Educational intervention to foster English presentation skills:

Based on implications from metacognitive perspectives

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Abstract

This study examines students' metacognitive knowledge of oral presentations in English (OPIE) and their metacognitive activities when preparing them, as well as the relationship between metacognition and differences in English proficiency. Based on the insight we gained through this study, we conducted an educational intervention and reported the results. We implemented educational interventions for 37 university students, such as learning expression including discourse markers, introducing flowcharts and checklists, and guiding and preparing students on how to speak based on key words in PowerPoint slides versus "rote memorization." We found that the educational intervention was effective in making the students aware of the communication with the audience and avoiding a lack of practice, including rehearsals during the preparation phase. However, a review of the number of criteria on the checklist and the method of implementation must be reconsidered, especially for students with low English proficiency.

Keywords

presentation in English, educational intervention, metacognitive knowledge, metacognitive activities, university English education

1. Introduction

1.1 Fostering human resources with English communication skills

Since the advent of globalization, English education at Japanese universities has aimed at fostering students' English communication skills. From a tourism industry perspective, it is also imperative to develop human resources with English communication skills. Since 1971, the number of Japanese overseas tourists has exceeded the number of foreign visitors to Japan; however, the number of foreign visitors to Japan has rapidly increased since 2013, and in 2015, the number of foreign visitors to Japan (19,737,409) exceeded the number of Japanese overseas tourists (16,213,789), recording 31,882,049 foreign visitors in 2019 [JNTO, 2022]. Although the number of foreign tourists has dropped sharply since 2020 due to the impact of COVID-19, it is expected to increase again, driven by the depreciation of the yen and the 2025 Osaka-Kansai Expo.

What kind of English skills are necessary for interacting with foreign visitors? A survey conducted among businesspersons involved in international business indicated the need for students to acquire practical English language skills for use in business and the ability to provide oral presentations and debate in English, backed up by logical thinking and international negotiation skills through English language education at universities [Koike et al., 2010]. The Japan Tourism Agency has set a registration requirement for foreign guest accommodations eligible for property tax reductions in 248 municipalities that requires the appointment of a chief foreign guest receptionist (concierge) with the necessary foreign language skills to provide hospitality [Japan Tourism Agency, 2022].

The concierge's impact on customer satisfaction is significant, and poor English proficiency can be a factor in lower customer satisfaction [Putra et al., 2020].

We assume that it is not feasible for universities and faculty that do not specialize in tourism to develop the English communication skills necessary for hospitality. However, it may be possible to develop such English communication skills, for example, through English presentation classes offered in many departments, even if it does not specialize in hospitality. In addition to language-related skills such as grammar, vocabulary, and pronunciation, the elements of a good oral presentation in English (OPIE) include non-verbal communication skills such as speaking style, facial expressions, and posture, as well as the ability to convey information logically and clearly [Omotedani, 2020; Omotedani and Sannomiya, 2020; Otoshi and Heffernan, 2008]. These skills are also necessary for hospitality. For example, when a concierge provides an explanation to a foreign tourist in a pleasant and easy-to-understand manner using a tourist information pamphlet, it is truly a presentation. As global businesses expand, and the number of foreign visitors to Japan is expected to increase again, students should acquire oral communication skills, including English presentation skills, upon graduation from college to provide them with an advantage in finding a job.

Although the importance of fostering the ability to communicate in English, including oral communication skills, has been recognized, most university entrance examinations and other post-entrance class placement tests measure English receptive skills (reading and listening comprehension). The Ministry of Education, Culture, Sports, Science and Technology (MEXT) had planned to introduce English qualification and certification tests administered by private companies that measure the four skills of reading, listening, writing, and speaking from the university entrance examination in January 2021, but the implementation was postponed in November 2019 due to the lack

of economic and regional equality for examinees [Ministry of Education, Culture, Sports, Science and Technology, 2020]. To date, there is no timeline for its implementation.

As previously mentioned, Japanese universities currently measure students' English proficiency based on reading and listening comprehension. Thus, so-called "classes with high English proficiency" are "classes with high English reading and listening comprehension." In light of this situation, this study divided participants into a Good group and Poor group based on English reading and listening comprehension to obtain suggestions for teaching OPIE according to their English proficiency. The following discussion also examines whether there are differences in their metacognitive knowledge and metacognitive activities toward OPIE. Then, we report on the educational intervention for OPIE classes based on the suggestions obtained.

