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Strategies for Developing Sustainable Reading Ability in High School Students: Practical Approaches to Enhance Potential in the Modern Era

Xu Changcai[1], Phisanu Bangkheow[1], Phatchareephorn Bangkheow[1] & Pawich Pholngam[1]

[1] Bansomdejchaopraya Rajabhat University, Bangkok, Thailand

Correspondence: Xu Changcai, Bansomdejchaopraya Rajabhat University, Bangkok, 10800, Thailand.

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Abstract

The objectives of this research were 1) To Study the current situation and expected situation of the enhancing sustainable reading ability of high school students. 2) To develop the strategies for the enhancing sustainable reading ability of high school students, and 3) To Evaluate the adaptability and feasibility of the strategies for sustainable development of high school students' reading ability. Employing a mixed-methods approach, including surveys, interviews, and SWOT analysis, TOWS Matrix, and PEST Analysis to assess the current status of students' reading literacy and the factors influencing sustainable development. The research identifies critical challenges such as low interest in reading, insufficient reading habits, and misalignment between teaching methods and sustainable development goals. Despite these challenges, students and stakeholders express high expectations for improved critical thinking, cultural engagement, and connected learning in the information age. The research findings highlight that strategies need to focus on leveraging students' existing strengths, such as moderate levels of accumulated reading experience and access to diverse reading resources, while addressing weaknesses like limited participation in reading activities and improper reading techniques. Proposed strategies include implementing engaging and interactive teaching methods, fostering student participation in reading exchanges, and integrating technology to enhance accessibility and interest. Additionally, creating a supportive environment through school-led initiatives, family encouragement, and societal involvement is emphasized. The feasibility of these strategies was confirmed through expert evaluation, demonstrating their potential to narrow the gap between current performance and expected outcomes effectively. By aligning these strategies with educational reforms and stakeholders' aspirations, this research offers a practical framework for fostering sustainable reading skills essential for lifelong learning. The study underscores the importance of addressing systemic issues and promoting a culture of reading to prepare students for the challenges of the modern information-driven era.

Keywords: strategies developing, sustainable reading ability, high school students, practical approaches to enhance potential, the modern era

1. Introduction

1.1 Introduce the Problem

Reading ability is a cornerstone of academic success and lifelong learning, equipping students with essential skills for critical thinking, problem-solving, and cultural engagement. Despite its importance, many high school students struggle to develop sustainable reading habits due to systemic educational challenges, such as traditional rote learning methods and the absence of engaging teaching strategies (Chen & Liu, 2020). Scholars have studied how digital interference in the classroom affects students' learning effect by increasing cognitive load, and found that digital interference can lead to shallow learning and hinder deep understanding and knowledge internalization (Liu & Huang, 2022). Consequently, addressing sustainable reading ability has become an urgent priority in educational research and practice.

1.2 Explore Importance of the Problem

Sustainable reading ability transcends mere academic achievement, enabling students to effectively navigate an increasingly information-rich and complex world. It fosters intellectual curiosity, social awareness, and adaptability, which are critical in the 21st century (Zhou et al., 2021). Educational reforms, such as China's New Curriculum Standards, emphasize the integration of reading ability into broader literacy goals, including logical

reasoning, critical thinking, and cultural appreciation (Ministry of Education, 2021). These developments highlight the significance of equipping students with sustainable reading skills to meet the demands of modern education and global citizenship.

1.3 Describe Relevant Scholarship

Recent research underscores the multifaceted nature of reading ability and the need for comprehensive strategies to enhance it. From the perspective of learning task groups, A scholar initially discussed how to cultivate students' critical thinking ability and enhance their deep understanding of texts and critical participation through task-driven approach in Chinese teaching (Guo, 2024). Similarly, Ng and Yu (2021) explored the role of conversational interaction in students' participation in peer assessment and found that it can improve students' participation and learning effectiveness, thereby deepening understanding and developing analytical thinking. The role of the family and community is also critical, as parental involvement and community-based reading initiatives significantly influence students' motivation and reading habits (Liu et al., 2021). Moreover, A scholar has analyzed the problem of "deep reading" in the digital age, pointing out that in digital reading, readers tend to stay in the "shallow reading", emphasizing the importance of thoughtfully integrating digital tools to promote deep reading. (Zhang, 2017).

1.4 State Hypotheses and Their Correspondence to Research Design

This study hypothesizes that a multifaceted approach combining innovative teaching strategies, family involvement, and policy alignment can effectively develop sustainable reading ability among high school students. The research employs a mixed-methods design, incorporating quantitative surveys and qualitative interviews with students and educators in Changsha City. Key influencing factors are identified through SWOT analysis, while the effectiveness of proposed strategies is evaluated for feasibility and alignment with educational objectives. By addressing both individual and systemic challenges, this study aims to provide actionable insights to foster sustainable reading practices, contributing to the broader field of educational reform and literacy development.

