

Promoting Thinking Skills in EFL: Perceptions and Practices of Secondary Teachers

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Abstract

This study investigated how Japanese junior and senior high school EFL teachers develop students' thinking skills in EFL classes. It aimed to explore EFL teachers' perceptions of thinking skills and how they foster these skills in their teaching practices. From late June to mid-August 2024, 16 junior and senior high school teachers with diverse teaching experiences participated. Semi-structured interviews were conducted online or in person. The revised Japanese national curriculum emphasizes fostering students' thinking skills through EFL lessons, focusing on developing the ability to think, judge, and express oneself. However, the curriculum does not clearly define what "thinking skills" entail in EFL contexts. Consequently, EFL teachers' definitions of thinking skills and their understanding and interpretations vary. The results indicated that most participants defined thinking skills as the ability to think independently and express ideas using learned English and grammar. Some participants stressed the importance of thinking in Japanese to understand language differences and find ways to express ideas in English. Participants also highlighted the value of exposure to diverse viewpoints and frequently incorporate activities such as writing, group work, and pair work to foster these skills, often encouraging collaboration through peer teaching and discussions.

Keywords: Thinking skills, Japanese national curriculum, EFL, Secondary education, Approaches to teaching

1 Introduction

This study examines how EFL teachers approach the development of secondary students' thinking skills. In the Japanese national curriculum, it is mentioned that the goals for developing "the ability to think, judge, and express" are outlined for both junior high and senior high schools, especially stressing the importance of fostering thinking skills (Ministry of Education, Culture, Sports, Science and Technology, 2018a). In EFL contexts, the junior high school curriculum focuses on understanding and expressing simple ideas in a foreign language, while the senior high school curriculum emphasizes accurately understanding and conveying detailed information in English (Ministry of Education, Culture, Sports, Science and Technology, 2018b).

However, the definition of thinking skills varies (e.g., Taizan, 2014; Takagi & Yamamoto, 2022). Also, the teaching approaches for their development are not clearly specified and established in Japanese EFL contexts. From this, it is believed to be important to clarify which thinking skills are considered essential by EFL teachers and what kinds of lessons are thought to be most suitable. This paper addresses these two issues.

2 Literature Review

Okudaira and Usui (2017) argue that there is no universal definition of “thinking skills” in EFL lessons. Furthermore, Sekiya (2022) distinguishes between “critical thinking” and “logical thinking” when talking about thinking skills. Critical thinking is the ability to examine reasons and grounds and to consider multiple viewpoints, while logical thinking is the ability to clearly explain one’s thoughts to others using strong arguments.

There is a variety of pedagogical approaches that foster students’ thinking skills. For instance, Kodama, Kameya and Kanamori (2021) claim that group discussions help students in the development of their thinking skills through conducting their independent research and making their own decisions. Additionally, in CiNii Articles, some practices and research can be found that focus on group and pair activities in EFL lessons to enhance students’ thinking skills. These practices and research are divided into three main approaches to foster students’ thinking skills. First, group learning activities like discussions can help students feel more motivated and improve their English skills (Kodama, Kameya and Kanamori, 2021). Second, the practices and research suggest that writing activities help students think more logically and critically (Sekiya, 2022). Third, collaborative dialogue in EFL lessons among students fosters students’ thinking skills (Akatsuka, 2022).

3 Research Methods

3.1 Research Questions

The purpose of this paper is to clarify the perceptions of junior and senior high school teachers about “thinking skills” in EFL contexts and what practices they implement in their EFL lessons. Therefore, the following research questions are established:

RQ1) What kind of definitions of thinking skills do EFL teachers have?

RQ2) What kind of practices are conducted to foster students’ thinking skills in EFL lessons by each EFL teacher?

