachers was emphasized by half of the participants. Two key contributions were identified: teachers' promotion of communication and their efforts in environment construction.

Participants frequently noted the critical role teachers played in facilitating communication in the classroom. Teachers employed interactive activities and appropriate teaching methods to encourage English communication among students, thereby improving their speaking and listening abilities:

Teacher A2: Teachers used various interactive activities and proper teaching methods to promote English communication, enhancing students' speaking and listening skills.

Teachers' efforts in creating supportive and engaging English learning environments were equally important. They were praised for motivating students and fostering confidence. One participant vividly described the transformation brought about by a new teacher:

Student A4: In my first semester in secondary school, my class's English atmosphere was poor. Most students lacked confidence, and our vocabulary memory was weak. However, our new teacher created a better English learning environment, encouraging us to communicate more in English through activities like answering questions in a chain. As a result, our class became the top-performing group in English learning.

This account illustrates the profound impact of competent teachers in creating effective learning environments. Through innovative teaching methods and motivational strategies, teachers not only improved students' understanding of English but also fostered a positive and interactive classroom atmosphere. These efforts directly contributed to students' improved communication skills and academic performance.

4.2. Physical English Learning Environment

The physical English learning environment in the three schools could be categorized into two aspects based on participants' responses: students' handmade productions and resources and surroundings provided by schools.

4.2.1. Students' Handmade Productions

Participants frequently mentioned various activities involving handmade productions, such as picture book creation, Shouchao Bao (hand-copied projects), and video-making. Among these, picture book production was identified as the most representative activity. A teacher described the process:

Picture book production requires students to independently collect Chinese and foreign stories and explain them in English. Their work is displayed in a designated area of the school building, with outstanding projects available for everyone to review. This activity enables students to develop flexible thinking and switch between Chinese and English modes.

These handmade productions not only provided students with opportunities to engage with cultural elements but also allowed them to consolidate their English knowledge by revisiting classroom content. For instance, students needed to collect diverse stories and present them in English, fostering both cross-cultural understanding and language proficiency. This activity exemplifies how creative outputs can promote students' interest in English while enhancing their cross-cultural thinking and linguistic skills.

4.2.2. Resources and Surroundings Provided by Schools

The second aspect of the physical English learning environment involved resources and surroundings prepared by schools, including slogans, books, newspapers, and multimedia resources such as audio recordings and videos. Among these, slogans, books, and newspapers were the most frequently mentioned.

Slogans were highlighted by half of the participants as a simple yet effective element for promoting English learning. These slogans served multiple purposes, including increasing students' exposure to English, fostering a positive learning atmosphere, and instilling moral values. Examples included motivational or instructional phrases displayed in bilingual or English-only formats:

Student A3: "There are English slogans related to conduct, like 'Be quiet' and 'Turn off the switch when leaving the classroom.'"

Teacher C2: "School English slogans not only beautify the campus environment but also create an immersive learning atmosphere, allowing students to engage with English in their daily routines."

However, some participants noted areas for improvement. For example, Student C7 mentioned that "not all slogans are displayed in bilingual or English language, which limits their impact." This feedback suggests that while slogans are generally effective, schools could further enhance their utility by ensuring comprehensive and consistent bilingual displays.

Books also received positive feedback, with participants emphasising their role in improving reading skills, expanding vocabulary, and deepening cultural knowledge. Student A6 emphasised that "reading English books helps us (their) learn vocabulary and understand English culture better". Teachers also pointed out the "extensive collection of English books" that the school library had, which provided students with opportunities to further expand their vocabulary and reading comprehension.

Participants also discussed the benefits of newspapers in promoting language use and improving reading abilities. Although mentioned less frequently than books, newspapers were valued for their relevance to classroom content and their ability to integrate grammar, vocabulary, and new expressions:

Student B2: "I like reading English newspapers in the school's English corner; it improves my vocabulary and comprehension skills."

Teacher C4: "Reading newspapers regularly enhances students' overall language abilities, helping them apply classroom knowledge to practical contexts."

These resources collectively support students in merging into an English-language atmosphere, enhancing their reading skills, and gaining cultural knowledge.

Interestingly, not all participants were fully aware of the physical resources available in their schools, leading to inconsistent recognition of elements such as books and slogans. For example, some students said there were "not many books" in their schools while others specially emphasized their "library had many English books". Similarly, while some students appreciated the slogans and even learned from them, others admitted they overlooked them in their daily routines.

This inconsistency highlights the need for schools to improve the visibility and accessibility of these resources. By raising awareness and encouraging active utilization, students can better take advantage of the physical learning environment to enhance their language skills.

