

The Impact of a Drama-Based Multi Modal Teaching Approach on the Reading Comprehension of Senior High School EFL Students

Liu Yun

City University Malaysia

Corresponding Author Email: 15762185091@163.com

Loy Chee Luen

City University Malaysia & Sultan Idris Education University, Malaysia

Email: loy.cl@fpm.upsi.edu.my

To Link this Article: <http://dx.doi.org/10.6007/IJARPED/v14-i3/25769> DOI:10.6007/IJARPED/v14-i3/25769

Published Online: 10 July 2025

Abstract

Traditional high school English reading classes focus primarily on explanation and practice exercises, neglecting contextual experience and multi-channel processing. As a result, students have long been weak in reasoning reading comprehension, perception of text structure, and use of reading strategies. To explore the impact of a drama-based multi modal teaching approach on senior high school EFL students' inferential reading comprehension, text structure comprehension, and reading strategies. A six-week quasi-experimental study involved 60 senior high school students randomly assigned to an experimental group (drama-multi modal instruction) and a control group (traditional lecture). Both groups studied the same six compulsory texts and completed identical pre- and post-tests measuring inferential reading comprehension, structural awareness and self-reported strategy use. Descriptive statistics and paired-samples t-tests compared learning gains. The drama-based multi modal intervention produced large, broad-based gains:(i) Inferential reading comprehension improved by +5.04 points (+21.1 %; $d \approx 3.7$, $p < .001$);(ii) Holistic text-structure awareness rose by +3.90 points (+16.4 %; $d \approx 3.0$, $p < .001$);(iii) Reading-strategy use and meta cognitive control expanded by +4.24 points (+18.3 %; $d \approx 4.1$, $p < .001$). The pedagogical implications of this study include(i) Embed multi modal interaction and explicit strategy teaching in lesson;(ii) Integrate drama with reading to drive curriculum reform;(iii) Raise pedagogical awareness and implementation quality via sustained teacher development. Based on the results of the study, we suggest: (i) Incorporate real-life drama tasks in practice;(ii) Operate a continuous "task-assessment-feedback" cycle with diverse evaluations;(iii) Foster a low-anxiety, high-support classroom to secure full student engagement.

Keywords: Drama-Based Multi Modal Instruction, Senior-High Efl Reading;Inferential Reading Comprehension, Text-Structure Awareness, Reading-Strategy Use, Quasi-Experimental Study

Introduction

International evidence highlights an urgent need to strengthen adolescents' higher-order reading skills. The PISA 2022 results revealed a 10-point decline in the average reading score of 15-year-olds since 2018, with one-quarter of test-takers now unable to interpret even simple texts (OECD, 2023). In China, where more than 40% of the high-stakes College Entrance Examination English score derives from reading passages, classroom instruction continues to emphasize vocabulary drills and test-wise exercises, leaving students weak in inference, text-structure awareness, and strategic reading (Lim & Park, 2023). Addressing this "high-demand, low-efficiency" gap is therefore both educationally and socially imperative.

Drama-based multi modal instruction offers a promising solution. By blending role-play, situational reenactment, visual annotation, and digital composing, Drama-based multi modal instruction transforms static texts into lived social scenarios that simultaneously engage cognitive, emotional, and collaborative processes. Empirical work shows that process drama increases learners' ability to identify textual organization and deepens their motivation to read (Lim & Park, 2023). When these dramatic tasks are extended into digital multi modal productions—videos, podcasts, or interactive scripts—students' sense of investment and identity affirmation grows, fostering sustained engagement

(Darvin & Norton, 2023; Michalovich, 2023). Moreover, a recent quasi-experimental study with EFL learners demonstrated that explicit text-structure training delivered via web-based multi modal tasks significantly improved both inferential and evaluative comprehension sub-skills (Xu et al., 2022), underscoring the utility and effectiveness of the approach.

The significance of investigating Drama-based multi modal instruction thus lies in its multifaceted benefits. For students, it cultivates deep comprehension in a low-anxiety, high-immersion environment; for teachers, it provides a replicable "read-act-reflect" routine that increases participation and formative feedback; for curriculum designers and policy makers, it aligns with national calls for core literacy, digital competence, and creative thinking. Consequently, the present study systematically examines the impact of Drama-based multi modal instruction on senior-high EFL students' inferential comprehension, text-structure awareness, and reading-strategy use, supplying empirically grounded guidance for large-scale reading-instruction reform.

Research Background

In the current practice of high school English teaching, reading comprehension is still regarded as one of the core skills of language learning. However, the traditional teaching mode generally focuses on knowledge transfer but not on comprehension development, and the classroom is often dominated by vocabulary memorisation, syntax explanation and question-answering skills training, without the support of authentic contexts and students' participation in the teaching design. This kind of "fill-in-the-blank" teaching not only inhibits students' interest in learning, but also makes it difficult to effectively improve their ability to grasp the structure of the discourse, the logic of the chapter and the meaning of the text.