1.2 Metacognition and OPIE

To provide a good OPIE, presenters must base their efforts on "what kind of OPIE is a good OPIE" while monitoring and controlling their actions. In other words, metacognition is important for a good OPIE. Metacognition has been referred to as "knowledge and cognition about cognitive phenomena" involving speakers' "monitoring of their own memory, comprehension, and other cognitive enterprises" [Flavell, 1979: 906]. Alternatively, the term has been defined as "the ability to reflect upon, understand, and control one's learning" [Schraw and Dennison, 1994: 460]. The usefulness of metacognition is highlighted in Flavell's [1979] assertion that this practice "plays an important role in oral communication of information, oral persuasion, oral comprehension, reading comprehension, writing, language acquisition, attention, memory, [and] problem solving" (p. 906).

Metacognition is essential since it works as a central executive for individuals' cognition and is affected by the cognitive load on the brain caused by cognition [Shimamura, 2008]. English presentation represents an activity with a high cognitive load because students must use a foreign language effectively when giving their presentations in front of an audience. In a comparison of students with high English proficiency to those with low English proficiency, the latter are likely to experience a greater cognitive load while tackling the English presentation task.

Researchers differ in their classification of metacognition. For example, according to Flavell [1987], "The key concepts in the taxonomy are metacognitive knowledge and metacognitive experience" (p. 21). In contrast, Schraw and Dennison [1994] and Schraw [1998] distinguished between the knowledge of cognition and the regulation of cognition. As the regulation of cognition and the metacognitive experience occur at the metacognitive level, this paper uses the term metacognitive activities to encompass both of these concepts.

Nelson and Narens [1994] divided metacognitive activities into metacognitive monitoring and metacognitive control, ex-

plaining that "the meta-level contains a model of the object-level" (p. 11). Monitoring takes place when "the meta-level is *informed by* the object-level" [Nelson and Narens, 1994: 12]; meanwhile, control occurs as "the meta-level *modifies* the object-level, but not vice versa" [Nelson and Narens, 1994: 11]. Sannomiya [2008] integrated the abovementioned model of metacognitive activities, proposing that metacognitive monitoring and metacognitive control happen in each stage of pre-processing, processing, and post-processing of learning activities.

Sannomiya [2008] also described metacognitive activities when oral presentations are performed. For example, when giving an OPIE, pre-processing stages can be rephrased as preparation stages. During the pre-processing stage, students monitor the task's difficulty and feasibility, then they control the actions, such as setting a goal, making plans, and choosing strategies. While giving their presentations, speakers try to monitor themselves to see if their predictions regarding the feasibility and strategies for the task are appropriate. In response to their perceptions, they may modify the goal, the plans, and the strategies. However, the process is very challenging because giving a presentation imposes a high cognitive load, which in turn may affect the speaker's metacognitive activities, leaving few cognitive resources to support these activities. After giving a presentation (i.e., during the post-processing stage), the speaker monitors and evaluates how effective the strategies used for the task were and to what extent the task was completed. Based on this information, the speaker will turn to planning the next set of goals and choices of strategies.

The ability to give a successful OPIE rests upon planning, performing, and evaluating based on the speaker's metacognitive knowledge about what constitutes a good OPIE; however, incorrect or inappropriate knowledge will lead to a failed OPIE [Dunlosky and Metcalfe, 2009; Sannomiya, 2008]. Similarly, inaccurate metacognitive monitoring leads to inadequate metacognitive control [Sannomiya, 2008]. Therefore, teachers aiming to provide better instructions in class must comprehend university students' understanding of good OPIE, in other words, their metacognitive knowledge of OPIE. Along the same lines, when teaching OPIE, teachers should also keep in mind that metacognitive control tends to be inappropriate when metacognitive monitoring is inaccurate [Sannomiya, 2008].