4.3. Social English Learning Environment

The construction of the social English learning environment in the three schools was categorized into three key aspects: competitions and performances, group dynamics, and communication activities.

4.3.1. Competitions and Performances

Competitions and performances emerged as integral components of the social English learning environment. Three main activities were identified: speech contests, drama performances, and English song competitions. Among these, speech contests were mentioned most frequently, followed by drama performances and English song competitions. These events were widely

praised for their ability to stimulate students' interest in English and enhance various language-related skills. Students and teachers highlighted several benefits, including promoting language use, improving listening and speaking abilities, fostering deeper understanding of English knowledge, and providing valuable communication opportunities. For instance, some teachers said that "oral English competitions, English speech contests, debates, and drama performances could create a better English atmosphere, increase students' interest in learning English, and improve listening and speaking abilities". Besides, one student also said that "various kinds of competitions improved his motivation and help him understand and consolidate knowledge". These activities provide students with diverse opportunities to practice and apply their language skills in creative and engaging ways, contributing to their overall linguistic and personal development.

4.3.2. Group Dynamics

Group activities were another critical aspect of the social English learning environment. Both students and teachers emphasized the importance of collaborative learning, highlighting the positive impact of group activities on English-speaking abilities, communication skills, and cross-cultural understanding. For example:

Student A2: "Group activities allow us to communicate more with each other during group work."

Teacher C2: "By establishing English clubs or communication groups, students are encouraged to engage in daily English communication, which enhances their communication skills and fosters cross-cultural understanding."

These findings suggest that group activities provide students with opportunities to interact in English, facilitating the exchange of ideas and cultural insights. By collaborating with peers, students can better understand the differences and similarities between English and Chinese cultures, thereby deepening their cross-cultural awareness.

4.3.3. Communication Activities

Communication activities formed the most robust aspect of the social English learning environment, with four primary factors identified: communication in class and out of class, English corners, English clubs, and storytelling sessions. Each factor was instrumental in promoting students' communication skills and overall language proficiency.

Communication in class and out of class was frequently mentioned by participants. While most students relied on teachers to create opportunities for communication, some, like Student C12, took the initiative to practice English in informal settings. For example:

Student A5: "The communications among teachers and students are frequent and entirely in English, which definitely improves oral English."

Student C12: "After class, I often joke with my classmates in English. It helps me practice my English thinking and oral communication."

English corners, designed as interactive spaces for English practice, received positive feedback from both students and teachers. These spaces were recognized for enhancing language proficiency, promoting interest and motivation, and providing a real-world communication environment. For instance:

Teacher A8: "English corners provide students with opportunities to practice and use English, improving their language proficiency."

Student B5: "By communicating in English corners, I can enhance my vocabulary memory, improve my pronunciation, and develop an interest in English learning."

Similarly, English clubs fostered linguistic and collaborative skills through activities such as interviews conducted in English. Moreover, storytelling sessions, a kind of unique activity in

School B, were praised for their dual focus on language and cultural literacy. These sessions promoted communication, expanded vocabulary, and fostered cultural awareness.

In conclusion, while the social English learning environment was generally strong and well-developed, a notable limitation was the lack of student initiative in communication. Most students relied on structured activities led by teachers rather than actively seeking opportunities to engage in English.

4.4. Cultural English Learning Environment

The cultural English learning environment in the three schools was limited, with only two elements identified: current literature courses and culture-related materials. These elements were recognized primarily for their role in expanding students' understanding of English culture.

4.4.1. Current Literature Courses

Current literature courses were formal reading programs designed to expose students to information about foreign countries and global events. However, these courses were mentioned by only a few participants from School C. The courses mainly focused on extracurricular newspapers supplemented by corresponding videos introduced in the classroom. One teacher explained that "students will be more interested in various information presented in the English version." Another teacher elaborated on the course's structure, stating:

It is a course where students read two types of newspapers appropriate to their English proficiency levels. Teachers address students' questions about the readings, which cover topics such as global politics, economy, culture, entertainment, and sports events.

Despite being formal courses, only three out of twelve participants in School C recognized these courses as beneficial for enhancing cultural knowledge. This lack of awareness suggests that many students were either unaware of the course's objectives or did not fully appreciate its potential for fostering cultural immersion. This gap might indicate the need for more effective communication of the course's aims and its integration into broader cultural English learning strategies.

4.4.2. Culture-related Materials

The element of "culture-related materials" was quite few and only one material was mentioned by participants: 21st Century Newspapers. The use of 21st Century Newspapers faced a similar challenge. Although these newspapers were available to all students, they were mentioned by only three participants across the three schools. These newspapers covered a wide array of topics, including international events, news, movie reviews, game critiques, musician profiles, cultural columns, local idioms, customs, and cuisine. One student from School B remarked:

It is a newspaper that includes various contents such as international events, news, and cultural columns. It helps us know more about English culture and broadens our horizons.

