The Practice and Evaluation of Multimodal Teaching Method in English Reading in Senior High School

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Abstract: At present, the development of education advocates the integration of teaching and evaluation throughout the entire learning process. This is conducive to the comprehensive and personalized development of students, and the continuous improvement of instructors' teaching level. On the other hand, with the advancement of technology and the ongoing development of society, the integration of education with technology represents the future trend of educational development. As for English examination, reading is an indispensable part of English learning but for high school students, English reading can be perceived as monotonous due to the abundance of unfamiliar vocabulary, lengthy and complex sentences, paragraphs, unfamiliar discourse background knowledge, and unappealing topic content, all of which can diminish students' enthusiasm for learning. The multimodal teaching method is beneficial for solving the difficulties in high school English reading. With so many benefits, this teaching method inspires the author to think deeply about it. All these motivate the author to study more about it with the real classroom experience.

Keywords: multimodal teaching method; English reading; practice and evaluation

1 Introduction

At present, the development of education advocates the integration of teaching and evaluation throughout the entire learning process, combining summative evaluation with process evaluation, qualitative and quantitative evaluation, and diverse evaluation contents and methods. Formative evaluation was utilized to enhance the programme, whereas summative evaluation was employed to assess the programme's effectiveness and impact, as stated by Ansyari in 2015. This is conducive to the comprehensive and personalized development of students, and the continuous improvement of instructors' teaching level.

With the advancement of technology and the ongoing development of society, the integration of education with technology represents the future trend of educational development. Multimodal teaching is a method that teachers are willing to adopt nowadays. It is conducive to enhancing the fun of the classroom, arousing students' learning motivation, and creating a good learning atmosphere.

As for English examination, reading is an indispensable part of English learning, including listening, speaking, reading, and writing. Among the 150 points in the English college entrance examination, reading accounts for 50 points, highlighting the importance of reading in English. For high school students, English reading can be perceived as monotonous due to the abundance of unfamiliar vocabulary, lengthy and complex sentences, paragraphs, unfamiliar discourse background knowledge, and unappealing topic content, all of which can diminish students' enthusiasm for learning. The multimodal teaching method is beneficial for solving the difficulties in high school English reading.

With so many benefits, this teaching method inspires the author to think deeply about it. Does the multimodal teaching method genuinely enhance students' learning interest and outcomes, or does it merely serve to invigorate the classroom atmosphere without providing students with substantial knowledge, merely resulting in enjoyment? To what extent can students enhance classroom participation through multimodal

teaching methods? Does the integration of teaching and evaluation really help teachers and students understand the class better and solve problems, or do people intentionally hide problems or negative aspects in order to show a good result? All these motivate the author to study more about it with the real classroom experience.

2 Literature Review

Evaluation, according to Tyler, Kirkpatrick, and others in the 1950s, is the process of determining the degree to which stated educational objectives are truly being met. The classic objectives-correlated-to-outcomes method to evaluation has been greatly enlarged by subsequent generations of writers on evaluation in education, who have placed a greater emphasis on the process between the aims and the outcomes.

Summative articles typically focus on student accomplishment (quantitative) or other HR practices like reward systems (qualitative), whereas formative articles typically connect teacher assessment to professional growth. In a similar vein, Monyatsi, Steyn, and Kamper explain how teacher evaluation can lead to new skills and knowledge as well as knowledge of one's own strengths and limitations and professional advancement.

Ability, motivation, and behavior are the three categories of teaching outcomes in teacher evaluation, according to Tuytens, Devos, and Vanblaere. However, caution is warranted in qualitative research regarding the potential negative impact of excessive focus on teacher evaluation on children. Regarding research on teacher assessment that focuses on the results for teachers, they noted that, on the one hand, our review's findings indicated that teacher evaluation influences instructors' aptitude, drive, and conduct. They believed that a primary objective of teacher evaluation should be to enhance teachers' abilities and motivation, ultimately resulting in improved student outcomes, including test scores, student motivation, and, as demonstrated by Barile et al., a more positive student-teacher relationship climate, among other factors. Therefore, we believe it is essential that more and varied teacher assessment results be included in future studies.

Barthes, who wrote "Image-Music-Text" in 1977, was one of the first scholars to study multimodal discourse. In it, he explored how language and images interact to convey meaning. Kress and Van Leeuwen describe multimodality as the employment of many semiotic modes and their combination within a socio-cultural domain, resulting in a semiotic activity. The first group to use multimodality in language instruction was the New London Group. Since then, a growing number of academics have studied multimodality and language instruction. Kress and Van Leeuwen's image-based theory of visual grammar was evaluated by Li.