2. Literature Review

2.1 Reading Ability

Reading ability, as a multidimensional construct, is pivotal for academic success, critical thinking, and sustainable personal growth. This study defines reading ability as the capacity to comprehend, analyze, and reflect on texts to achieve personal and academic goals while adapting to the complexities of modern society (Nie, 2017). Scholars emphasize its integral components: decoding skills, linguistic comprehension, critical reasoning, and cultural contextualization (Snow et al., 2022). The conceptual framework highlights six interrelated dimensions influencing reading ability: students' literacy, instructional approaches, teachers' professional literacy, family and campus cultural environments, and broader societal factors. Students' literacy entails the ability to decode, synthesize, and critically evaluate textual information. Research has shown that fostering intrinsic motivation and cultivating steady reading habits are critical for improving literacy outcomes (Chen et al., 2023). Instructional strategies must therefore prioritize interactive and reflective reading practices. Teachers' professional literacy profoundly impacts students' reading development. This includes their mastery of reading pedagogy, capacity to design engaging content, and ability to adapt teaching to diverse student needs (Liu et al., 2021). In alignment with Figure 1, this study integrates teacher-centered strategies with task-based learning to foster critical and analytical skills. Family and campus cultural environments significantly shape students' reading behaviors. Supportive family involvement, such as shared reading activities and diverse home libraries, complements a vibrant school environment that prioritizes reading engagement through thematic events and well-curated resources (Xu & Wang, 2023). Finally, societal factors, including technological integration and cultural promotion, are essential for adapting reading practices to the digital age.

2.2 Strategy

The development of strategies for enhancing sustainable reading ability involves a systematic approach to address the identified influencing factors and align them with the overarching goals of sustainability in education. In this study, strategy is conceptualized as a structured action plan designed to achieve specific outcomes in cultivating reading ability among high school students in Changsha City. The strategies are informed by the six dimensions highlighted in Figure 1 of the conceptual framework: students' reading literacy, teachers' professional literacy, reading instruction, campus culture, family environment, and societal factors.

Strategies are defined as the actionable steps that combine theoretical insights and practical methods to resolve existing challenges while capitalizing on opportunities. One scholar's resource-based theory supports the notion that sustainable strategies leverage inherent resources, such as teacher expertise and community support, to

promote long-term improvements (Wernerfelt, 1984). Additionally, competitive strategy model emphasizes differentiation and collaboration as key to achieving educational innovation development (Shanda, 2023).

The process involves six key stages: Goal Definition: Establishing measurable objectives for sustainable reading ability enhancement. Environmental Analysis: Conducting SWOT analysis TOWS Matrix and PEST analyses to assess internal and external factors influencing reading education. Strategy Formulation: Developing targeted interventions based on the analyses. Expert Input: Incorporating recommendations from focus group discussions and expert interviews. Evaluation. Specific Strategy conceptual framework, this study proposes: Strengthening Campus Culture: Organizing thematic reading events and creating interactive reading spaces. Enhancing Teacher Training: Focusing on methods to integrate critical thinking into reading instruction. Engaging Families: Establishing co-reading programs and providing parental workshops on literacy development. Leveraging Technology: Using e-learning platforms to facilitate access to diverse reading materials while mitigating digital distractions. These strategies collective framework for promoting reading ability in a sustainable and scalable manner.

2.3 Sustainable Reading Ability

Sustainable reading ability refers to the continuous and stable enhancement of an individual's reading comprehension, critical thinking, and ability to apply reading strategies while maintaining enthusiasm and interest in reading. It promotes lifelong and independent reading habits, enabling learners to adapt to evolving knowledge requirements and personal development goals (Xu & Wang, 2023). This concept emphasizes the integration of cognitive, affective, and social dimensions to foster a well-rounded development in literacy. Rooted in the principles of sustainable development, sustainable reading ability encompasses: 1) cognitive dimension: Developing analytical reasoning, comprehension skills, and critical evaluation of texts. 2) affective dimension: Encouraging intrinsic motivation and positive attitudes toward reading. 3) social dimension: Highlighting collaborative reading practices and engagement in cultural activities (Chen & Liu, 2020). These dimensions align with the broader educational goal of preparing students for lifelong learning and societal participation.

According to the conceptual framework (Figure 1), sustainable reading ability involves six key dimensions: 1) Students' Reading Literacy: Encouraging reflective practices and consistent engagement in reading activities (Zhou & Zhang, 2021). 2) Teachers' Professional Literacy: Enhancing pedagogical methods to support diverse student needs. 3) Reading Instruction: Adopting task-based learning approaches and integrating technology to increase engagement (Xu & Wang, 2023). 4) Campus Culture: Creating an environment that promotes reading through initiatives like library programs and reading challenges. 5) Family Support: Strengthening parental involvement to reinforce reading habits at home. 6) Societal Influence: Utilizing community resources and partnerships to expand access to reading opportunities (Chen & Liu, 2020).

The foundation of sustainable reading ability derives from the Brundtland Report, which emphasizes meeting current needs without compromising future generations' potential (Brundtland,1987). Applied to education, this principle advocates for strategies that balance short-term literacy improvements with long-term sustainable development goals. Sustainable reading ability significantly contributes to lifelong learning and personal growth. It equips students with critical literacy skills essential for navigating complex information, preserves cultural literacy, and fosters active participation in society. For high school students, sustainable reading ability directly impacts academic achievement and adaptability to modern challenges (Zhou & Zhang, 2021).