While these newspapers had the potential to significantly enhance students' cultural awareness and interest in English-related topics, their limited mention highlights the lack of emphasis on their utilization. This underlines the broader issue of insufficient integration of cultural elements into the English learning environment.

The findings reveal a significant gap in the cultural English learning environment compared to other aspects of English learning. Many participants overlooked the cultural resources available in their schools, often perceiving them as secondary to exam-oriented outcomes. Some participants even expressed that their schools lacked cultural initiatives unless teachers occasionally integrated cultural content into their lessons. This oversight may stem from systemic educational priorities that focus heavily on grammar, vocabulary, and test performance, often at the expense of cultural immersion. However, a well-developed cultural

English learning environment can significantly benefit students by deepening their cultural understanding, fostering greater interest in English, and broadening their global perspectives. Overall, the construction of the English learning environment across the three schools was assessed as satisfactory, though significant areas for improvement were identified. The teachers and teaching-related environment and social English learning environment were relatively well-developed, featuring diverse and effective elements. However, the physical English learning environment and cultural English learning environment were less robust, with fewer resources and limited integration. The challenges of resource underutilization, limited awareness, and an imbalance in educational priorities underscore the need for targeted interventions to achieve a more holistic and inclusive approach to English education.

The discussion section will delve deeper into these findings, exploring their implications for language learning, their alignment with existing literature, and potential strategies to address the identified gaps. This analysis aims to provide a comprehensive understanding of how the English learning environment can be optimized to support diverse learner needs.

5. Discussions

5.1. Discussions of RQ1

The findings of this study indicate that while overall English learning environment in Jinzhong, Shanxi, is generally satisfactory, specific areas require targeted improvement. The quality of the current environment aligns with the principles of information processing theory, which posits that learning occurs through the stages of motivation, comprehension, retention, and generalization. When the learning environment effectively supports these stages, students are more likely to receive, process, and retain language input, ultimately enhancing their English proficiency.

Teachers and teaching-related environments emerged as the strongest aspect of the learning environment, particularly aligning with the motivation, comprehension, and retention stages of information processing. Teachers played a pivotal role in fostering students' interest in learning English through methods such as project-based learning, encouragement, and interactive classroom activities. These strategies not only stimulated student motivation but also deepened their understanding of English knowledge. Syafiqurrahman et al. (2024) similarly argue that external factors like teacher support and peer interactions are critical in enhancing students' academic achievement [6]. Furthermore, Yang (2024) highlights how teachers' use of questioning techniques sustains student attention and reinforces knowledge retention [30], practices reflected in this study. Additionally, teachers' emphasis on repetition and key content facilitated knowledge consolidation, supporting Zhang's (2023) assertion [26] that cognitive strategies like summarization and review enhance long-term memory. From this perspective, the teaching-related environment in Jinzhong is well-developed and effective in supporting language acquisition.

The physical English learning environment, while satisfactory in its construction, exhibited some weaknesses, particularly in the comprehension and retention stages. Resources such as picture books, posters, and slogans provided visual stimulation and opportunities for knowledge reinforcement, aligning with Liu's (2016) findings that external visual stimuli can positively influence unconscious learning [31]. However, this study identified a lack of awareness among students regarding these resources. As Orim et al. (2023) note, dysfunction at any stage of information processing can hinder learning outcomes [32]. When students fail to notice or utilize physical resources, the potential for comprehension and retention diminishes. Therefore, fostering greater student awareness and engagement with physical learning materials is crucial for maximizing their benefits.

The social English learning environment was the most well-developed aspect, encompassing diverse activities such as competitions, performances, group work, and communication exercises. This environment effectively addressed all four stages of the information processing theory. Activities like debates, storytelling, and group discussions enhanced motivation, provided opportunities for comprehension through peer interactions, facilitated retention through repeated practice, and supported generalization by encouraging students to apply knowledge in new contexts. This aligns with Vygotsky's socio-constructivist theory, which emphasizes the importance of social interaction in learning [33]. Additionally, Yang (2024) underscores the value of direct, real-time feedback in promoting engagement [30], a benefit strongly evident in social environments that allow students to receive immediate responses from teachers and peers. Despite its strengths, the study suggests that expanding the range of social activities could further enhance students' engagement and motivation.