1.3 Criteria for a good OPIE

Research has focused on a variety of issues related to OPIE. Examples include anxiety about OPIE [King, 2002], difficulty in completing tasks due to a lack of practice [Kho and Leong, 2015], and problems caused by insufficient language aspects, such as vocabulary, grammar skills, and pronunciation [Juhana, 2012; Subasi, 2010]. Although such studies often provide suggestions for OPIE instruction, most do not address the English proficiency of the target students.

Leichsenring [2010] observed that some students at a Japanese university memorized English word for word for fear

of making mistakes; however, the author did not include any consideration of the English proficiency of the target students. In a study that investigated the perceptions of female EFL college students toward classroom OPIE in a 4-year pre-service teacher education program, Al-Nouh et al. [2015] used one-way ANOVA tests to explore the association between students' GPA and their perceptions of the difficulties in OPIE. The results revealed that students with the highest GPAs had the lowest difficulty; conversely, those with the lowest GPAs seemed to experience the most difficulty. Like Leichsenring's earlier investigation, Al-Nouh et al. did not report their participants' English proficiency level.

Some researchers have explored students' ideas about the components of a good OPIE. Specifically, Otoshi and Heffernan [2008] reported the factors that Japanese EFL learners considered essential in making presentations, concluding that their participants valued clarity of speech and voice quality, correctness of language, and interaction with the audience. The authors also examined the difficulties faced by engineering and commerce students in academic oral presentations and found that lack of practice, less English proficiency, and lower confidence were the most common causes of presentation difficulties for those students. Although their findings might enable learners and teachers to better understand how to prepare for OPIE, the English proficiency level of the participants goes unmentioned in Otoshi and Heffernan's research article.

Since few previous studies have focused on students' metacognitive knowledge and metacognitive activities for OPIE at different levels of English proficiency, we decided to conduct this study to answer the following research questions.

- RQ 1: What criteria do students consider important for a good OPIE?
- RQ 2: What criteria do students focus on more when preparing an OPIE?
- RQ 3: Does students' metacognitive knowledge of a good OPIE differ according to their English proficiency (reading and listening comprehension)?

- RQ 4: Do students' metacognitive activities in preparing for English presentation tasks differ according to their English language proficiency (reading and listening comprehension)?
- RQ 5: Are educational interventions based on the implications from RQs 1-4 effective in preparing students for English presentations?

This study sought to examine students' metacognitive knowledge of English presentations and their metacognitive activities when preparing them, as well as the relationship between metacognition and differences in English proficiency, and to report on the results of an educational intervention conducted based on the implications obtained from this study.

Given that universities generally divide students' English proficiency into levels based on reading and listening comprehension, we used the TOEIC© Listening & Reading IP Test (TOEIC L&R) to divide participants into a Good group (higher English proficiency) and a Poor group (lower English proficiency).

2. Methodology of the questionnaire surveys
2.1 Questionnaire survey participants
We administered a web-based questionnaire focused on good OPIE among 291 English majors who were undergraduate students in the Department of Global Communication at a private university in Japan. Out of 291 students, we excluded 19 students who did not have experience giving OPIE and then grouped the remaining 272 students (male: 107, female: 165) based on their scores on the TOEIC L&R. According to the test guidelines, a score of 945 and above is "proficient user: effective operational level," while 785-944 is "independent user: vantage," 550-784 is "independent user: threshold," 225-549 is "basic user: waystage," and 120-224 is "basic user: breakthrough" [English Testing Service Global, 2021].

The mean TOEIC L&R score of the participants was 450 (*SD*: 110.7). We classified the participants who scored 505 (= 450: *Mean* score + half *SD*: 55.35) or higher on the TOEIC L&R (Group 1) as the Good group (505-770 points: $M = 581$), considered intermediate to advanced English proficiency, while those

Table 1: Participants' school year and TOEIC IP mean score

Group	School year of Ss in each group	TOEIC IP Score	TOEIC proficiency scale
Group 1 (Good group) $n = 82$ (m 27/f 55)	1st (12) 2nd (20) 3rd (21) 4th (29)	$M = 581$ (*SD* 60.98)	C: Independent user-Threshold
Group 2 $n = 96$ (m 41/f 55)	1st (26) 2nd (31) 3rd (22) 4th (17)	$M = 452$ (*SD* 28.22)	D: Basic user-Waystage
Group 3 (Poor group) $n = 94$ (m 39/f 55)	1st (31) 2nd (49) 3rd (11) 4th (3)	$M = 333$ (*SD* 41.01)	E: Basic user-Breakthrough
Total $n = 272$ (m 107/f 165)	1st (69) 2nd (100) 3rd (54) 4th (49)	$M = 450$ (*SD* 110.70)	

who scored 395 (= 450: *Mean* score – half *SD*: 55.35) or lower (Group 3) were assigned to the Poor group (240-395 points: *M* = 333), which was considered beginner English proficiency (see Table 1).