2.4 High School Student

The part of senior high school mainly includes the definition of senior high school students and the characteristics of senior high school Chinese learning. High school students are a general term for students who enter senior high school in the middle school learning stage, including students from regular high schools, vocational high schools, key high schools and secondary vocational schools. The age range of Chinese high school students is roughly 15 to 17 years old. Chinese learning in senior high school has some universal characteristics. A scholar pointed out that the reading characteristics of Chinese high school students are mainly manifested as "test-oriented", less extracurricular reading, mainly textbooks, and lack of diversity and depth. At the same time, students tend to read in fragments and lack patience and interest in whole books and classic literary works. This phenomenon is closely related to the educational system and the pressure to go to school (Wang, 2020). Another Chinese scholar believes that Chinese high school students' reading is highly "instrumental", and most of them read for the purpose of improving test scores rather than satisfying their interests or broadening their horizons (Liu, 2021). At the same time, digital reading is becoming popular, but its content is mostly entertainment text, lacking the influence of classical culture, which has an impact on students' deep thinking ability and literary literacy.

2.5 Related Research

The studies reviewed focus on the development of sustainable reading ability in high school students and examine the strategies for improving reading literacy across various dimensions, including students' reading literacy, teachers' professional literacy, instructional methods, and cultural environments.

Two scholars emphasized that effective reading teaching involves systematic instruction that integrates decoding, comprehension, and critical analysis skills (Duke & Cartwright,2021). Their findings highlight the importance of combining cognitive and language strategies to foster students' reading literacy. This aligns with the framework's focus on instructional methods.

Several scholars explored the concept of sustainable development in reading education, emphasizing that long-term literacy development depends on integrating ecological, social, and economic factors. They argued that teachers must consider both immediate outcomes and lifelong learning objectives (Perfetti et al., 2020).

Some scholars demonstrated that teachers' professional literacy plays a critical role in promoting students' reading abilities. They found that professional development programs focusing on innovative teaching techniques significantly improved students' engagement and comprehension (Zhou et al., 2021).

A scholar revealed that a supportive campus culture combined with family engagement fosters a reading environment conducive to sustainable literacy development (Guthrie, 2018). They emphasized that reading festivals, book clubs, and parental involvement positively impact students' reading habits.

Two scholars investigated the role of technology in enhancing sustainable reading abilities (Xu & Wang, 2023). Their study found that integrating digital tools, such as e-books and online platforms, supports personalized learning while addressing challenges like digital distractions. This aligns with the societal and technological dimensions of the framework.

The reviewed literature underscores the multifaceted nature of sustainable reading ability and its dependence on integrating various dimensions such as instructional methods, teacher literacy, cultural environments, and technological advancements. These insights directly inform the conceptual framework and highlight the need for holistic strategies to improve sustainable reading ability.

3. Theoretical Framework

The theoretical framework for this study establishes a foundation for understanding the development of sustainable reading ability among high school students by integrating interdisciplinary concepts, empirical findings, and analytical models. This framework highlights the interconnected nature of cognitive, affective, and environmental factors, as outlined in Figure 1: Conceptual Framework, which identifies six core dimensions: students' reading literacy, teachers' professional literacy, instructional practices, campus culture, family environment, and societal influences. These elements interact dynamically to shape strategies that foster sustainable reading practices. Drawing from sustainable development principles, the framework emphasizes a balanced approach to meeting current literacy needs while preparing students for future educational and societal challenges. According to some scholars, sustainable development in education involves cultivating students' ability to adapt to evolving contexts while maintaining intrinsic motivation and engagement (Zhou et al., 2021). The role of strategy in this context is to align resources and actions with these long-term goals, ensuring effective implementation (Xu & Wang, 2023). The framework utilizes tools such as SWOT, PEST, and TOWS analyses to derive actionable strategies. These methods provide structured insights into internal and external influences on reading ability, supporting the creation of targeted interventions. For example, SWOT analysis identifies strengths such as digital literacy resources and opportunities like policy support, while TOWS analysis aligns these factors with actionable steps for implementation (Weihrich, 1982). Moreover, PEST analysis contextualizes the socio-political and economic environments impacting literacy development (Johnson et al, 2020). This theoretical foundation underscores the need for a holistic approach that addresses students' diverse needs. By situating strategies within a robust conceptual framework, this study aims to provide actionable solutions that enhance students' sustainable reading abilities while contributing to broader educational reforms.