3.2 Information on Research Participants

Table 1

Participants Information (n = 16)

Teachers	Type of school	Subject	Teaching experience
A	junior high school	English	3 months
B	senior high school	English Communication	15 years
C	senior high school	English Communication	13 years
D	secondary education	English / English Communication	11 years
E	senior high school	English Communication / English Logic and Expression	16 years
F	senior high school	English Communication / English Logic and Expression	3 years

G	junior high school	English	10 years
H	junior high school	English	13 years
I	junior high school	English	9 years
J	junior high school	English Communication	14 years
K	junior high school	English Communication	28 years
L	senior high school	English Communication / English Logic and Expression	11 years
M	junior high school	English	9 years
N	junior high school	English	5 years
O	junior high school	English	19 years
P	junior high school	English	9 years

The EFL teachers who were interviewed are shown in Table 1. The interview was conducted online or in person between late June and mid-August 2024. The interviews took approximately 15 minutes each. They included five senior high school teachers, ten junior high school teachers, and one secondary education teacher ($n = 16$). Among them, two had been teaching for less than five years (Teacher A and F), four had between five and ten years of experience (Teacher I, M, N, and P), and ten had been teaching for more than ten years. The interviewees had different years of experience, but they all follow the new Japanese national curriculum. Therefore, they were considered suitable for the interviews regardless of their experience levels. In addition, consent was obtained from the participants prior to conducting the interviews. The experiment followed standard ethical guidelines.¹

3.3 Details of the Questions for Teachers

A semi-structured interview was conducted to explore how EFL teachers enhance students' thinking skills in EFL lessons, their perceptions of thinking skills within the context of EFL lessons, and what outcomes they aim for students to achieve from EFL lessons. As part of this investigation, five key questions outlined in Table 2 were asked.

Table 2

Questions

Q1: What do you want students to acquire through EFL lessons?
Q2: What specific strategies do you use to help students acquire thinking skills in your EFL lessons?
Q3: What activities do you assign as preparation or review to help students develop their thinking skills?
Q4: What do you consider to be "thinking skills" in EFL lessons?
Q5: What do you think needs to be done in the future to foster thinking skills?

¹ This study, including the interviews received approval from the Research Ethics Review Board of Sagami Women's University (Approval Number: 24027).

It is believed that the thinking, judgment, and expression skills required by the Japanese national curriculum are understood by EFL teachers in different ways. This is why Q1 was asked to clarify which specific skills EFL teachers want their students to develop.

3.4 Reason for Using KH Coder and its Explanation of Co-occurrence Network and Correspondence Analysis
Text mining is a method for analyzing text data. It extracts words from a text and applies statistical methods to identify patterns in word frequency, trends in usage, and semantic relationships. For example, by analyzing how often a particular word appears or by examining co-occurrence relationships between words, one can gain a better understanding of the characteristics and structure of a text.

KH Coder is a software tool developed by Koichi Higuchi to automate text mining. It aims to make text analysis objective rather than subjective by automating factor analysis and classification. By utilizing these features, users can extract meaningful information from large volumes of text data and visualize trends and patterns within sentences, making it a widely used tool in research.

3.4.1 Reason for Using KH Coder

KH Coder was used due to its proven validity and reliability, as well as its user-friendly interface, which makes it accessible to students (Higuchi, 2022). Additionally, Okazaki and Kano (2018) state that KH Coder helps reduce bias and ensure objectivity. In the EFL research field, there is some research that uses KH Coder (e.g., Okazaki & Kano, 2018; Yoneda, 2017).

3.4.2 Explanation of Co-occurrence Network and Correspondence Analysis

Figure 1 shows an example of how to read the results. According to Higuchi (2022), Figure 1 visualizes the co-occurrence of words found in the interviews using KH Coder's co-occurrence network analysis. Co-occurrence strength is calculated using the Jaccard index, where higher values indicate that words are placed closer together (Higuchi, 2022). Solid lines represent stronger co-occurrence, while dotted lines represent weaker co-occurrence (Higuchi, 2022). The color of the circles indicates word frequency, with darker colors (closer to black) indicating higher frequency (Higuchi, 2022). The positions of the words in the figure do not have any specific meaning (Higuchi, 2022). For example, in Figure 1, the word "think" is shown in the darkest-colored circle, indicating that it is the most frequently used word. Additionally, since "think" is connected to "person" by a solid line, it suggests that "person" strongly co-occurs with "think."