Before taking the survey, all participants were told that their survey responses would be kept strictly confidential and that the data from this research would be reported only in the aggregate, with all resulting information coded and kept confidential. In addition, all participants were assured that their answers would in no way affect their grades.

2.2 Questionnaires

The questionnaires used in this study were based on previous studies [Omotedani, 2020; Omotedani and Sannomiya, 2020] and consisted of 19 criteria each (see Appendices A and B). Questionnaire 1 was used in RQ 1 & 3, using a 6-point Likert-type scale to survey the participants' metacognitive knowledge of the relative importance of each criterion in giving a good OPIE. The participants chose their answers from a scale that ranged from 1 (not important at all) to 6 (very important). Examples of the criteria included "2. Able to speak with intonation, rhythm, and word stress" and "4. Able to use eye contact with the audience while presenting." The resulting scores were compared between the Good and Poor groups, and an independent sample *t* test was conducted using IBM SPSS (Version 28).

Questionnaire 2 was used for RQ 2, 4, and 5, which asked about metacognitive activities during the participant's preparation for an OPIE. The participants chose their answers from a scale ranging from 1 (does not apply to me at all) to 6 (applies to me very much). Examples of criteria are "I remember to be able to speak with intonation, rhythm, and word stress" and "I remember to prepare to use eye contact with the audience while presenting." To determine how much each item applies while preparing an OPIE, we also conducted an independent sample *t* test using IBM SPSS (Version 28) to compare the Good group and the Poor group.

3. Results of the questionnaire survey
3.1 RQ 1 & 2: Descriptive statistical results of questionnaires 1 & 2

Table 2 shows the descriptive statistics for Questionnaire 1 (metacognitive knowledge of a good OPIE criteria). The means (standard deviations in parentheses) of the top five criteria are "eye contact": 5.44 (0.70), "clarity of main point": 5.37 (0.72), "speaking speed": 5.24 (0.80), "prosody": 5.20 (0.78), "facial expression": 5.20 (0.78), and the bottom five are "memorization of the content": 4.57 (1.05), "grammar": 4 .66 (0.95), "discourse markers": 4.74 (0.78), "time allocation": 4.83 (0.86), "vocabulary and expressions": 4.88 (0.83).

Table 3 shows the descriptive statistics for Questionnaire 2

Table 2: Means and standard deviation of each criteria of metacognitive knowledge for a good English presentation

| Criteria (Highest *M* to Lowest *M*) | Metacognitive knowledge (*n* = 272) | | | |
| | | | 95 % Cl | |
	M	*SD*	*LL*	*UL*
Eye contact	5.44	0.70	5.36	5.52
Clarity of main point	5.37	0.72	5.29	5.46
Speaking speed	5.24	0.80	5.14	5.33
Facial expression	5.20	0.78	5.11	5.30
Prosody	5.20	0.78	5.11	5.29
Posture	5.19	0.84	5.09	5.29
Interesting content	5.19	0.80	5.09	5.28
Clarity of sentences	5.14	0.76	5.05	5.23
Easy to follow slides	5.11	0.80	5.01	5.20
Q and A	5.09	0.80	5.00	5.19
Gesture	5.05	0.86	4.95	5.15
Logical organization	5.01	0.84	4.91	5.11
Pronunciation	4.97	0.82	4.87	5.07
Involve of the audience	4.89	0.90	4.79	5.00
Vocabulary and expressions	4.88	0.83	4.78	4.98
Time allocation	4.83	0.86	4.73	4.93
Discourse markers	4.74	0.78	4.65	4.83
Grammar	4.66	0.95	4.54	4.77
Memorization of the content	4.57	1.05	4.44	4.69

Note: Cl = confidence interval; *LL* = lower limit, *UL* = upper limit.