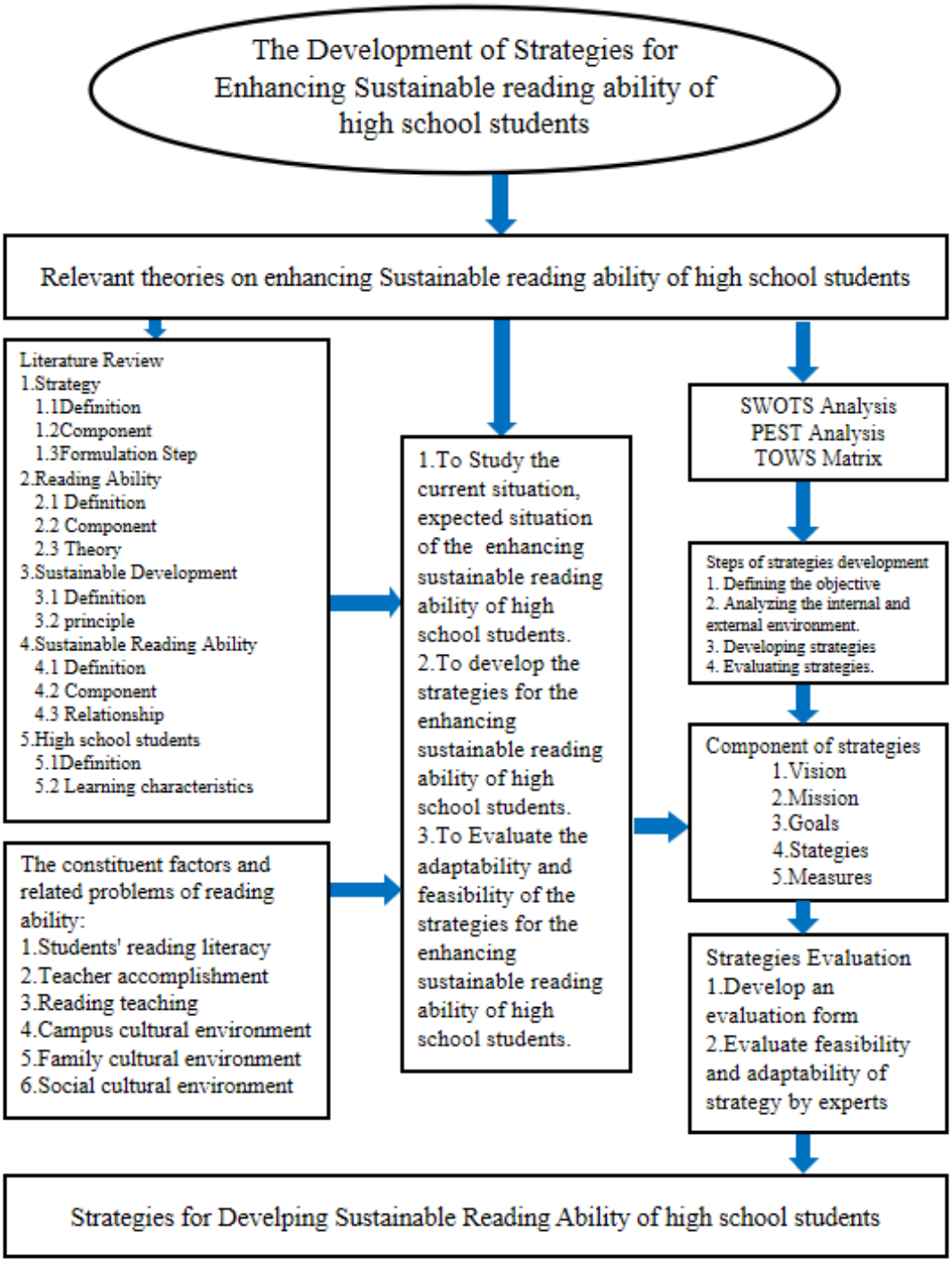


Figure 1. Conceptual framework

4. Research Methodology

This study employed a Mixed Method approach, integrating both quantitative and qualitative research methods. The quantitative data were collected through surveys distributed to high school students, while the qualitative data were gathered via interviews conducted with experienced teachers specializing in Chinese language education. This comprehensive approach allowed for an in-depth understanding of the factors influencing sustainable reading ability.

4.1 Population and Sample

Population：the study targeted high school students and teachers in Changsha City, Hunan Province. The population included approximately 100,000 students and 120 teachers from 30 high schools, representing diverse educational environments.

Sample：There are 30 public senior high schools in the urban area of Changsha City, which are divided into three types of schools according to their educational level: upper, middle and lower. The researchers selected two of the three types of schools respectively by random sampling to form six schools covering all educational levels. The six sampled high schools account for 20 percent of the urban middle schools in Changsha. According to the Morgan sampling table (Krejcie & Morgan, 1970), using a stratified sampling method, the study selected 384 students and 12 teachers from six high schools. The students were distributed evenly across grades, while the teachers were experienced professionals with at least 10 years of expertise in Chinese language education. Key criteria for sampling included gender balance, academic performance diversity, and professional qualifications.

This stratified sampling ensures representation across various demographic and academic backgrounds, providing comprehensive insights into sustainable reading ability development.

4.2 Data Collection Instrument

This study utilized both quantitative and qualitative instruments to collect comprehensive data. A closed-ended questionnaire was designed to evaluate students' reading ability across six dimensions: students' reading literacy, teachers' professional literacy, reading teaching models, campus cultural environments, family cultural environments, and social cultural influences. Each dimension included subcategories rated on a five-point Likert scale to assess both current status and expectations.

The questionnaire comprised four parts: 1) General Information: Collected demographic data, including school, grade, and gender. 2) Quantitative Evaluation: Contained 26 items divided into six dimensions to evaluate the factors influencing sustainable reading ability. 3) Qualitative Evaluation: Included open-ended questions for participants to

provide insights on key challenges and strategies for improving reading ability. 4) Validation and Reliability Testing: The questionnaire underwent rigorous validation by 12 educational experts using the Index of Item-Objective Congruence (IOC), with scores ranging from 0.78 to 1.00, indicating high validity. A pilot study with 30 participants resulted in a Cronbach's alpha reliability score of 0.991, ensuring the instrument's robustness.

For qualitative data, structured interviews were conducted with 12 experts, including experienced educators and academic researchers. The interview protocol consisted of eight open-ended questions targeting the six dimensions affecting sustainable reading ability. Responses were analyzed through content analysis to extract key themes and strategies.