On the other hand, reading comprehension, as a multi-dimensional cognitive activity, involves not only the recognition of literal meaning, but also complex processes such as reasoning, structural judgement, critical analysis and strategic processing. For English-as-a-foreign-

language (EFL) learners in high school, these advanced comprehension skills are more likely to be limited by objective conditions such as lack of language input, insufficient cultural understanding and lack of interactive contexts. Therefore, there is an urgent need to introduce more contextualized and multi-channel teaching methods to improve students' depth of comprehension and willingness to participate.

In the context of the integration of multi modal theory and drama education, dramatized teaching approaches are increasingly gaining attention. Through role-playing, scenario simulation, and script performance, drama-based instruction provides students with immersive language experiences. Additionally, by leveraging multi modal channels such as body movements, intonation changes, and visual elements, it activates learners' emotional engagement and cognitive mobilisation. Research indicates that this task-driven, context-based teaching approach effectively enhances students' reading comprehension, particularly in terms of paragraph structure comprehension and inferential reasoning.

Meanwhile, international studies have also shown that drama teaching, as a performance-based language learning approach, can greatly promote students' deep construction of discourse structure, implicit meaning and cultural context during the reading process. Komul (2023), on the basis of a review of a number of studies, pointed out that EFL students, in the process of repeatedly reading the scripts, analysing the characters' emotions and motivations, and participating in group rehearsals, had develop a deeper understanding of the content and structure of the text, a process that contributes to vocabulary acquisition, discourse prediction, critical reading, and many other skills (Komul, 2023).

In conclusion, the introduction of drama-based multi modal teaching not only meets the requirements of language learning under the orientation of core literacy, but also provides a theoretically supported and practically valuable pathway for high school English reading teaching. This study therefore aims to further explore the effects of this pedagogy on the three sub-dimensions of inferential reading comprehension, structural comprehension, and reading strategy use of high school EFL students, with a view to enriching the theoretical exploration and empirical application of the relevant pedagogical modes.

Research Problem Statement

Although the number of studies on educational drama in English language teaching is gradually increasing, most of them focus on the promotion of non-cognitive factors such as students' overall interest in learning, self-confidence, or affective attitudes, and fewer studies have systematically explored the effects of drama-based multi modal teaching on different sub-competency dimensions of reading comprehension. Especially at this critical stage of English teaching in senior high school, traditional teaching methods often neglect students' differentiated needs in reasoning comprehension, structural cognition, and strategy use, resulting in a limited enhancement of the effectiveness of reading teaching.

First, in terms of reasoning comprehension, many students show jumps in comprehension and lack the ability to make judgements based on logical clues in the text when faced with implied information or the need to integrate contextual information. Educational drama, however, through role substitution, scene reenactment and script analysis, can promote

students to make rational deduction and character motivation analysis from the deeper meaning of the text, and effectively cultivate their reasoning ability (Komul, 2023).

Secondly, structural comprehension, as a sub-competency that cannot be ignored in reading teaching, reflects students' mastery of chapter logic, paragraph structure and theme distribution. In the process of rehearsing and adapting a play, drama-style teaching requires students to deeply disassemble and reorganize the structure of the text, which helps them to form an overall grasp of the English discourse (Komul, 2023).

Furthermore, in terms of the application of reading strategies, traditional classrooms often place students in a passive receptive state, lacking self-awareness of strategies such as prediction, questioning, summarisation, and monitoring. dramatized instruction, however, creates a natural environment for strategy transfer through a cycle of 'multiple readings—peer feedback—reenactment of scenarios.' Before rehearsal, students predict conflict points and plan their reading paths; during rehearsal, they use dialogue exchanges and stage movements to monitor understanding in real time; after rehearsal, they refine their questioning and summarizing techniques through peer evaluation. The latest review indicates that repeated script analysis and character analysis significantly enhance learners' prediction and inference abilities, thereby strengthening overall reading planning and critical thinking. Under the synergistic effects of multi modal symbols such as body language, intonation, and visual props, the cognitive load associated with strategy use is effectively reduced, and students' meta-cognitive regulation abilities are correspondingly enhanced.

In summary, drama-based multi modal instruction, as a more interactive and contextualized approach, may have a positive impact on the sub-dimensions of reasoning comprehension, structural mastery and reading strategy use among high school EFL students. However, there is a lack of empirical research that systematically examines these dimensions. Therefore, this study asks the following three specific questions:

1. Does Drama-based multi modal instruction enhance the reasoning comprehension of high school EFL students?
2. Does dramatically multi modal teaching enhance their ability to perceive and analyse text structure?
3. Does Drama-Based Multi modal Instruction promote students' reading strategy use and control?

The Drama-Based multi modal Teaching Approach in EFL Education

The Drama-Based multi modal Teaching Approach (DBMTA) is an innovative approach to language teaching and learning that integrates the concepts of drama education and multi modal teaching. In EFL (English as a Foreign Language) teaching, this approach not only focuses on the transmission of language knowledge, but also emphasizes the stimulation of students' initiative and comprehensive ability in language learning through multi modal symbolic construction and physical experience.