Table 3: Means and standard deviation of each criteria of metacognitive activities for a good English presentation

| Criteria (Highest *M* to Lowest *M*) | Metacognitive activities (*n* = 272) | | | |
| | | | 95 % Cl | |
	M	*SD*	*LL*	*UL*
Easy to follow slides	5.15	0.81	5.05	5.24
Pronunciation	5.06	0.77	4.96	5.15
Clarity of sentences	5.00	0.80	4.91	5.10
Clarity of main point	4.94	0.83	4.84	5.04
Eye contact	4.91	0.90	4.80	5.02
Speaking speed	4.83	0.86	4.72	4.93
Interesting content	4.82	0.87	4.71	4.92
Logical organization	4.77	0.95	4.65	4.88
Memorization of the content	4.76	0.95	4.65	4.88
Vocabulary and expressions	4.75	0.84	4.65	4.85
Time allocation	4.75	0.97	4.63	4.86
Q and A	4.75	0.97	4.63	4.86
Facial expression	4.74	1.05	4.61	4.86
Grammar	4.70	0.83	4.60	4.80
Prosody	4.66	0.90	4.55	4.77
Posture	4.62	1.01	4.50	4.74
Discourse markers	4.55	0.92	4.44	4.66
Involve of the audience	4.40	1.10	4.27	4.53
Gesture	4.29	1.21	4.14	4.43

Note: Cl = confidence interval; *LL* = lower limit, *UL* = upper limit.

(metacognitive activities regarding items to keep in mind when preparing for an OPIE). The means (standard deviations in parentheses) of the top five criteria are "easy to follow slides": 5.15 (0.81), "pronunciation": 5.06 (0.77), "clarity of sentences": 5.00 (0.80), "clarity of main point": 4.94 (0.83), and "eye contact": 4.91 (0.90), and the bottom five criteria are: "gesture": 4.29 (1.21), "involve the audience": 4.40 (1.10), "discourse markers": 4.55 (0.92), "posture": 4.62 (1.01), and "prosody": 4.66 (0.90).

3.2 RQ 3: The results of t-test (metacognitive knowledge)

The results of the *t* test showed no statistically significant differences except for "9. Sentences are short and easy to understand," which demonstrated a trend toward statistically significant differences, $t(174) = 1.93$, $p = .055$ (see Table 4).

3.3 RQ 4: The results of t-test (metacognitive activities)

The results of the *t* test revealed statistically significant differences in five criteria and trended toward statistically significant differences in three criteria (see Table 5). Significant differences were found in the following: "1. I check if I can pronounce words correctly," $t(174) = 2.46$, $p = .015$; "2. I remember to speak with intonation, rhythm, and word stress," $t(174) = 2.93$, $p = .004$; "4. I remember to prepare to use eye contact with the audience while presenting," $t(174) = 2.44$, $p = .016$; "11. I check if I use appropriate vocabulary and expressions," $t(174) = 2.72$, $p = .007$; and "17. I keep it in mind that the audience understands the main point of the presentation," $t(174) = 2.01$, $p = .046$.

Significant trends were found in the following three criteria: "8. I ensure grammar errors do not interfere with the general understanding of the presentation content," $t(174) = 1.84$, $p = .068$; "12. I prepare myself to memorize the content of the presentation," $t(174) = -1.96$, $p = .052$; and "19. I remember to deal with and answer the Q&A session appropriately," $t(174) = 1.90$, $p = .059$.

4. Discussion of the questionnaire survey

4.1 Implications from RQ 1 & 2 results

Questionnaire 1 consisted of 19 items on metacognitive knowledge of good OPIE criteria using a 6-point Likert scale. Factors that Otoshi and Heffernan [2008] consider important when giving OPIE are "clarity of speech" and "voice quality," "correctness of language," and "interaction with the audience". The results of Questionnaire 1 are reasonably consistent with Otoshi and Heffernan [2008]. The top five criteria are "eye contact," "clarity of main point," "speaking speed," "prosody," and "facial expression," indicating the importance of nonverbal communication skills and conveying interesting content in an easy-to-understand manner. This finding may result from the image of "good presentations" that participants see on TV, YouTube, TED, and so on. As noted in Kitano [2001], this is because students learn from audio tapes and videos of native speakers communicating as good examples and perceive them as perfect models.