Figure 1

Example of the Result of Co-occurrence Network

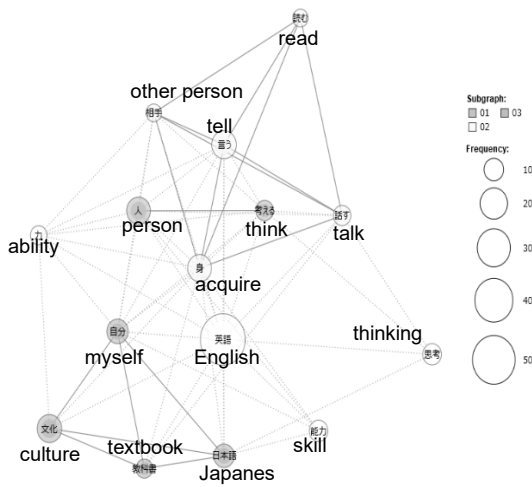
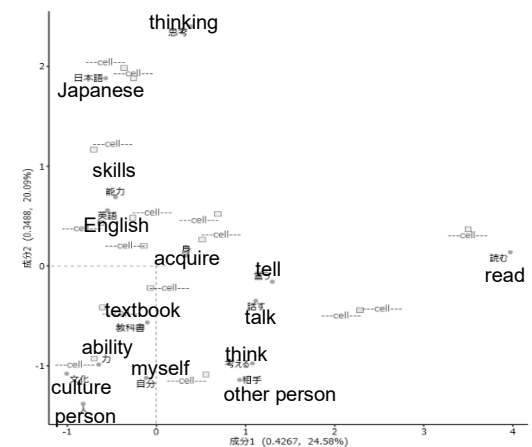


Figure 2 shows the characteristics of respondents based on their distances from each other. According to Higuchi (2022), each letter represents a respondent, and shorter distances indicate similar perspectives. Respondents closer to the origin (0, 0) have more general or average tendencies, while those farther from the origin show more unique perspectives (Higuchi, 2022). Words or respondents in the same direction from the origin are strongly associated with each other (Higuchi, 2022). The correspondence analysis chart can be divided into four areas: the upper right is called the first quadrant, the upper left is called the second quadrant, the lower left is called the third quadrant, and the lower right is called the fourth quadrant (Higuchi, 2022). Additionally, the position of the words shown in the correspondence analysis chart—whether in the positive or negative region or aligned vertically or horizontally—does not carry any particular significance (Higuchi, 2022).

Figure 2

Correspondence Analysis



For instance, in Figure 2, the word “acquire” is located close to the origin, indicating that it is a term used by many respondents. On the other hand, words like “read,” “thinking,” and “Japanese,” which are positioned far

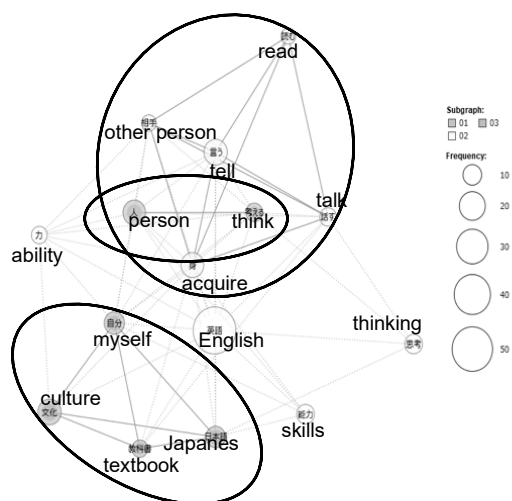
from the origin, represent unique perspectives. Additionally, words such as “textbook,” “ability,” “myself,” “culture,” and “person” are aligned in the same direction from the origin, suggesting a strong association among them.