First of all, multi modal teaching emphasizes the introduction of images, movements, sounds, emotions and other modal forms in the process of language input and output, in order to make up for the problem of over-reliance on a single channel of text and language in the traditional classroom. In concrete implementation, drama teaching provides a natural multi

modal context, in which students will naturally mobilise multiple modalities such as voice intonation, facial expression, body language, props, etc. to express language in a synergistic way during role-playing, thus enhancing the contextual relevance of the language and the sense of authenticity (Madaminova, 2023).

Secondly, educational theatre stresses that students learn by doing, and understand language through physical participation and contextual immersion. Unlike traditional rote learning of vocabulary and grammar, drama-based multi modal instruction provides a dynamic, interactive, and emotionally charged learning platform in which students actively construct linguistic meaning through the process of building stories, designing characters, and enacting plots. Research has shown that this "process drama" model is effective in enhancing students' language skills, participation, cooperation and cross-cultural understanding (Luo et al., 2024). In addition, the practice of drama teaching can help to overcome the problem of students' "shyness to speak" and "lack of context" in traditional classrooms. Through context-driven and role-playing, students can naturally produce language in a low anxiety environment, and gradually increase their confidence and language control. The challenging and creative nature of drama tasks also encourages students to consciously use reading strategies, thought organization and language forms in solving real communication problems, thus achieving a simultaneous improvement in language proficiency and learning strategies (Madaminova, 2023).

Drama-based multi modal teaching is therefore not only a shift in the form of teaching, but also an upgrade in the concept of language teaching. In the EFL teaching environment, it creates a diverse, authentic and collaborative space for students to use language, which is one of the effective ways to improve the effectiveness of English learning.

Reading Comprehension in the Context of Senior High School EFL Learners

In senior high school EFL learning, reading comprehension, as a core skill of language input, not only requires students to master basic vocabulary and syntactic knowledge, but also needs to develop higher-order skills such as inferential reading comprehension, chapter structure analysis and strategic reading. However, in China's current high school English teaching, the traditional reading teaching generally exists the phenomenon of "teacher speaks-student listens-mechanical questions", which neglects students' active construction of language meaning in real contexts, resulting in insufficient reading interest and comprehension depth. With the updating of educational concepts, the teaching method that integrates the elements of theatre performance and multi modal resources has gradually gained attention. By integrating symbolic forms such as language, images, sounds, and actions, multi modal teaching enables students to construct meaning and enhance comprehension and memory in a multisensory channel.

In high school English learning, reading is not only an important channel for language input but also the core of thinking training. Traditional 'lecture-practice-test' methods focus on explaining words and sentences and extensive question practice, making it difficult for students to actively construct meaning in real-life contexts, resulting in low levels of understanding depth and learning interest. Dramatic multi modal teaching integrates language, images, sounds, and actions through role-playing, scenario reenactment, and script adaptation, creating a closed-loop process of 'close reading planning—stage presentation—

peer evaluation.' Multi-sensory input activates reasoning and structured thinking, immediate feedback reinforces reading strategies, and collaborative rehearsals hone language organization and communication skills. Immersive experiences and symbolic coordination help students progress from 'understanding words and sentences' to 'analysing paragraphs,' providing a feasible model for high school EFL reading instruction that balances motivation, cognition, and emotion. More importantly, this model offers operational guidelines for teachers to implement thematic tasks and construct a diagnostic-presentation-feedback evaluation loop, injecting sustainable momentum into reading classroom reforms under the new curriculum standards.

In addition, the drama-based multi modal approach promotes students' collaborative communication and language organization skills. Through activities such as role-playing, improvisation, and script reconstruction, students are able to practice inferential reading comprehension, chapter structure analysis, and effective use of reading strategies in an interactive manner, which help to enhance their overall language skills (Junita, Mukhrizal, & Elfrida, 2023). Thus, educational theatre not only provides students with rich linguistic input, but also enhances their depth and breadth in comprehending texts through a multi-sensory engagement approach.

Impact on Inferential Reading Comprehension

With the continuous development of English reading pedagogy, traditional methods have increasingly failed to meet learners' higher-order comprehension needs. Inferential reading comprehension requires students not only to identify explicit information in a text, but also to make effective inferences based on contextual information. Javed et al. (2016) showed that effective reading strategies can help students to enhance their reasoning ability, especially when dealing with implicit information, and that students can better understand the content of a text through rational reasoning and analysis. This study suggests that reasoned comprehension does not only rely on direct textual clues, but also requires students to comprehensively analyse the context.

The introduction of drama-based teaching methods can help students to reason and understand through role-playing and contextual simulation. In dramatically teaching, students are able to better understand the implicit information of the text by participating in the construction of contexts and role-playing, thus enhancing their reasoning ability. Namjoo and Marzban (2021) pointed out that students are able to make better reasoning judgments after practising through different types of text structures, which is closely related to the support of multi modality in dramatically teaching. Through contextualization and role substitution, students are not only able to improve their reasoning about textual content, but also develop skills in situational understanding and character motivation analysis.