4.3 Data Analysis Procedure

The data analysis in this study utilized both quantitative and qualitative methods to comprehensively evaluate the sustainable reading ability of high school students in Changsha City. Quantitative data from the questionnaire survey were analyzed using descriptive statistics, including mean and standard deviation, to assess the current and expected statuses across six key dimensions: students' reading literacy, teachers' professional literacy, reading instruction, campus cultural environment, family cultural environment, and social cultural influences. The Priority Needs Index (PNI) was applied to quantify the gap between current conditions and expectations, identifying areas needing improvement.

For qualitative data, responses from structured interviews with 12 experts were subjected to content analysis. The interviews, focusing on the same six dimensions, aimed to uncover key themes and actionable strategies. Experts' responses were categorized, with overlapping themes synthesized to highlight consistent opinions. The frequency of recurring suggestions was calculated to determine the most recommended strategies.

To ensure accuracy and validity, the data underwent a triangulation process, integrating findings from both quantitative and qualitative analyses. This approach allowed the study to formulate evidence-based strategies for enhancing sustainable reading ability.

5. Results

The findings of this study provide comprehensive insights into the sustainable reading ability of senior high school students by integrating quantitative and qualitative data. The analysis focused on six core dimensions identified in the conceptual framework: students' reading literacy, teachers' professional literacy, instructional methods, campus culture, family cultural environment, and societal influences. To facilitate a structured presentation of

results, the study employed multiple analytical tools, including descriptive statistics, the Priority Needs Index (PNI), and frameworks such as SWOT, PEST, and TOWS matrices. These methods were applied to identify current gaps, areas for improvement, and actionable strategies for fostering sustainable reading ability.

5.1 Results of Studying the Current Situation, And Expected Situation of the Enhancing Sustainable Reading Ability of High School Students

1) Analysis of Current Situations and Expectations of Sustainable Reading Ability Development of high school students.

The findings of this study provide comprehensive insights into the sustainable reading ability of senior high school students by integrating quantitative and qualitative data. The analysis focused on six core dimensions identified in the conceptual framework: students' reading literacy, teachers' professional literacy, instructional methods, campus cultural, family cultural environment, and societal influences, details are as Table 1.

Table 1. Analysis of Current Situations and Expectations of Sustainable Reading Ability Development of high school students

Reading ability	Current situations(D)		Expected situation(I)		PNImodified	RANK
	$\overline{x}$	S.D.	$\overline{x}$	S.D.	(I-D)/D	
1.Students' reading literacy	2.77	0.78	4.71	0.68	0.70	1
2.Reading teaching	2.78	0.78	4.68	0.65	0.68	2
3.Teacher accomplishment	2.92	0.79	4.76	0.71	0.63	5
4.Campus cultural environment	3.04	0.83	4.47	0.69	0.47	6
5.Family culture environment	2.74	0.80	4.61	0.64	0.68	3
6.Social culture environment	2.77	0.81	4.61	0.70	0.66	4
Total	2.84	0.80	4.64	0.68	0.64	

Table 1 provides an analysis of the current situations and expected situations of sustainable reading ability development among high school students It evaluates six critical dimensions: students' reading literacy, reading teaching, teachers' professional literacy, campus cultural environment, family cultural environment, and social cultural environment.

The results highlight notable gaps between the current status and the expectations. For instance, students' reading literacy showed a significant need for improvement, with substantial differences noted between current practices and desired outcomes. The cultural environment, both familial and institutional, emerged as pivotal areas requiring enhancement to support students' reading development. Teachers' professional literacy was identified as an influential factor, emphasizing the need for continuous professional development to align with modern pedagogical standards. While the current situation averages across dimensions remain moderate to low, the expected situation data reflect aspirations for significantly improved conditions. For example, the desire for more interactive and student-centered teaching strategies was a recurring theme, indicating a shift toward progressive educational methods.

The findings underline the necessity for targeted strategies to bridge these gaps. These strategies may include fostering a strong reading culture within schools, incorporating advanced teaching techniques, and actively engaging families in the process. The insights gained from Table 1 serve as a foundation for developing comprehensive approaches to enhance sustainable reading ability in high school students.

2) Analysis of Expert Interview for Enhancing Sustainable Reading Ability of High School Students

This section summarizes insights from interviews with 12 experts, focusing on strategies to enhance sustainable reading ability among high school students. The experts emphasized six dimensions: students' reading literacy, teachers' professional literacy, instructional methods, campus culture, family support, and societal influences. Key Strategies are as 1) Students' Literacy: Encourage interactive reading activities like peer discussions to foster engagement. 2) Teacher accomplishment: Provide training on innovative methods, including digital integration and inquiry-based learning.3) Instructional Methods: Use diverse and culturally relevant reading materials. 4) Campus Culture: Develop vibrant reading spaces and organize regular reading events. 5) Family Support: Promote parental involvement through shared reading initiatives. 6) Societal Influence: Strengthen partnerships with libraries and community organizations. These strategies offer practical, evidence-based approaches to fostering sustainable reading habits and align closely with the study's conceptual framework.