Mayer's Cognitive Theory of Multimedia Learning (CTML), which holds that the human brain dynamically chooses and arranges a multimedia presentation of words, images, and audio information, provides the fundamental mechanism for how multimodality affects cognitive processes during learning.

The theory of integrating multimodal teaching and teaching evaluation is continually being researched, developed, and refined. However, there is a notable absence of practical case studies and comprehensive teaching design processes that illustrate how to effectively combine multimodal teaching and evaluation for teaching and learning purposes as a reference.

3. Methodology

Taking Unit 2 Looking into the Future, Reading and Thinking, Smart Homes to Make Life Easier as an example, this unit discusses how the rapid development of technology in the future society has brought tremendous changes to people's lives. Starting from the perspective of smart homes, this article demonstrates

how smart homes enhance the convenience of home life through three aspects: intelligent controls, regular health monitoring, and the prevention of disasters.

Regarding the topic of future technology, the use of multimodal teaching methods enables students to more immersively experience the charm of technology in both visual and auditory senses. According to Chan, Chia, and Choo, learning scopes have expanded dramatically with the introduction of "new" media and developing technology. Redefining and reestablishing methodologies and pedagogies will be necessary to make room for the abundance of readily available knowledge.This unit will be taught in two classes, with a total of approximately 80 students. Prior to the commencement of the class, an examination was conducted for students across the entire grade. One class has an overall level of above average, while the other class has a weaker level. Among them, Class 4 ranks 6th out of 14 classes in the grade, and Class 7 ranks 12th. Therefore, in this lesson, some pictures, video animations, and audio will be used to help students understand the article and feel the atmosphere described by the author. Scheiter et al. recognized the importance of multimodality in learning and came to the conclusion that sequential text and picture presentation could aid in information processing. They based their findings on the cognitive theory of multimedia learning. Scheiter et al. asserted in their study that multimodality is beneficial since it helps to increase associations to long-term memory through dual coding in memory. They also argued that, as long as students are given enough guidance to perform at their best, multimodal texts' potential to improve learning cannot be disregarded.

Prior to this reading class, a multimodal PPT incorporating phonetic symbols, pronunciations, images, videos, and snippets related to the text of reading and thinking was utilized to assist students in learning the new vocabulary of the unit and previewing the article, thereby establishing a foundation for the class. Simultaneously incorporating evaluation throughout the teaching process of the entire class. According to the research of Halliday, Hodge and Kress, and Kress and van Leeuwen, multimodal communication consists of various "modes" or forms of communication (such as digital, visual, spatial, and musical) within different sign systems, which convey meanings recognized and shared by a social group. The example of the reading class is as follows:

X1 Unit 2 Looking into the Future
Reading and Thinking: Smart Homes to Make Life Easier

Learning Objectives

1. Identify the devices, functions and advantages of smart homes.
2. Analyze possible disadvantages of smart homes and brainstorm for relevant suggestions.
3. Create a smart classroom and present the design.

Teaching Procedures

1 Lead-in

(1) Look at a motion picture with sound, a smartwatch measuring human heart rate.

Q. What does it mean when we say that something such as a phone is “smart”?

(2) Watch the video.

Q. What is “a smart home”?

2 Pre-reading

Read the title and subtitles of the passage and get its text type.
This passage is a/ an _____.
A. narration B. exposition C. argumentation

3 While-reading

- **Fast reading**

1. Scan for topic sentences of each paragraph.

2. What's the structure of the passage?

- **Careful reading**
- **1. Para（1）**
- Why does the writer begin the paragraph with two questions?
- What are the advantages of smart homes?
- **2. Para (2)**

Read the first body paragraph and fill in table.

Devices	Functions	Advantages
lights, TV, _____	_____ control go into _____ mode everything will be _____ voice _____	make our life _____ (adj.)

3. Para（3-4） Read the remaining two body paragraphs. Work in pairs and complete the table.

Devices	Functions	Advantages

Tip：useful sentence pattern: In smart homes, we have _____(devices). It can/will _____(functions). This way, they make our life _____(advantages).

- **4. Para (5)**
- Why does the writer say "the home of tomorrow is already the home of today"?
- Read the conclusion and find out the writer's attitude towards smart homes.

A. Doubtful. B. Optimistic. C. Neutral. D. Opposed.

- **Critical thinking**

Discussion: watch a video and discuss: What might be some disadvantages of smart homes? What is your attitude towards smart homes?