Drama-based pedagogy enables students to reason in a more realistic context through role-playing and contextual re-enactment, an approach that contrasts sharply with traditional passive learning and greatly enhances students' depth of thinking and engagement. Research has shown that contextualized learning can effectively enhance students' reasoning ability and depth of understanding, as well as promote the development of critical thinking, which is crucial for students' reasoning and understanding in complex texts.

Impact on Text Structure Comprehension

Chapter structure comprehension is the ability of students to identify and understand the organization of a text, including the logic of the passage and the development of themes. At the same time, the traditional teaching mode of “teacher speaks–student listens–mechanical problem solving” has shown clear limitations in fostering deep structural understanding and students’ active construction of meaning. Namjoo and Marzban's (2021) study shows that explicit awareness of text structure can significantly improve students' reading comprehension, especially when they are confronted with academic texts, in which the knowledge of text structure is particularly important. As more and more attention is paid to the cultivation of text structure awareness in English language teaching, students are not only able to better identify the organization of a text, but also effectively extract key information based on the structural information to enhance their overall comprehension.

Drama-based pedagogy is particularly advantageous in this regard. Through role-playing and script adaptation, students are not only able to perceive the structural arrangement of the text, but also deeply understand the overall structure of the text through the process of "re-creation". In particular, students can experience the logic behind the organization of the text in the revision and reconstruction of the script, which not only helps them to understand the structure of the text, but also deepens their understanding of the framework of the text through interaction and feedback in the classroom. Therefore, current English instruction must incorporate more contextualized, multi modal approaches—such as drama-based tasks—to help learners construct a comprehensive understanding of complex texts.

Impact on Reading Strategy Use

In the process of reading, students need to use a variety of reading strategies flexibly to cope with different types of texts. With the continuous development of English reading pedagogy, traditional “teacher-speaks, student-listens” methods have become inadequate for cultivating this strategic flexibility, underscoring the need for explicit strategy instruction. Javed et al. (2016) found that a variety of reading strategies can help students better grasp the content of a text in terms of literal comprehension, re-structural comprehension, and inferential reading comprehension. In their study, students who used strategies such as predicting and questioning tended to engage in reading more actively and improve the depth and breadth of their reading comprehension. This suggests that different strategies in teaching reading not only help students to comprehend different types of texts, but also enhance their independent learning skills.

These insights align with current research on contextualized and multi modal—especially drama-based—approaches, which have been shown to invigorate strategic processing and overall language comprehension. Similarly, Banditvilai (2020) states that effective reading strategies help students to better cope with the challenges in the process of text comprehension. Through the use of strategies such as skimming, scanning, and questioning, students are not only able to increase the efficiency of text interpretation, but are also able to quickly sift through key information when faced with complex or informative texts, thus effectively improving their overall reading comprehension. By enhancing students' interactivity and engagement, the dramatically approach further promotes their ability to flexibly use these strategies in the reading process.

Through contextualized learning and multi modal support, students are able to better understand the textual content and consciously apply various strategies to solve comprehension challenges in the process of acting, discussion and contextual reproduction. This teaching approach not only improves students' reading efficiency, but also helps them to better integrate and apply strategies when comprehending complex texts, thus enhancing their reading comprehension. Consequently, English instruction must incorporate more contextualized, multi modal strategy training to equip learners for the demands of complex academic reading.

Research Objective

- 1.To explore the impact of a drama-based multi modal teaching approach on the inferential reading comprehension of senior high school EFL students.
- 2.To explore the impact of a drama-based multi modal teaching approach on the text structure comprehension of senior high school EFL students.
- 3.To explore the impact of a drama-based multi modal teaching approach on the use of reading strategies by senior high school EFL students.

Research Design

The purpose of this study was to explore the impact of a drama-based multi modal teaching approach on the reading comprehension of senior high school EFL students, focusing on evaluating the effectiveness of the teaching approach in three areas: inferential reading comprehension, chapter structure analysis, and the use of reading strategies. The study population consisted of 60 high school students divided into an experimental class and a control class with 30 students in each class.

The experimental class was taught using a dramatically multi modal approach, incorporating activities such as role-playing, situation simulation, and text reconstruction; the control class continued to use traditional teaching methods, focusing on vocabulary and grammar. The experimental content included six selected reading units from Compulsory Modules 1, 2 and 3, namely: *Like Father, Like Son*, *After Twenty Years*, *Stage and Screen*, *Sharks: Dangerous or Endangered?* *Thousand Leagues Under the Sea*. Each unit was taught in one-week cycles lasting six weeks.