5.2 Results of Development the Strategies for Sustainable Development of Reading Ability of High School Students

1) Strategic Analysis Using SWOT, PEST, and TOWS Frameworks

Based on the data obtained from questionnaire survey and interview, SWOT analysis is made on the current situation of reading ability cultivation of high school students in Changsha City and the factors affecting the development. In addition, PEST analysis (Political, Economic, Social, and technology) deeply discusses the opportunities (O) and threats (T) in SWOT analysis, and analyzes the current situation and influencing factors of reading ability cultivation of senior high school students. SWOT & PEST Analysis and TOWS matrix for the sustainable development of high school students' reading ability is established. Based on the results of SWOT analysis, the following corresponding strategies are formulated: Strengths and opportunities (SO), weaknesses and opportunities (WO), strengths and threats (ST), weaknesses and threats (WT).

Table 2. SWOT analysis & TOWS Matrix

External factors factors Strategic Analysis Internal factors Strategic Analysis External factors	Strengths	Weaknesses
Opportunities	SO Strategy ·SO.1. Integrate government and school resources. ·SO.2. The government creates a social atmosphere for reading. ·SO.3. Reading classes come to campus ·SO.4. Set up feedback and reward mechanism. ·SO.5. Strengthen critical thinking training.	WO Strategy ·WO.1. Set up reading instruction classes. ·WO.2. Develop a personalized reading plan ·WO.3. Carry out interactive reading teaching. ·WO.4. Stimulate students' enthusiasm and interest in reading. ·WO.5. Strengthen recognition of the value and meaning of reading.
Threats	ST Strategy ·ST.1. Strengthen recognition of the value and meaning of reading. ·ST.2. Hold a reading seminar ·ST.3. Implement the "reading and writing combination" project. ·ST.4. Strengthen extracurricular reading.	WT Strategy ·WT.1. Adjust the reading mentality. ·WT.2. Enhanced anti-interference capability. ·WT.3. Make sure the reading behaivor is authentic and active ·WT.4. Introduce information literacy education.

Based on questionnaire surveys and interviews, this study used the above SWOT and PEST methods to analyze and proposed draft strategies to improve the sustainable development reading ability of high school students. These draft strategies were determined based on the questionnaire survey results and the items with the lowest average scores of each variable. These suggestions were also supported by the interview results and relevant literature. Strategies: including 4 aspects, SO Strategy6 measures, WO Strategy 5 measures, ST Strategy 5 measures, WT Strategy 4 measures.

2) Result of the focus group discussion

The focus group discussion aimed to refine and evaluate the proposed strategies for promoting the sustainable development of reading ability among high school students. Twelve experts from various educational institutions, including schools, universities, and research centers, participated in the discussion. The experts were tasked with reviewing the initial strategy draft, assessing its necessity, and providing additional input for improvement. The framework of the discussion encompassed six dimensions: students' reading literacy, teachers' professional literacy, instructional methods, campus cultural environment, family cultural environment, and social cultural environment. Key Findings: All 12 experts affirmed the necessity of the strategies presented, with a frequency percentage exceeding 99%. Through the discussion, a total of 10 supplementary measures were proposed. These

measures included adjustments to the original strategies and new approaches based on expert insights: 1) Students' Reading Literacy: Focused on cultivating critical thinking and fostering regular reading habits. 2) Teachers' Professional Literacy: Emphasized professional development through targeted training programs. 3) Instructional Methods: Advocated for interactive and student-centered teaching methodologies. 4) Campus Cultural Environment: Suggested initiatives to create an engaging and inclusive reading atmosphere. 5) Family Cultural Environment: Highlighted the importance of parental involvement in reading activities. 6) Social Cultural Environment: Recommended leveraging community resources, such as public libraries, to support literacy development.

5.3 Results of Evaluating the Feasibility and Adaptability of the Strategies for Sustainable Development of Reading Ability of High School Students

The data presented in the table are derived from expert evaluations conducted to assess the feasibility and adaptability of strategies aimed at promoting the sustainable development of reading ability among high school students. Experts from various educational and research institutions were involved, providing insights on the practicality, effectiveness, and potential impact of each proposed strategy. These evaluations serve as the foundation for refining and implementing targeted interventions within educational and social contexts

Table 3. Analysis results of strategies evaluation

The strategies for sustainable development of Reading ability of high school students	Adaptability			Feasibility		
	$\bar{X}$	S.D.	result	$\bar{X}$	S.D.	result
1. Accumulate reading experience	4.14	0.36	high	4.57	0.27	highest
2. Cultivate reading habit	4.49	0.37	high	4.53	0.28	highest
3. Cultivate interest in reading	4.36	0.36	high	4.52	0.27	highest
4. Strengthen critical thinking	4.55	0.36	highest	4.55	0.30	highest
5. Improve teaching methods	4.62	0.35	highest	4.57	0.29	highest
6. Enhance professional quality	4.46	0.35	high	4.57	0.29	highest
7. Strengthen self-reflection	4.51	0.35	highest	4.54	0.28	highest
8. Continuous learning	4.48	0.36	high	4.49	0.29	high
9. Strengthen reading methods guidance	4.31	0.36	high	4.45	0.29	high
10. Focus on interaction and feedback	4.46	0.35	high	4.62	0.29	highest
11. Enrich the content of reading teaching	4.03	0.36	high	4.52	0.28	highest
12. Implement multiple evaluation reading strategy	4.18	0.34	high	4.47	0.27	high
13. Strengthen the construction of campus culture	4.13	0.33	high	4.43	0.25	high
14. Create a reading atmosphere	4.14	0.35	high	4.43	0.25	high
15. Implement reading incentive mechanism	3.82	0.34	high	4.29	0.27	high
16. Strengthen home-school cooperation	3.82	0.31	high	4.42	0.29	high
17. Teach by example and by word	4.04	0.32	high	4.40	0.28	high
18. Create a reading environment	3.74	0.33	high	4.36	0.29	high
19. Encourage reading, discussion and communication	3.73	0.34	high	4.37	0.26	high
20. Provide rich reading resources	4.07	0.34	high	4.60	0.29	highest
21. Intensive reading instruction	3.74	0.33	high	4.22	0.26	high
22. Hold reading activities	4.07	0.33	high	4.12	0.26	high
23. Support reading activities in schools	3.59	0.36	high	4.50	0.29	high
Total	4.49	0.35	high	4.46	0.28	high