The bottom five were "memorization of the content," "grammar," "discourse markers," "time allocation," and "vocabulary and

expressions." In contrast to the top five criteria, the bottom five criteria are mostly related to verbal communication such as grammar, vocabulary, discourse markers, and memorization of content.

Leichsenring [2010] reported that some students memorized the entire presentation manuscript and presented it so they could reproduce what they had memorized during their English presentation to avoid making mistakes. From the authors' experience, presentations that merely replay memorized content often lack intonation and facial expressions and are not persuasive. In many cases, the presenter seems to be facing the audience but only staring at a single point in mid-air and not maintaining eye contact with the audience. This strategy also has the weakness that if the student forgets even a part of the memorized English sentences, he or she cannot go on from there and freezes.

In contrast, the top five criteria of Questionnaire 2 are "easy-to-follow slides," "pronunciation," "clarity of sentences," "clarity of main point," and "eye contact." The bottom five criteria are "gestures," "involves the audience," "discourse markers," "posture," and "prosody." The above results indicate that the students focused on communicating to the audience when preparing the manuscript and slides. The lower-ranked criteria—gestures, posture, and prosody—were related to the rehearsal of the presentation in preparation. Discourse markers were also ranked low in Questionnaire 1, suggesting that students are less aware of both their importance in a good OPIE and the criteria they should keep in mind during the preparation stage compared to the other criteria.

4.2 Implications from RQ 3 results

RQ 3 sought to determine via a *t* test whether a significant difference in metacognitive knowledge of a good OPIE might exist between the Good and Poor groups. The results demonstrated no significant differences in the participants' perceptions of most of the criteria. All the students already had experience with English presentation assignments and had acquired knowledge about important OPIE criteria through classes and other activities. This background may explain why no difference emerged in terms of metacognitive knowledge about good OPIE according to English proficiency.

The only significant trend in metacognitive knowledge was found in "9. Conciseness of sentences." The mean (*SD*) for "9. Conciseness of sentences" was 5.23 (0.69) for the Good group and 5.01 (0.81) for the Poor group. Both groups demonstrated a high level of perceived importance. Although it is a significant trend and a matter of conjecture, the fact that the Good group yielded a significant trend of higher scores might have been due to the Good group being more proficient in English than the Poor group, which might have led them to pay more attention to longer and more redundant sentences. A discrepancy might have also existed between the "conciseness of sentences" rendered by the Good group and the "conciseness of sentences" of the Poor group. It will therefore be necessary to clarify the value that each group assigns the "conciseness of sentences"

Table 4: Good versus poor metacognitive knowledge: Importance of each criterion

| Criteria | Metacognitive knowledge (N = 176) | | | | t | p |
| | Good (n = 82) | | Poor (n = 94) | | | |
	M	SD	M	SD		
1. Pronunciation	4.85	0.85	5.00	0.83	−1.16	.249
2. Prosody	5.17	0.80	5.29	0.74	−1.00	.317
3. Speaking speed	5.28	0.79	5.21	0.80	0.56	.320
4. Eye contact	5.57	0.65	5.41	0.69	1.56	.122
5. Gesture	5.00	0.86	5.10	0.83	−0.75	.454
6. Facial expression	5.20	0.76	5.18	0.85	0.12	.908
7. Posture	5.22	0.90	5.14	0.85	0.61	.540
8. Grammar	4.62	1.04	4.74	0.90	−0.84	.403
9. Conciseness of sentences	5.23	0.69	5.01	0.81	1.93	.055
10. Discourse markers	4.78	0.82	4.66	0.76	1.02	.309
11. Vocabulary and expressions	4.99	0.85	4.80	0.80	1.53	.129
12. Memorization of the content	4.46	1.19	4.71	0.98	−1.53	.129
13. Involve of the audience	4.95	0.86	4.91	0.92	−1.53	.788
14. Easy-to-follow slides	5.16	0.73	5.11	0.82	0.44	.659
15. Logical organization	5.11	0.80	4.98	0.88	1.03	.306
16. Interesting content	5.12	0.82	5.27	0.75	−1.21	.226
17. Clarity of main point	5.35	0.64	5.31	0.78	−1.21	.672
18. Time allocation	4.94	0.91	4.73	0.82	1.56	.117
19. Q&A	5.09	0.80	5.15	0.75	−0.54	.588

Note: * $p < .05$, ** $p < .01$.