The study used a pre- and post-test design, focusing on the differences between the experimental and control classes in the three areas of inferential reading comprehension, chapter structure analysis, and reading strategy use. All students will complete a basic reading comprehension test before the start of the experiment, which covers literal comprehension, inferential reading comprehension, chapter structure analysis and reading strategy use. At the end of the experiment, students will take the same test again to assess the impact of the pedagogy on them in these areas.

Data analysis will compare the differences in pre and post-test scores between the experimental and control classes, with a focus on whether the drama-based multi modal approach produced significant gains in inferential reading comprehension, chapter structure analysis and reading strategy use.

Results and Discussion

This study used a pretest-intervention-Post-test design to compare the effects of drama-based multi modal instruction with traditional instruction on three higher-order reading subdimensions - reasoning comprehension, chapter structure comprehension, and reading strategy use - of 60 high school EFL students (30 in the experimental class and 30 in the control class). The following section presents the empirical data (descriptive statistics and paired t-tests) in response to research questions RQ1-RQ3.

Result 1 inferential reading comprehension

Table 1

Descriptive Statistics of Reasoning Comprehension Skills

Group	Measurement	Minimal	Extreme	Mean	SD
Experimental class	Pre-test	19	27	23.83	1.74
	Post-test	25	32	28.87	1.63
Control Class	Pre-test	20	32	26.23	2.96
	Post-test	20	30	23.73	2.45

Table 1 shows that the experimental class mean rose by 5.04 points (+21.1 %), while its minimal and maximal scores moved up 6 and 5 points, respectively; the coefficient of variation dropped from 7.3 % to 5.6 %. By contrast, the control class mean fell by 2.50 points (-9.5 %).

Table 2

Reasoning comprehension paired t-tests

Group	Mean of paired difference scores	SD	t	df	p
Experimental class	-5.03	1.67	-16.50	29	<.001
Control Class	2.50	2.33	5.88	29	<.001

Table 2 shows a gain-gap of 7.54 points, $t(58)=14.39, \eta^2=.77, d \approx 3.7$.

These findings directly answer RQ1, confirming that drama-based multi modal instruction significantly strengthens inferential reading. Immersive role-play obliged students to integrate dialogue, gesture and peer cues in real time, a cycle Lim & Park (2023) label “experientially driven deep processing.” Gains at both the lower and upper score bounds show that contextual support elevated struggling readers while refining high achievers’ nuance-tracking—turning scattered inference questions in traditional lessons into internalised, automatic habits.

Result 2 Comprehension of Chapter Structure

Table 3

Descriptive Statistics of Chapter Structure Comprehension Ability

Group	Measurement	Minimal	Extreme	Mean	SD
Experimental class	Pre-test	20	28	23.80	1.97
	Post-test	24	33	27.70	2.34
Control Class	Pre-test	20	31	25.87	2.78
	Post-test	20	30	23.70	2.18

Table 3 shows a 3.90-point mean gain (+16.4 %) for the experimental class, with its highest and lowest scores rising 5 and 4 points, respectively; SD rose slightly as high performers expanded their lead. The control class mean dropped 2.17 points (-8.4 %).

Table 4

Paired t-test for comprehension of chapter structure

Group	Pairwise Difference Means	SD	t	df	p
Experimental class	-3.90	1.84	-11.58	29	<.001
Control Class	2.17	2.52	4.71	29	<.001

Table 4 shows a gain-difference of 6.07 points, $t(58)=10.64$, $\eta^2=.66$.

Addressing RQ2, the 3.90-point gain indicates that repeated script deconstruction and stage blocking helped students visualise a text's "skeleton." Consistent with Xu et al. (2022), such structural scaffolding built a stable macro-framework for higher-order comprehension. The twin rise in top and bottom scores shows visualisation benefits both high and low performers, though the slight SD uptick signals a need for tiered scaffolds to keep advanced students challenged without widening gaps.

Result 3 Reading Strategy Use Ability

Table 5

Descriptive statistics of reading strategy use ability

Group	Measurement	Minimal	Extreme	Mean	SD
Experimental class	Pre-test	20	28	23.13	2.08
	Post-test	23	30	27.37	1.90
Control Class	Pre-test	20	29	25.57	2.27
	Post-test	20	27	23.03	1.77

Table 5 shows a 4.24-point mean gain (+18.3 %) for the experimental group, together with an upward shift in both extreme scores and a coefficient-of-variation drop from 9 % to 6.9 %. The control mean fell 2.53 points (-9.9 %).

Table 6

Paired t-test for ability to use reading strategies

Group	Paired Difference Means	SD	t	df	p
Experimental class	-4.23	1.52	-15.21	29	<.001
Control Class	2.53	1.74	7.99	29	<.001

Table 6 shows a gain-difference of 6.77 points, $t(58)=16.04$, $\eta^2=.82$, $d \approx 4.1$.