4 Results and Discussions

4.1 Q 1 What do you want students to acquire through EFL lessons?

Figure 3

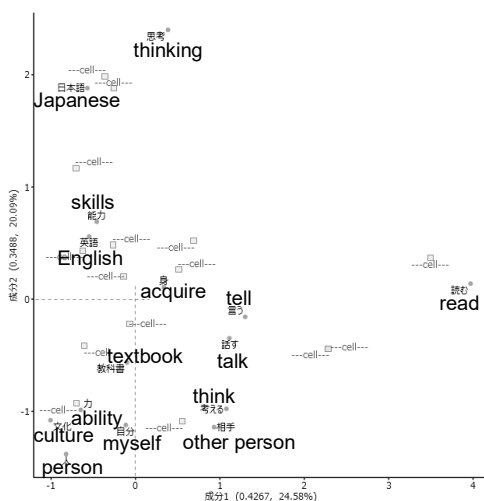
Co-occurrence Network of Q 1



The co-occurrence network in Figure 3 shows that the words “person,” “think,” “tell,” “other person,” “talk,” and “read” are closely related to each other. Furthermore, the words “myself,” “culture,” “textbook,” and “Japanese” are linked to each other. This suggests that EFL teachers want to develop students who can think about themselves and their culture, through textbooks without using Japanese, by telling, speaking, and reading in EFL lessons while interacting with others.

Figure 4

Correspondence Analysis of Q 1

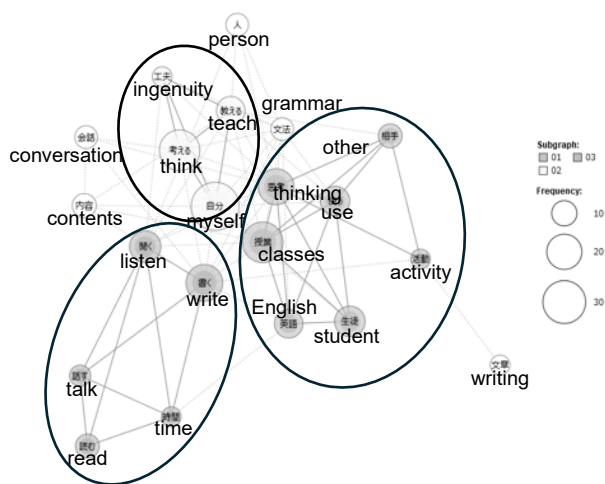


In the correspondence analysis shown in Figure 4, the words “thinking” and “Japanese” appear far from the starting point in the second quadrant, while “read” is found in the fourth quadrant. The words “thinking” and “Japanese” are used by Teacher D and Teacher E, who aim to help students develop thinking skills by watching their favorite Japanese movies with English subtitles. On the other hand, the word “reading” is used by Teacher K, who focuses on reading as an input and wants students to acquire thinking skills through reading. As a result, Figures 3 and 4 show that the idea is to have students acquire thinking skills through EFL lessons by using English to read and communicate the contents of the textbook to their counterparts.

4.2 Q 2 What specific strategies do you use to help students acquire thinking skills in your EFL lessons?

Figure 5

Co-occurrence Network of Q 2



The analysis in Figure 5 shows that the word “classes” co-occurs with terms like “think,” “use,” “other person,” “activity,” “English,” and “students.” Furthermore, “write” frequently co-occurs with “listen,” “talk,” and “read,” whereas “myself” co-occurs with “teach” and “think.” These patterns indicate variations in how EFL teachers design EFL lessons to enhance thinking skills. In particular, EFL teachers appear to incorporate “activities” such as pair work to facilitate communication with “other person,” focusing on how “students” will “use” “English” in “classes.”

Figure 6

Correspondence Analysis of Q 2

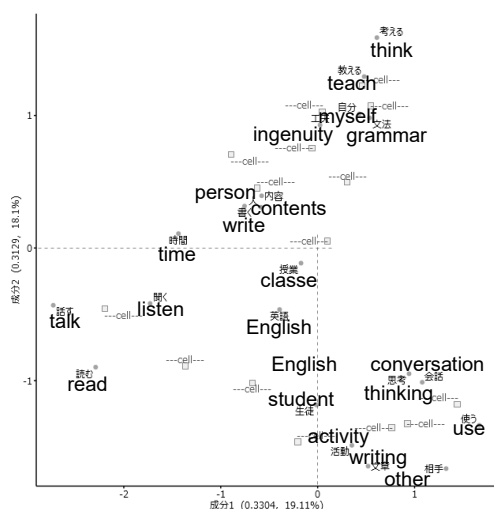


Figure 6 shows that the words “contents,” “write,” “classes,” and “English” are located at the origin point. Beyond this, different groupings of terms can be observed: “think,” “teach,” and “grammar” appear in the first quadrant, while “listen,” “talk,” and “write” are in the third quadrant. The fourth quadrant contains words such as “thinking,” “activity,” “other person,” and “use.”