The cultural English learning environment was least constructed, with few elements identified. Lan (2024) also notes a similar situation in senior high schools [34]. However, cultural environments align well with the motivation and comprehension stages, particularly through the use of English movies, literature and culture-related knowledge. Cui (2020) and Malekigorji et al. (2022) similarly emphasize the importance of cultural elements, highlighting that literature and films are vital in language learning as they stimulate interest and deepen cultural understanding [35, 36]. Future efforts should focus on strengthening cultural English learning environments, as their current underdevelopment limits their potential benefits.

5.2. Discussions of RQ2

The study also explored the influences of the English learning environment on students' language acquisition and development.

First, the promotion of English learning was a prominent outcome. Participants reported improved learning efficiency, enhanced comprehension, consolidated knowledge, and stronger linguistic skills. Zhao (2024) similarly emphasizes the importance of creating diverse and engaging learning environments to enhance English language acquisition [37]. Teachers and teaching-related environments, along with social activities, were particularly influential in achieving these outcomes. Manuel et al. (2024) also affirm that tools such as libraries, peer collaboration, and interactive learning environments significantly contributed to students' English proficiency [38].

Second, the environment supported the development of communication skills, a transferable capability essential for both academic and daily life. The social English learning environment played a particularly critical role, providing opportunities for students to engage in real-world communication through activities like debates, storytelling, and group projects. Serdyukova et al. (2024) advocate for experiential learning as the most effective method for building complex skills like communication [39], which aligns with this study's findings.

Third, the findings highlighted the environment's role in cultivating cross-cultural understanding. Participants emphasized the value of activities and resources that introduced cultural knowledge, such as books, storytelling sessions, and project-based learning. Namsaeng & Ambele (2024) similarly stress the importance of cultural teaching in motivating students and fostering intercultural competence [40]. Physical resources and social activities were particularly instrumental in facilitating cultural exposure, supporting Mu & Yu's (2023) call for diverse intercultural activities to promote cross-cultural awareness [41].

Finally, the learning environment promoted students' personal growth and development, such as broadening horizons and enhancing interests in English. The importance of teachers and teaching-related environment in achieving these outcomes was supported by Sunandar et al. (2024) and Fu (2012), who highlight how external factors like engaging teaching methods and teacher support influence students' interest in learning [42, 43]. Additionally, other aspects of

environments, such as physical and social components, also contributed to broadening students' horizons. Zeng (2018) underscores this point, emphasizing that resources like original English books, stories, and cultural-related materials can significantly expand students' perspectives [44].

6. Conclusion and Implications

This study explored the current state of English learning environments and their impacts on secondary school students in Jinzhong, Shanxi, providing valuable insights for various stakeholders. While the findings highlighted positive aspects of teaching-related, physical, social, and cultural learning environments, they also revealed areas for improvement, particularly in the underutilization of cultural and physical resources, limited awareness of existing tools, and an overemphasis on test-oriented learning. In conclusion, although an imbalance exists among different aspects of English learning environment, the overall construction is reasonable and helpful according to information processing theory. Fully utilizing and improving these factors could significantly enhance the benefits for students and other stakeholders involved in English education. The following recommendations are offered for teachers, policy makers and future researchers.

Teachers play a central role in shaping the learning environment and can use these findings to refine their instructional methods. For instance, incorporating more activities such as storytelling sessions, debates, and speech contests can enhance students' speaking skills and motivation. Moreover, fostering professional collaboration between schools can help teachers share effective practices, leading to mutual growth and more dynamic classroom environments. For policymakers, the results highlight the need to address imbalances in the construction of English learning environments. The lack of cultural learning opportunities calls for targeted policies promoting the integration of cultural elements, such as the inclusion of literature, films, and intercultural exchange programs, into the curriculum. By emphasizing cultural learning, policymakers can ensure a more holistic approach to English education that goes beyond linguistic skills to include global awareness and critical thinking.

To build upon the findings of this study, future research should consider expanding its scope. The sample size in this study was relatively small, limiting the generalizability of its findings. Future research could examine larger and more diverse samples across different regions to generate more comprehensive insights into English learning environments in secondary schools. Additionally, exploring English learning environments at advanced educational levels, such as senior high schools or universities, could offer valuable comparisons and identify consistent patterns across educational stages. Longitudinal studies could also assess how changes in English learning environments influence students' development over time, providing a deeper understanding of the sustained impacts of these environments.

In conclusion, this study serves as a foundational step in addressing the research gap on English learning environments in Jinzhong. Although limitations such as time constraints, sample size, and subjective interpretation are acknowledged, the findings offer practical recommendations for improving language education. By applying these insights, educators, parents, and policymakers can work collectively to create more effective and inclusive English learning environments. This collaborative effort will not only benefit current students but also contribute to the broader goal of enhancing English education in similar contexts.

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