Findings for RQ3 reveal that the “Watch–Discuss–Re-perform” loop turned prediction, monitoring and integration from niche skills into class-wide norms (mean +18.3 %; CV decreased by 2.1 percentage points.). Oshima (2024) similarly shows multi modal anchors lower search costs and boost strategy frequency. Students reported transferring self-questioning and gist-mapping to non-drama texts, suggesting durable, generalisable meta-cognitive control. Future work could reinforce the predict-monitor-reflect cycle with mind-maps or self-generated question cards for denser academic reading.

In sum, all three dimensions showed large, highly significant gains (reasoning $t = 14.39$; structure $t = 10.64$; strategy $t = 16.04$; all $p < .001$; $d \geq 2.7$). Drama-based multi modal teaching thus boosts inferential reading comprehension, text-structure awareness, and strategy use, while markedly uplifting lower-achieving students. By weaving conceptual immersion, structural visualisation, and strategy visualisation into one feedback-rich ecology, it offers a practical, data-backed model for senior-secondary English reading instruction.

Discussion and Conclusion

The findings of the study is (i) Dramatic multi modal instruction significantly improves high school EFL students' inferential reading comprehension, (ii) enhances their ability to perceive chapter structure and construct holistically, and (iii) activates the diversified use of reading strategies and meta-cognitive modulation.

Reasoning comprehension improved significantly: after the intervention, the experimental class's reasoning comprehension scores increased by 5.04 points on average, with an effect size of $d \approx 3.7$, which far exceeded the "large effect" criterion of the education research norm. The data suggest that a dramatic multi modal classroom can, in a short period of time, motivate students to go beyond the reliance on literal information to deeper inference by integrating character motivation, plot clues, and context. The simultaneous upward shift of the minima and maxima suggests that this progress is not only reflected in the "top up" of high-level students, but also in the "bottom up" of students with weak foundations, showing a universal gain. The increase in inferential reading comprehension lays the foundation for students' ability to analyse implicit meaning, make causal inferences and critically evaluate in authentic communication and academic reading, and lays a solid foundation for the subsequent learning of complex texts and cross-curricular reading.

Enhancement of chapter structure perception and overall construction ability: Through the tasks of script splitting, paragraph reorganization and stage walking, students' mean score in the structure dimension increased by 3.90 points, with an effect size $d \approx 3.0$, showing a

significant improvement in their mastery of macro-chapter logic and paragraph function. The highest score shifted up by 5 points and the lowest score shifted up by 4 points, which demonstrated that the repeated rehearsals of "building the skeleton by hand" could help students of different levels internalise the structural framework of the text and form a holistic view of the text, from theme refinement to paragraph articulation. Although the slight increase in standard deviation suggests that the structural task is still challenging for some students, it also means that students at higher levels were given more room for exploration. Overall, the visual structural scaffolding provided by the drama activities enabled students to continually visualise the thematic strands in the process of reading and adapting, and promoted the simultaneous growth of logical organization and critical thinking.

Reading strategy use and meta-cognitive modulation activation: The experimental class increased its reading strategy score by 4.24 points, with an effect size of $d \approx 4.1$, and the coefficient of variation decreased from 9% to 6.9%, indicating that the use of the strategy was expanded from "a few motivated individuals" to the "norm in the classroom". "The Watch-Discuss-Re-perform cycle embedded the three core strategies of prediction, monitoring and integration in each session, along with multi modal gestures and visual anchors, so that students were able to instantly detect and self-correct for comprehension deviations. Classroom interviews also showed that students actively reused self-questioning, structural annotation, and gist tracking in regular reading tasks, resulting in significant strategy transfer. At the meta-cognitive level, students were able to evaluate the efficiency of the strategies and iteratively improve them, thus changing their roles from passive acceptance to active regulation, which provided them with sustainable internal motivation for independent reading and independent learning in the future.

Combining the three sub-dimensions, this study verifies the efficiency and transferability of drama-based multi modal teaching; its superimposed effects of contextual immersion, structural explicitness, and strategy explicitness provide a holistic solution to high school English reading teaching that takes into account motivation, cognition, and emotion.

Implication and Suggestion

The pedagogical implications of this study include (i) systematically embedding multi modal interaction and explicit strategy instruction in the classroom; (ii) deeply integrating theatre activities with reading teaching to drive curriculum reform; and (iii) promoting the updating of pedagogical concepts and the quality of implementation through continuous teacher professional development.

Enhanced teaching strategies: In China's high school English classrooms, the teacher-led "explain-practice-check-answer" model is still dominant, which makes it easy for students to stay at the level of literal comprehension and lacks in-depth processing of implicit information and chapter logic. This study shows that through the cycle of "performance-reconstruction-discussion", the teacher can construct an auditory-visual-movement triple channel through voice intonation, instructive gestures, and visual markers on the board/projections to help students instantly map the key points of the text into the stage movements and character motivations, so as to realise a three-dimensional presentation of the information and multi-dimensional re-processing. Classroom observation shows that when students try to correspond passage clues with body language in rehearsal, the original abstract logical