4 Post-reading

Golden Ideas for Smart Classroom Design

1. Students are tasked with creating a smart classroom based on the template picture presented by the teacher, incorporating at least two smart devices：

introduce the functions, advantages,

possible disadvantages and solutions.

2. Decide your role:

S1, S2— draw the devices, S3, S4 — write down the introduction,

S5, S6 — give a presentation

Useful words and sentence patterns students can used in the presentation:

Useful sentence pattern : Hello, everyone. We are glad to present our design. In our smart classroom , we have _____ (device). It can _____ (function). We also have _____ (device). It will _____ (function) You may worry that _____ (possible disadvantage) but we will In a word , the smart classroom makes our life _____ (advantage).
Word chunks : Functions : automatic control ; voice commands ; monitor / detect / warn ... Advantages : time-efficient ; comfortable ; environmentally-friendly ... Possible disadvantages : expensive ; not stable / reliable enough ; overdependent Solutions : encourage competition ; improve the system ;...

The presentations should be evaluated using a form that assesses them in three aspects: content, design, and speaking skills.

Presentation Evaluation Form						
		G1	G2	G3	G4	G5
Content (2 points)	Complete Logical					
Design (3 points)	Creative Beautiful Neat					
Speaking (3 points)	Speaking clearly Be confident Communicate with audience					

5 Homework

1. Write a short passage about your dream smart home. You are advised to use the words you have learned in this period as many as possible.
2. Complete the exercises on your exercise book.

6 Self-assessments

I can...	Good	Fair	Try harder
Identify the devices , functions and advantages of smart homes.			
Analyze possible disadvantages of smart homes and brainstorm for relevant suggestions.			
Create a smart classroom and present the design.			

Within the teaching evaluation framework, student evaluations provide a direct perspective on teaching quality, given that students are the primary beneficiaries of the educational process. These evaluations aid teachers in pinpointing areas for enhancement, serving as evidence for university oversight and effectiveness. The objective of student evaluations is to motivate and support teachers in refining their teaching methods and achieving superior educational outcomes. Drawing on these evaluations, school authorities can offer guidance to teachers, urging them to consistently enhance their teaching quality and prioritize student development. In this lesson, students will be asked to self evaluate and teachers will evaluate the level of their performance based on the criteria of the evaluation form. Following the class, students are required to

self-evaluate their achievement of the teaching objectives for that class. The teacher assesses whether the class has met the learning objectives based on the students' assignments (essays and paintings) and classroom performance. Random one-on-one interviews were conducted with both teachers and students to gather their feedback and assess the teaching effectiveness of the class. Peer evaluation is a method where teachers and colleagues engage in mutual assessment. This interactive process allows peer teachers to provide a comprehensive and fair evaluation of each other's teaching activities, fostering a harmonious growth environment for teachers, students, and schools. The subsequent survey categorizes students' goals into three levels for each item: Excellent, Good, and Requires Improvement.

4 Result and Significance

After class, the survey data of teachers and students were analyzed using SPSS, and the following results were obtained.

		Frequency		
Items	Categories	□	Percent (%)□	Cumulative Percent (%)□
Objective 1 (n=58)	2.0	6	10.34	10.34
	3.0	52	89.66	100.00
Objective 2 (n=58)	2.0	9	15.52	15.52
	3.0	49	84.48	100.00
Objective 3 (n=58)	1.0	1	1.72	1.72
	2.0	9	15.52	17.24
	3.0	48	82.76	100.00
Teacher evaluation	1.0	18	23.08	23.08
	2.0	22	28.21	51.28
	3.0	38	48.72	100.00
Group collaboration	1.0	20	25.64	25.64
	2.0	12	15.38	41.03
	3.0	46	58.97	100.00
Total		78	100.0	100.0

Figure 1 Students' evaluation of the completion level of learning objectives, teachers' evaluation of students' learning and group tasks

Objective 1			
Categories	Frequency	Percent	Cumulative Percent
2.0	6	10.34%	10.34%
3.0	52	89.66%	100.00%
Total	58	100.0%	