The overall trend is that EFL teachers engage students in writing “contents” in “English” to deepen their thinking skills. On the other hand, they encourage students to collaborate to “teach” each other “grammar,” devise ways to work, and conduct “activities” such as “conversation” with a partner while using sentences.

4.3 Q 3 What activities do you assign as preparation or review to help students develop their thinking skills?

Figure 7

Co-occurrence Network of question 3

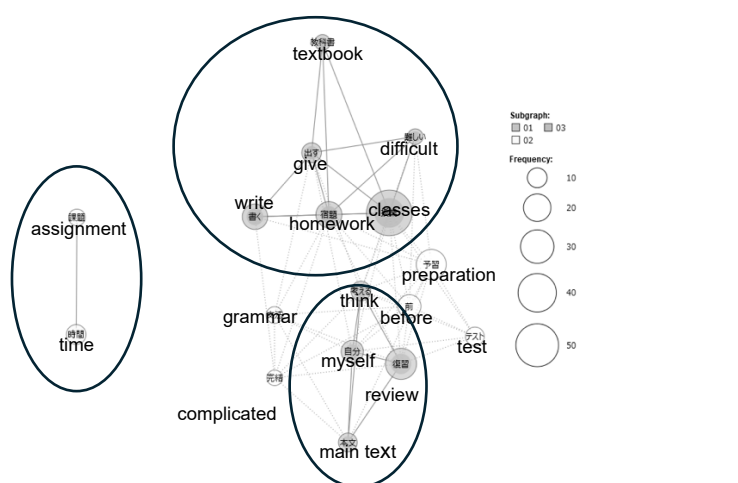
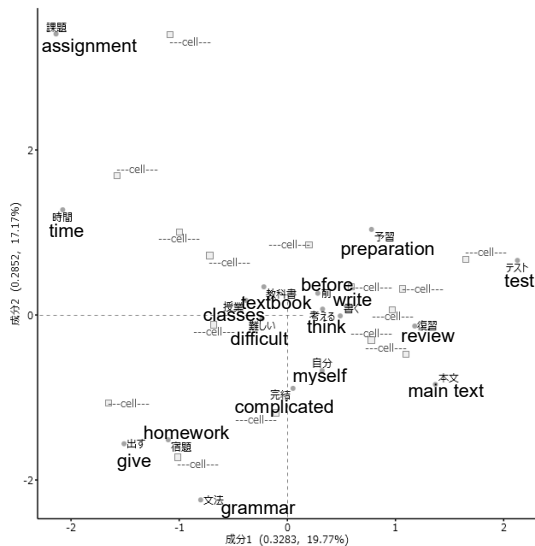


Figure 7 shows that the words “review,” “myself,” “main text,” and “think” are closely connected, as are “assignment” and “time.” Words like “textbook,” “difficult,” “classes,” “homework,” “give,” and “write” also form a group, suggesting a focus on independent learning through reviewing class materials and preparing for tasks like vocabulary tests and reading practice.