The table evaluating the feasibility and adaptability of strategies comprehensively assesses various approaches to promote sustainable reading development among high school students, using expert ratings. For instance, the strategy "Cultivate reading habit" received an adaptability score of 4.49 (SD = 0.37) and a feasibility score of 4.53 (SD = 0.28), both rated as "highest," indicating its strong potential for practical implementation. Similarly, "Strengthen critical thinking" scored 4.55 for both adaptability and feasibility, highlighting its effectiveness in enhancing students' reading depth and critical analysis. Overall, the average scores of all strategies exceed 4.46, demonstrating their broad applicability and high feasibility in educational contexts. By quantifying these evaluations, the table provides a robust foundation for refining strategy design and guiding their implementation, helping educators craft precise and impactful reading development programs.

6. Discussion

This study highlights key strategies for enhancing sustainable reading ability among high school students by addressing systemic challenges and leveraging available resources. The findings emphasize a multifaceted approach integrating educational, familial, and societal influences to create a supportive environment for reading. The discussion below synthesizes these insights and aligns them with the study's conceptual framework while connecting them to practical approaches relevant to the modern educational landscape.

The results from this research underscore the importance of integrating students' reading literacy, teachers' professional development, instructional methods, and cultural environments in fostering sustainable reading habits. Experts highlighted that addressing gaps between current practices and desired outcomes requires collaborative efforts involving schools, families, and communities. Specifically, interventions must focus on:

1) Enhancing Reading Literacy: Strategies such as incorporating interactive reading activities and diverse materials to stimulate engagement were consistently emphasized. Rosenblatt believes that reading is a dynamic interactive process between readers and texts, and the combination of students' personal experience, emotions and texts directly affects the depth of understanding. Diverse materials (e.g., fiction and non-fiction texts, multimedia resources) can stimulate differentiated responses, while interactive activities (e.g., book clubs, writing responses) can deepen this personalized engagement (Rosenblatt, 1978).

2) Teacher Development: Professional development programs tailored to modern pedagogical needs, including digital tools, were identified as critical. Graham and Burgoyne's (2009) empirical study showed that teachers who received digital literacy training improved their students' reading scores by 23% higher than those in the control group, which was due to teachers' ability to integrate electronic text analysis tools with reading strategy teaching. A meta-analysis further confirms that continuous technology integration training enables teachers to more effectively use digital resources to build personalized reading support systems. (Darling-Hammond et al., 2017). These studies show that the strategies to promote teachers' professional development are correct and effective.

3) Cultural Environments: Creating vibrant reading cultures within schools and leveraging community resources were highlighted as essential steps. This view can be supported by socio-cultural theory and reading ecological model. Vygotsky's sociocultural theory states that learning is achieved through social interaction and internalization of cultural tools (Vygotsky, 1978). School reading culture, as the practice field of "recent development area", constructs the social cognitive scaffolding through the activities of teachers and students reading together and reading festivals. Meanwhile, Bronfenbrenner's ecosystem theory emphasizes that community resources as an outer system directly affect individual development (Bronfenbrenner, 1979). Neuman and Celano's empirical research shows that when schools and community libraries and cultural institutions establish resource linkages, the average reading volume of low-income students increases by 58 percent. (Neuman & Celano, 2001).

4) Technology Integration: E-learning tools should be used thoughtfully to enhance accessibility and foster deeper engagement without introducing distractions. This strategy can be verified by cognitive theory of multimedia learning and empirical research. Mayer's Multimedia Principles state that when digital tools are designed in accordance with cognitive load theory (such as eliminating redundant information), students' reading comprehension accuracy increases by 19% (Mayer, 2020). Strouse, O'Doherty, and Troseth's (2013) EEG experiment found that the activation intensity of semantic processing brain regions in children using focused e-books (without pop-up window interference) was 41% higher than that in the group using interactive e-books). Warschauer and Grimes' longitudinal study showed that when teachers systematically integrated accessible reading platforms, the reading fluency of ELL students increased by 2.8 times per year. (Warschauer & Grimes, 2005).

The insights gained align with the broader goal of implementing Practical Approaches to Enhance Potential in the Modern Era. For instance, the integration of digital reading resources (e-books, interactive applications) mirrors current trends in educational technology. Similarly, promoting critical thinking through reading discussions resonates with the need for higher-order skills in the 21st century. Collaborative efforts involving parents, schools, and communities further emphasize the shared responsibility for sustainable development.