Table 5: Good versus poor metacognitive activities: How applicable each criterion is

| Criteria | Metacognitive activities (N = 176) | | | | t | p |
| | Good (n = 82) | | Poor (n = 94) | | | |
	M	SD	M	SD		
1. Pronunciation	5.26	0.72	4.97	0.82	2.46	.015
2. Prosody	4.94	0.82	4.57	0.82	2.93	.004
3. Speaking speed	4.93	0.80	4.71	0.89	1.68	.094
4. Eye contact	5.11	0.86	4.78	0.94	2.44	.016
5. Gesture	4.24	1.25	4.31	1.18	−0.35	.725
6. Facial expression	4.83	0.97	4.65	1.02	1.20	.233
7. Posture	4.71	0.96	4.65	1.00	0.39	.695
8. Grammar	4.83	0.89	4.59	0.87	1.84	.068
9. Conciseness of sentences	5.04	0.84	4.98	0.83	0.46	.646
10. Discourse markers	4.66	1.03	4.44	0.87	1.55	.124
11. Vocabulary and expressions	4.94	0.92	4.60	0.75	2.72	.007
12. Memorization of the content	4.62	1.04	4.90	0.84	−1.96	.052
13. Involve of the audience	4.50	1.03	4.32	1.19	1.07	.287
14. Easy-to-follow slides	5.23	0.79	5.11	0.82	1.03	.306
15. Logical organization	4.98	0.83	4.76	0.97	1.62	.106
16. Interesting content	4.98	0.80	4.83	0.89	1.14	.257
17. Clarity of main point	5.11	0.75	4.87	0.81	2.01	.046
18. Time allocation	4.72	1.03	4.69	1.04	0.18	.858
19. Q&A	4.59	0.92	4.29	1.16	1.90	.059

Note: * $p < .05$, ** $p < .01$.

through interviews or other means in the future.

4.3 Implications from RQ 4 results

For RQ 4, we used a *t* test to examine whether there were significant differences between the Good and Poor groups in the data obtained using a 6-point Likert scale to determine how much each item applied to preparing for OPIE from the participants' viewpoint. Five criteria were significantly higher in the Good group compared to the Poor group. Out of three criteria that indicated a significant trend, two of the criteria showed a statistically significant tendency for the Good group to outperform the Poor group; however, one criterion was significantly higher in the Poor group compared to the Good group. These results suggest that differences in reading and listening comprehension led to differences in metacognitive activities during the preparation phase, even for English tasks that require productive English proficiency, such as OPIE.

The Good group scored certain criteria significantly higher than did the Poor group, including "1. Pronunciation," t (174) = 2.46, p = .015; "2. Prosody," t (174) = 2.93, p = .004; "4. Eye contact," t (174) = 2.44; p = .016, "11. Vocabulary and expressions," t (174) = 2.72, p = .007; and "17. Clarity of main point," t (174) = 2.01, p = .046. The two criteria showing significant trends for the Good group over the Poor group were "8. Grammar," t (174) = 1.84, p = .068, and "19. Question and answer," t (174) = 1.90, p = .059.

These results suggest that the Good group rehearsed their presentations, including non-verbal communication, with the audience in mind. They paid attention to pronunciation, prosody, eye contact, and other aspects of the presentation from the preparation stage. These criteria are often overlooked when preparing without actually rehearsing. In addition, from the viewpoint of verbal communication (vocabulary, expressions, and grammar), we could infer that students tend to prepare their presentations to remove obstacles in conveying their meanings to the audience. The significant trend in "Preparation for Q&A" indicates that they would prepare their presentations with the audience in mind, including the Q&A session.