Figure 8
Correspondence Analysis Q 3



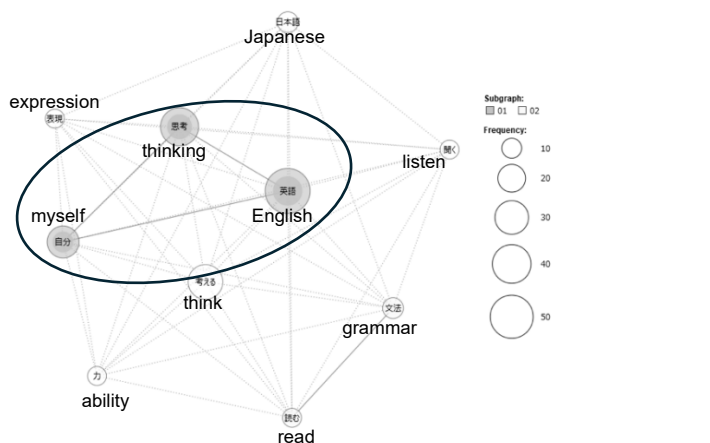
In the correspondence analysis shown in Figure 8, the words “assignment” and “time” appear in the second quadrant, while “grammar,” “homework,” and “give” are positioned in the third quadrant, both located far from the origin. The words “assignment” and “time” are used by Teachers A and G, who note that their students are busy with homework for other subjects, club activities, or going to cram school, and therefore they do not assign preparation or review tasks. On the other hand, the words “grammar,” “homework,” and “give” are used by Teacher D, who is particular about assigning textbooks, grammar content, and accompanying textbook problems as homework.

As a result, from Figures 7 and 8, there is a view that some EFL teachers review textbook contents and conduct vocabulary tests in order to review and prepare for them, while others complete these tasks in class to avoid burdening their students and do not assign any preparation or review.

4.4 Q 4 What do you consider to be “thinking skills” in EFL lessons?

Figure 9

Co-occurrence Network of Q 4



The analysis in Figure 9 confirms that “thinking” has a high degree of co-occurrence with words such as “myself” and “English.” This suggests that the surveyed respondents’ “thinking” skills refer to the ability to express their “own” opinions and phrases in “English.”

Figure 10

Correspondence Analysis of Q 4

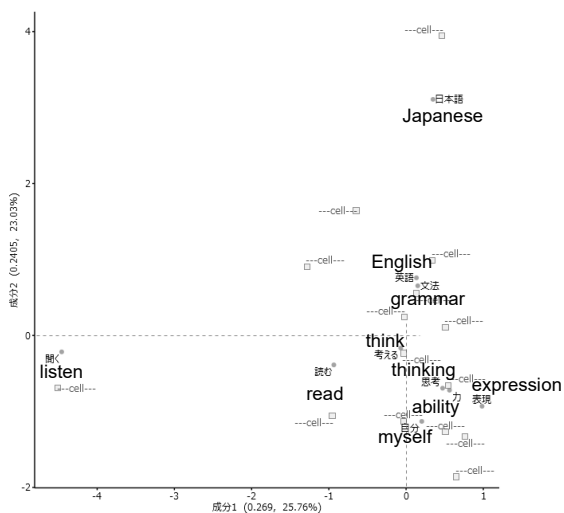


Figure 10 shows that “Japanese” is in the first quadrant, while the third quadrant shows the presence of “listening.” In contrast, “English,” “grammar,” “reading,” “thinking,” “expression,” and “myself” are situated near the origin point in the fourth quadrant.

These suggest that EFL teachers commonly define “thinking skills” as the ability to “think” and “express” ideas in one’s own way using learned “English” and “grammar.” The terms “Japanese” and “listening” are located far from the origin point. Examining the context of the interview, the following was found: EFL teachers stated that the best way to use “Japanese” is to understand the difference between “Japanese” and

English, and to think about it anyway, even if it is in “Japanese.” An examination of the way “listening” is used shows that listening to opinions different from one’s own deepens students’ thinking skills.