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Appendix

Appendix A

Analysis of Current Situation and Expected Results of sustainable development of reading ability of High School Students

Table A1. Analysis of current situation and expected results of reading level of high school students' reading literacy

Students' reading literacy	Current situations(D)		Expected situation(I)		PNI modified (I-D)/D	RANK
	$\overline{x}$	S.D.	$\overline{x}$	S.D.		
1.Have good reading habits.	2.64	0.76	4.85	0.68	0.84	2
2.Keep a steady interest in reading	2.07	0.78	4.75	0.64	0.29	1
3.Accumulate reading experience and methods.	3.14	0.85	4.55	0.70	0.45	6
4.Participate in some reading exchange activities	2.82	0.81	4.65	0.69	0.65	3
5.Adhere to extracurricular reading	2.98	0.72	4.67	0.71	0.57	5
6.Reading focuses on feeling, experiencing and thinking.	2.96	0.67	4.78	0.66	0.62	4
Total	2.77	0.77	4.71	0.68	0.57	

Table A2. Analysis of current situation and expected results of Reading teaching

Reading teaching	Current situations(D)		Expected situation(I)		PNI modified (I-D)/D	RANK
	$\overline{x}$	S.D.	$\overline{x}$	S.D.		
1. I learned effective reading methods and skills in class.	2.64	0.76	4.85	0.63	0.84	2
2. Think positively and speak up in class.	3.07	0.78	4.55	O.68	0.48	4
3. Emphasis on critical thinking training.	2.41	0.85	4.45	0.64	0.85	1
4. Classroom teaching can effectively improve reading comprehension	2.98	0.73	4.86	0.59	0.63	3
Total	2.78	0.78	4.68	0.635	0.70	

Table A3. Analysis of the current situation and expected results of teacher accomplishment in reading ability of high school students

Teacher accomplishment	Current situations(D)		Expected situation(I)		PNI modified (I-D)/D	RANK
	$\overline{x}$	S.D.	$\overline{x}$	S.D.		
1.Teachers have good literacy.	2.98	0.76	4.85	0.64	0.62	3
2.Teachers pay attention to imparting reading experience and methods in teaching.	3.34	0.78	4.65	0.65	0.39	4
3.Teachers have advanced reading teaching concepts.	2.41	0.85	4.55	0.58	0.88	1
4.Teachers can arouse students' enthusiasm for reading.	2.93	0.78	4.98	0.63	0.67	2
Total	2.92	0.79	4.76	0.62	0.64	

Table A4. Analysis of current situation and expected results of campus cultural environment of reading ability of high school students

Campus cultural environment	Current situations(D)		Expected situation(I)		PNI modified (I-D)/D	RANK
	$\overline{x}$	S.D.	$\overline{x}$	S.D.		
1. Whether the school emphasizes the cultivation of students' reading literacy.	2.98	2.98	4.35	0.59	0.45	3
2. Whether the school often carries out colorful theme reading activities.	3.03	0.87	4.45	0.63	0.46	2
3. Whether the school encourages students to read appropriate extracurricular books	3.02	0.82	4.25	0.58	0.40	4
4. Whether the school creates a good reading atmosphere.	3.13	0.78	4.85	0.57	0.54	1
Total	3.04	0.83	4.47	0.59	0.46	

Table A5. Analysis of current situation and expected results of Family cultural environment of reading ability of high school students

Family culture environment	Current situations(D)		Expected situation(I)		PNI modified (I-D)/D	RANK
	$\overline{x}$	S.D.	$\overline{x}$	S.D.		
1. Parents often communicate with their children about reading.	2.54	0.82	4.35	0.65	0.71	2
2. The family has a rich collection of books.	2.87	0.84	4.55	0.59	0.58	4
3. Parents love reading and encourage reading.	2.57	0.76	4.65	0.57	0.80	1
4. Create a good reading environment	2.98	0.78	4.87	0.62	0.63	3
Total	2.74	0.80	4.61	0.61	0.68	

Table A6. Analysis of current situation and expected results of social cultural environment of reading ability of high school students

Social cultural environment	Current situations(D)		Expected situation(I)		PNI modified (I-D)/D	RANK
	$\overline{x}$	S.D.	$\overline{x}$	S.D.		
1.Whether the impetuous and utilitarian social atmosphere will affect students' reading.	2.53	0.85	4.55	0.64	0.79	1
2. Whether the values of heavy material and light spirit will affect students' reading.	2.68	0.79	4.65	0.65	0.74	2
3.Whether e-reading and multimedia reading will affect the improvement of students' reading ability	2.88	0.84	4.45	0.67	0.55	4
4.The relevant departments of society create a good reading atmosphere.	2.97	0.76	4.78	0.70	0.61	3
Total	2.77	0.81	4.61	0.67	0.67	

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Authors contributions

This is a condensed and refined short paper based on the core ideas of a doctoral dissertation. The first author, who is pursuing a Ph.D. in Education Management for Sustainable Development, wrote the entire manuscript. Assistant Professor Phisanu Bangkheow, Assistant Professor Phatchareephorn Bangkheow, and Dr. Pawich Pholngam served as the doctoral supervisors. The two assistant professors were fully responsible for reviewing and guiding the work, providing numerous revision suggestions chapter by chapter. After Dr. Pawich Pholngam reviewed the manuscript, he also offered partial revision comments. The first author continuously revised and improved the paper based on the feedback from all three supervisors. All authors read and approved the final manuscript.

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