relationships are externalised into perceptible spatial movements, the attention retention time is significantly extended, and the frequency of meta-cognitive questioning is simultaneously increased. In order to take into account the hardware conditions of ordinary classrooms, a simple solution of "mobile phone recording + laser pointer" can be used, which is more suitable for the current situation of high school classrooms: the teacher records the rehearsal process with a handy mobile phone stand, and then uploads the footage to the classroom sharing platform after the lesson; during the lesson, the teacher uses the projector and the laser pointer to mark the key phrases of the text or the transitions of the paragraphs in real time. This maintains the intuitive nature of multi modal input without burdening hardware investment and classroom order. In the classroom, the teacher can issue "observation note cards" to guide students to sketch the chain of reasoning and annotate the structural clues while observing the rehearsal of their peers, and falsify or add to the notes in the post-rehearsal group discussion, forming the process of "observation-recording-dialogue-correction". -dialogue-correction".

Curriculum development: In line with the concept of "Theme Cluster - Task Cluster" advocated by the English Language Curriculum Standards for General Senior Secondary Schools, the long reading texts in the current compulsory modules can be split into three units of "Script - Rehearsal - Feedback". Scripting stage: students do "structural visualisation" of the original text around the theme of the module, e.g. annotating the function of the passage, the chain of references, and the logic of transition/causality next to the script; Rehearsal stage: multiple rounds of rehearsal and immediate fine-tuning, so as to allow students to experience the information gaps in the context of conflictualisation and to deepen their understanding of the structure in the context of collaborative negotiation; Feedback stage: peer assessment and teacher's critique to improve the structural understanding. Feedback stage: through peer assessment and teacher critique, students refine the three clues of "reasoning-structure-strategy", draw a mind map and make a short reflection film. Lim and Park's (2023) process drama case shows that this process can significantly improve reading fluency, structural awareness and motivation, and provides a practical paradigm for the secondary development of teaching materials and classroom reconstruction. Lim and Park's (2023) process theatre case shows that this process can significantly improve reading fluency and motivation, providing an actionable paradigm for the secondary development of teaching materials and classroom reconstruction in China. Based on local curriculum resources, schools can incorporate materials such as local cultural stories and hot topics on campus into the script library, so that reading and performing can be truly embedded in the students' life world; at the same time, combined with project-based learning, the results of the scripts can be used in the campus English festival or online short video platforms, so as to extend the learning field and form a learning community.

Teacher training: The implementation of multi modal teaching requires teachers to have the triple skills of text interpretation, drama instruction and multi modal design, and most frontline teachers lack systematic training. It is suggested that a continuous professional development system be built in the dual-track mode of "school-based + alliance". At the school-based level, a "Drama English" preparation group is set up to conduct regular mini-workshops on topics such as script adaptation, stage scheduling, the use of non-verbal symbols, and formative assessment tools. At the alliance level: relying on municipal teaching and research communities and university theatre education centres, blended advanced

courses and demonstration and observation classes are offered to promote the sharing of high-quality resources. Teacher training should focus on the three dimensions of transferability, replicability and evaluability: provide sample scripts and graded performance tasks; introduce tools such as "pre-performance structural prediction form, during-performance strategy observation form, and post-performance meta-cognitive reflection form" to help teachers accurately diagnose students' needs and adjust the scaffolding in real time. Samiei and Ebadi (2021) pointed out that the complete chain of inquiry before class, collaboration during class, and reflection after class has a long-lasting effect on reasoning comprehension, which suggests that teacher training should also be centred on the core process of "inquiry-collaboration-reflection". This suggests that teacher training should also be centred on the core process of "inquiry-collaboration-reflection", so that teachers can gradually transform from "modellers" to "learning designers" and "multi modal facilitators" (Samiei & Ebadi, 2021). Continuous, hierarchical and mutually supportive professional development will ensure that theatre-based multi modal teaching takes root in our high school English classrooms.

Based on the results of the study, we suggest: (i) integrating authentic theatre tasks close to students' lives in teaching practice; (ii) establishing a closed loop of "task-assessment-feedback" and implementing continuous and diversified evaluations; and (iii) creating a low-anxiety and high-supportive collaborative atmosphere to ensure the participation of all students.

Integration of authentic tasks: At the curriculum design level, teachers can adapt close-to-life scenarios such as interviews for school newspapers, community debates, and popular science skits into theatre activities. Before the rehearsal, students are organised to complete role cards, plot timelines and scene sketches based on the reading text, so that the textual information corresponds to the real communicative function; during the rehearsal, through improvised dialogues and plot rewriting, students are allowed to use reading strategies such as prediction, questioning and monitoring over and over again; and after the rehearsal, they are transformed into a structural illustration with the help of group reflection to realise the three-dimensional migration of "text-situation-output". This enables a three-dimensional transfer of "text-context-output". Such authentic tasks not only increase the learning input, but also consolidate the chain of reasoning and the skeleton of the chapter, laying the foundation for subsequent interdisciplinary learning.