4.5 Q 5 What do you think needs to be done in the future to foster thinking skills?

Figure 11

Co-occurrence Network of Q 5

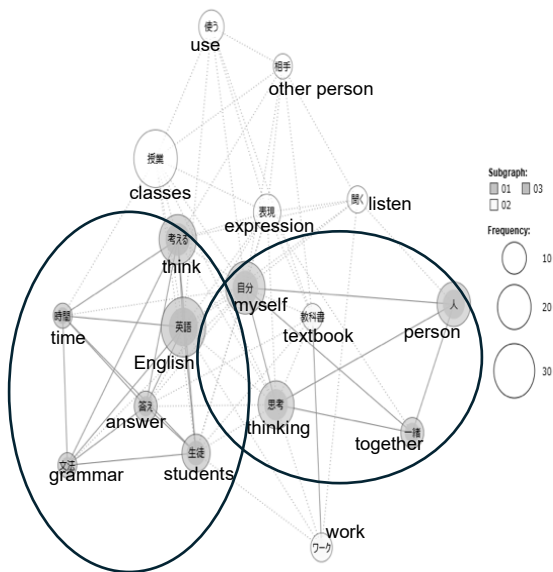
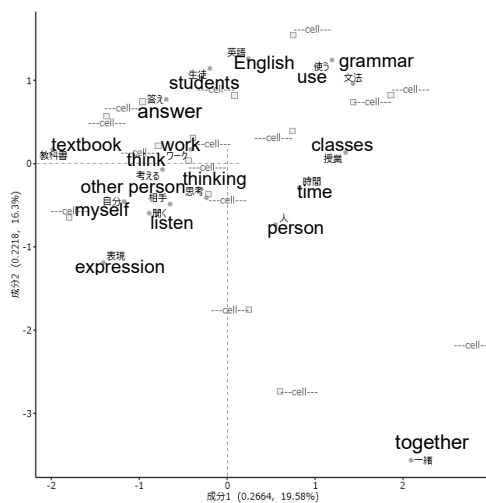


Figure 11 shows two groups of words. On the left, words like “think,” “English,” “grammar,” and “time” suggest that EFL teachers believe enhancing thinking skills requires more than grammar lessons. They emphasize active learning, using grammar in real situations, and talking with ALTs. Additionally, for instance, teachers H and I stress the importance of encouraging independent thinking and active learning, while Teachers M and N focus on providing time for conversations with ALTs. Teachers F and O highlight pair work and group discussions to improve thinking skills. On the right, words like “person,” “together,” and “myself” show that many teachers believe students’ thinking skills improve through self-directed learning and interaction, not just teacher-centered methods.

Figure 12

Correspondence Analysis of Q 5



In Figure 12, most words are near the origin, showing shared views among teachers. However, the word “together” is farther away, likely because in Japanese, “same” and “together” are expressed by the same word, leading to varied contexts in the interviews.

5 Conclusion

The purpose of this study was to clarify teachers’ conceptions of thinking skills and their classroom practices. The results revealed that most EFL teachers emphasize “classes in which students actively participate” and define “thinking” as “expressing one’s own ideas.” Additionally, most EFL teachers believed that the exchange of diverse opinions and the expression of one’s own ideas through group work, pair work, and writing activities contribute to the development of thinking skills. This belief was reflected in their teaching practices. Therefore, the responses to the research question are as follows:

RQ1) What kind of definitions of thinking skills do EFL teachers have?

Most EFL teachers define thinking skills as the ability to think independently and express their own ideas using the English and grammar they have learned. However, some EFL teachers believe that it is important for students to think even in Japanese. They emphasize that students should understand the differences between Japanese and English and should strive to find ways to express themselves in English. Several EFL teachers also stressed that listening to different opinions and being exposed to different points of view is essential for developing thinking skills.

RQ 2) What kind of practices are conducted to foster students’ thinking skills in EFL lessons by each teacher?

Most EFL teachers believe that expressing their own ideas is important for developing thinking skills. Therefore, it was found that EFL teachers frequently implement writing, group work, and pair work activities. In addition, some EFL teachers encourage students to collaborate with each other through activities such as teaching each other grammar and talking with a partner.

The limitations of this study are as follows. First, the number of interviews conducted was limited. Therefore, the results of this study cannot be generalized to Japanese secondary schools. Future studies should expand the scope of the survey to include a broader sample. Second, while this study relied on interviews to gather insights into classroom practices, it did not directly observe these practices. As a result, there could be discrepancies between teachers' descriptions and actual practices. To address this limitation, future studies should incorporate classroom observations for a more comprehensive understanding of classroom practices.

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Acknowledgments

This research was supported by the Margaret Fund of Sagami Women's University. The interviews conducted in this study were approved by the Research Ethics Committee of Sagami Women's University.²

² This study, including the interviews received approval from the Research Ethics Review Board of Sagami Women's University (Approval Number: 24027).