Figure 2 Data on different levels of completion of learning objective 1

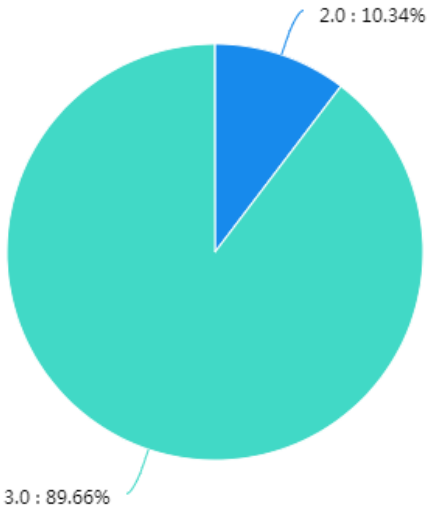

Figure 3 Pie chart of different levels of completion for learning objective 1

Objective 2			
Categories	Frequency	Percent	Cumulative Percent
2.0	9	15.52%	15.52%
3.0	49	84.48%	100.00%
Total	58	100.0%	

Figure 4 Data on different levels of completion of learning objective 2

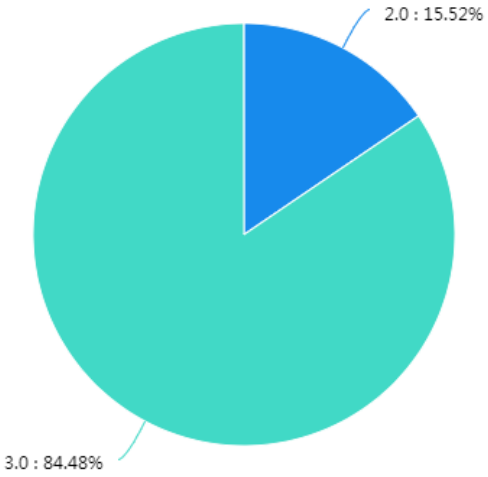

Figure 5 Pie chart of different levels of completion for learning objective 2

Objective 3			
Categories	Frequency	Percent	Cumulative Percent
1.0	1	1.72%	1.72%
2.0	9	15.52%	17.24%
3.0	48	82.76%	100.00%
Total	58	100.0%	

Figure 6 Data on different levels of completion of learning objective 3

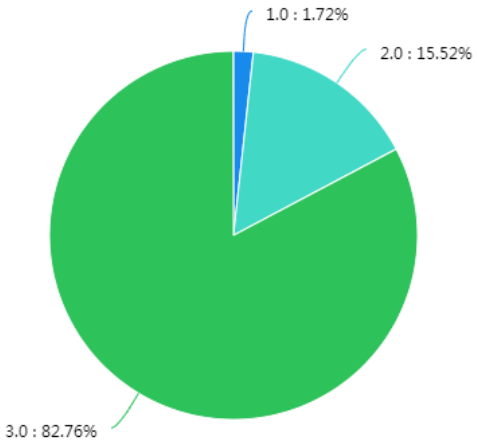

Figure 7 Pie chart of different levels of completion for learning objective 3

Teacher evaluation			
Categories	Frequency	Percent	Cumulative Percent

Teacher evaluation			
Categories	Frequency	Percent	Cumulative Percent
1.0	18	23.08%	23.08%
2.0	22	28.21%	51.28%
3.0	38	48.72%	100.00%
Total	78	100.0%	

Figure 8 Teacher's evaluation data on students' varying degrees of completion of tasks

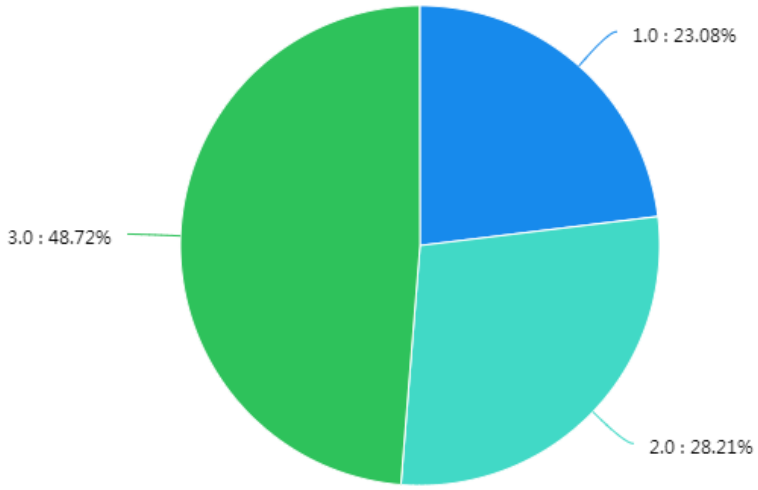

Figure 9 Pie chart of teachers' evaluation data on students' completion of tasks at different levels