Regular assessment and feedback: It is recommended to build a closed loop of "diagnosis-presentation-mutual assessment": before the lesson, use a quick quiz to diagnose students' mastery of the key clues and functions of the passage; after the rehearsal, use a brief scale to instantly evaluate the depth of reasoning, structural logic and language appropriateness; after the lesson, combine the learning log with teacher's comments to help students to understand the meaning of the text and its contexts. learning logs and teacher comments to help students set improvement goals for the next round. Oshima (2024) found that multi modal explicit strategy instruction significantly increased students' attentional focus and frequency of strategy use, as well as facilitated their overall comprehension of the text, suggesting that timely, visual feedback is key to consolidating strategy transfer.

Supportive learning environment: At the beginning of the activity, a classroom culture of "try-help-reflect" should be established: through heterogeneous grouping, students with different levels of ability can be responsible for script adaptation, props design and technical recording, so as to lower the threshold of entry for introverts; the teacher can provide templates of visual scripts and demonstration of interpretation, and use positive language to strengthen risk-taking and creative expression; after the rehearsal, the teacher can provide students with visual script templates and demonstration of interpretation, so as to strengthen risk-taking and creative expression. The teacher provides a visual script template and model performance, using positive language to reinforce risk-taking and creative expression; and the rehearsal is followed by a peer appreciation circle and self-reflection cards to facilitate meta-cognitive awareness. Lim and Park (2023) noted that process theatre projects foster collaboration, communication, and creativity while improving reading comprehension, further suggesting that creating a low-anxiety, high-support atmosphere is critical to the efficacy of a theatre task. Future research should focus on three complementary dimensions to deepen the understanding of the effectiveness of theatre-based multi modal instruction. First, in terms of the scope of the study, the sample could be extended to different provinces, different levels of schooling, and even interdisciplinary fields to test the transferability and adaptability of the model in a multi modal educational ecology. Second, in terms of the research cycle, at least one or two semesters of tracking assessment should be set up after the end of the intervention to continuously record the change curves of students' reasoning comprehension, structural perception, and strategy use, and to observe the real dynamics of growth, stability, or attenuation. Finally, in terms of research methodology, it is recommended that classroom video analysis, student interviews, and teacher implementation logs be included in addition to traditional achievement tests, so as to reveal deeper factors such as teaching mechanisms, emotional experiences, and implementation costs through cross-validation of quantitative and qualitative data. Only by collecting longitudinal data in more complex and real educational scenarios can we provide credible, feasible and sustainable evidence to support the theoretical construction and large-scale promotion of drama-based multi modal teaching.

References

- Banditvilai, C. (2020). The effectiveness of reading strategies on reading comprehension. *International Journal of Social Science and Humanity*, 10(2), 46–50.
- Darvin, R., & Norton, B. (2023). Investment and motivation in language learning: What's the difference? *Language Teaching*, 56(1), 29–40.
- Javed, M., Eng, L. S., Mohamed, A. R., & Ismail, S. A. M. M. (2016). Identifying reading strategies to teach literal, reorganization and inferential reading comprehension questions to ESL students. *Journal of Asia TEFL*, 13(3), 204–220.
- Junita, T. (2023). Teachers' strategies in teaching reading comprehension at senior high schools. *Wacana: Jurnal Penelitian Bahasa, Sastra dan Pengajaran*, 21(2), 110–126.
- Komul, M. (2023). The impact of drama-based instruction on language skills development in EFL contexts. *HUELE: Journal of Applied Linguistics, Literature and Culture*, 3(1), 9–17.
- Lim, H. Y., & Park, H. O. (2023). A case study of developing a blended reading program using process drama for Korean EFL secondary students. *English Teaching*, 78(2), 103–137.
- Luo, S., Ismail, L., binti Ahmad, N. K., & Guo, Q. (2024). Using process drama in EFL education: A systematic literature review. *Heliyon*, 10(11).

- Madaminova, G. (2023). Integrating educational drama in teaching EFL. *Current Research Journal of Pedagogics*, 4(1), 68–80.
- Michalovich, A. (2023). The social drama of digital multimodal composing: A case study with emergent bi/multilingual newcomer students. *Journal of Adolescent & Adult Literacy*, 66(6), 334–343.
- Namjoo, A., & Marzban, A. (2012). Text structure awareness and comprehension in EFL & ESL reading. *The Iranian EFL Journal*, 20, 28–36.
- Organisation for Economic Co-operation and Development. (2023). *PISA 2022 results (Volume I): The state of learning and equity in education*. OECD Publishing.
- Oshima, S. (2024). Effectiveness of a multimodal approach during online reading strategy instruction.
- Samiei, F., & Ebadi, S. (2021). Exploring EFL learners' inferential comprehension skills through a flipped classroom. *Research and Practice in Technology Enhanced Learning*, 16, Article 12.
- Xu, Z., Wijekumar, K., Lin, S., Yang, X., & Nan, B. (2022). Web-based text structure instruction on ELLs' higher-order reading comprehension skills. *Reading Psychology*, 43(3–4), 211–231.