Figure 10 Teacher's evaluation data on group collaboration

Group collaboration			
Categories	Frequency	Percent	Cumulative Percent
1.0	20	25.64%	25.64%
2.0	12	15.38%	41.03%
3.0	46	58.97%	100.00%
Total	78	100.0%	

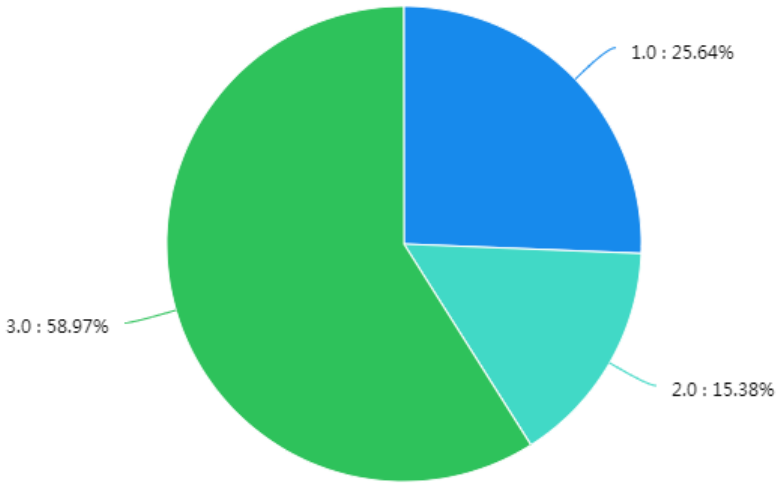

Figure 11 Pie chart of teachers' evaluation data on students' group collaboration

Teachers ought to offer more feedback on their instructional practices and enhance students' awareness of their ability to attain learning objectives. During the classroom teaching process, teachers should provide more constructive feedback to students to correct and refine their presentations and responses. Students can also provide more correct answers after receiving encouragement and feedback from teachers.

The evaluation results indicate that students perceive themselves to have a strong grasp of both objectives 1 and 2 related to knowledge and skills, with 89.66% and 84.48% achieving excellent results, and 10.34% and 15.52% achieving good results, respectively. It is noteworthy that no student feels the need for improvement in the knowledge and skills aspects. Emotional goal of objective 3 is slightly weaker, with 82.76% of the students achieving good, 15.52% of them achieving average, and 1.72% needing improvement However, the data from teachers' evaluations of students and group performance reveal slightly lower ratings, with 48.72% and 58.97% of students receiving good grades, 28.21% and 15.38% receiving fair grades, and 23.08% and 25.64% needing improvement, respectively. From this, it can be seen that most students feel confident in their learning and have had a pleasant time in class. However, from the perspective of teachers, by evaluating the results of students' submitted assignments, they can more practically assess their mastery and performance in group cooperation.

Student learning outcomes should be considered the main measure of teaching effectiveness. The outcomes of teaching assessments serve several purposes, including improving individual instructors' teaching skills, enhancing program development and implementation, and providing a comprehensive foundation for decisions related to tenure and promotion. From the data analysis, it can be seen that although the students in the two classes have different levels, they feel good about their classroom performance and mastery of the class objectives. According to the evaluation criteria for smart classroom design works, from the perspective of classroom group presentations or individual work presentations, some groups have made mistakes in reviewing the questions and designed the smart classroom as a smart home. Each presentation group habitually uses Chinese to present their design works, but cannot fluently express them using sentence patterns and vocabulary with scaffolding. For the homework, writing an essay after class, most students were able to use the given sentence patterns and vocabulary to express their designed works, and even some students tried to break out of the framework and write in their own organized language. Based on the observation of the class video, it was found that most students actively participate in classroom activities. A small number of students with a very weak English foundation are not active in group discussions, but with

the encouragement of the teacher, they remain willing to engage in the activities. During the semi-structured group communication with students and attending teachers, some feedback was also received:

Students with weaker foundations: The classroom is rich and interesting. But for students with weaker foundations, it is difficult to keep up with the pace and understand the problem within a limited time. We are able to utilize the provided sentence patterns and vocabulary to express our designed work in English.

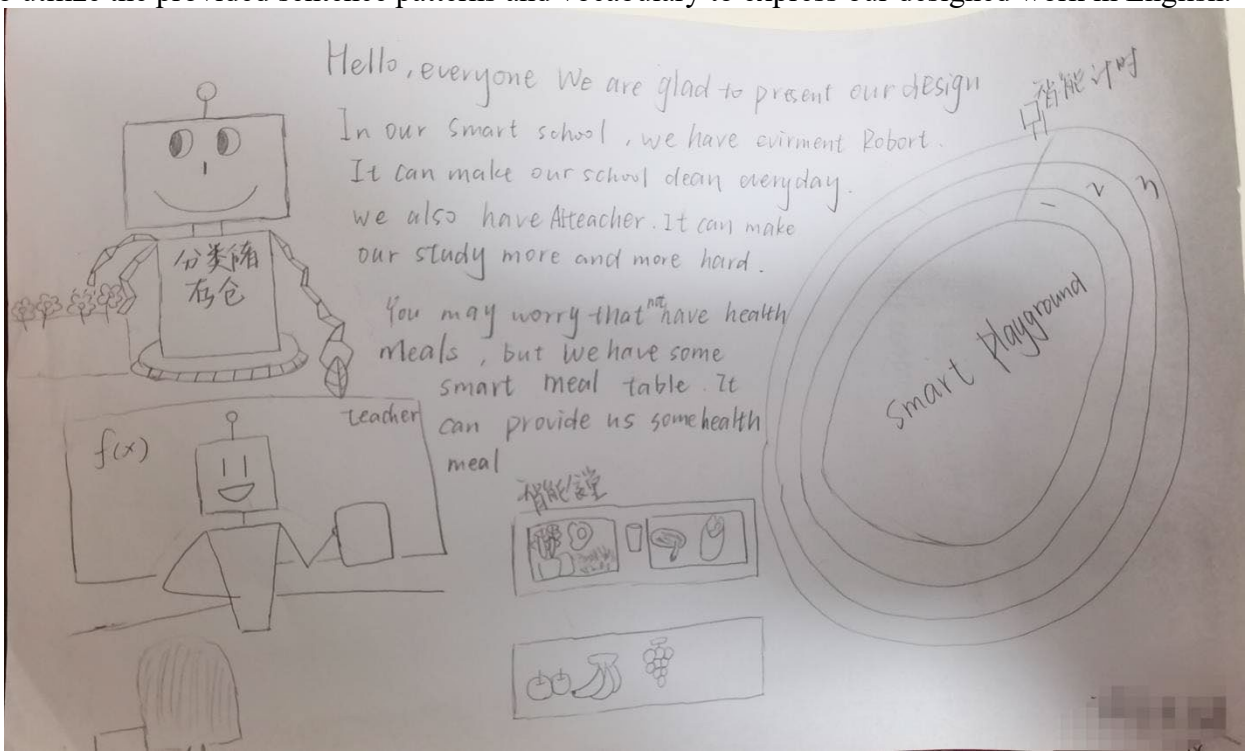

Figure 12 Student's work presentation in class

Teacher: The lesson plan design is reasonable, and the content is very rich, and the activity design is interesting. The teaching speed can be adjusted to slow down, thereby assisting students with lower learning abilities to better comprehend and master the concepts. The teacher should provide prompt feedback and evaluation to students to address any deviations from the topic during their group presentations.

5 Conclusion

In summary, from the group presentations in class and post class writing, it was found that multimodal teaching methods are helpful for the learning effectiveness of high school students' English reading classes, enhancing students' interest and learning engagement. Overall, students self-rated their understanding of the class as good, and the teacher assessed that the majority of students had reached the targeted level of learning mastery. Although students with weaker English proficiency still face challenges in both oral and written expression in public settings, with the encouragement of their classmates and teachers, they demonstrate a positive motivation to attempt, and even some students with higher proficiency are inclined to transcend the framework provided by the teacher and explore more challenging and innovative modes of expression. Teachers use self-evaluation to assess their teaching activities, which has proven to be a highly effective method. It serves as a reflective process that promotes personal growth and development in terms of ideology. The honest feedback obtained through self-evaluation can enhance teachers' teaching skills and professional knowledge. However, a potential limitation is that some teachers may choose to conceal their issues, overstate their strengths, or fabricate false advantages, resulting in distorted evaluation outcomes. There are still some shortcomings in this study, such as insufficient time given to students for group peer evaluation in class. Due to time constraints, some students may blindly choose the correct results when

evaluating their own work. Teachers can provide more accurate and targeted evaluations and guidance during student group discussions. Furthermore, if students are merely captivated by multimodal elements such as games and videos, without genuinely acquiring and applying knowledge, they will fail to attain the anticipated teaching effectiveness in the evaluation process.

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