The Poor group demonstrated a significantly higher tendency than the Good group on "12. Memorization of the presentation," t (174) = –1.96, p = .052. We believe this outcome resulted from the Poor group feeling the need to memorize the content of the presentation since their English proficiency was lower than that of the Good group. The Poor group tended to be more conscious of "memorizing" in the preparation stage while not as conscious of "communicating" to the audience as the Good group. Due to their lesser English proficiency, the cognitive load for "presenting in English" was greater than that of the Good group, suggesting that the Poor group members' cognitive resources used for "communicating to the audience" were insufficient, even though the participants exhibited knowledge about the importance of communication in OPIE.

No significant differences or trends arose in metacognitive knowledge of OPIE between the Good and Poor groups, except

for "9. Conciseness of sentences." However, for metacognitive activities in the preparation phase, significant differences were observable in five criteria, as well as significant trends noted in three criteria. In short, the Poor group showed lower metacognitive activities than did the Good group in terms of effectively communicating their messages to the audience, which led to insufficient metacognitive control on criteria such as "I check if I can pronounce words correctly," "I remember to prepare to use eye contact with the audience while presenting," and "I remember to ensure that the audience understands the main point of the presentation."

4.4 Implications for teaching OPIE

The results and discussion of RQs 1, 2, 3, and 4 provide the following implications for teaching English presentations. Students are less aware of the importance of discourse markers for a good OPIE than the other criteria, both in terms of importance and criteria to remember during the preparation stage. Discourse markers, once learned, can be used in almost any English presentation. Therefore, introducing them in class together with the structure of English presentations is effective in improving students' English presentation skills and reducing the burden of memorizing English sentences for presentations.

Kho and Leong [2015] and Otoshi and Heffernan [2008] cited a lack of practice as a cause of poor English presentations. When teaching OPIE, especially to students whose English ability may be insufficient, it is necessary to provide opportunities for them to practice in class to be able to "communicate to the audience." The Poor group showed a significant trend toward a higher awareness of "memorizing the content" in the preparation stage. As reported by Leichsenring [2010], memorizing the content of a presentation word for word may be an effective strategy to relieve anxiety. However, we have seen many students who have recited what they had memorized without any awareness of "communicating to the audience." This strategy also has a vulnerability: When students forget even a part of what they have memorized, they will often stop speaking and freeze. Students should thus acquire the ability to communicate with the audience by engaging in presentations rather than "rote memorization" with no regard for the audience. Therefore, instructors should provide guidance on how to practice and remember the content in class, such as producing different patterns of sentences using the key words shown on the slide as cues. For example, using a slide with a graph and the key word "sales," students can produce sentences such as "The vertical axis represents sales," "This axis shows sales," or "This is sales." Students who know what to do when they forget a word may relax more and have the ability to communicate with their audience.

Students such as those in the Poor group may express the knowledge that eye contact and prosody are important for a good OPIE, but they cannot think that far in the preparation stage, or one might say that they cannot apply metacognitive knowledge to metacognitive activities due to a lack of cogni-

tive resources. As Shimamura [2008] asserted, metacognition works as a central executive for an individual's cognition, but its function is affected by the volume of the cognitive load it handles. When presenting OPIE tasks, educational interventions such as teacher-provided checklists for OPIE preparation (e.g., "I prepared so I could present while making eye contact with the audience," "I looked up words I did not know how to read and practiced saying them smoothly") will complement the monitoring and control of metacognitive activities.

5. Educational intervention in OPIE classes

5.1 Methodology of educational intervention

Following the aforementioned implications, we implemented an educational intervention during the English presentation preparation phase in two OPIE classes. The content was the same for both classes, and the designated textbook was *Winning Presentations* [Morita et al., 2018]. The participants were 37 English majors taking an English presentation class at a private liberal arts university, with a mean TOEIC L&R score of 493 (*SD*: 138.19), all of whom agreed to participate in the educational intervention. The implementation procedure was as follows.

1. In the first class, students will be asked to complete the same questionnaire (pre-survey) about "what to keep in mind when preparing for an English presentation" that was used in RQ2 and 4.

2. Introduce the English presentation structure (Introduction → Body → Conclusion) described in the text used on p. 10-12. The students will have an assignment to memorize 12 sentences typically used in each of these sections, including discourse markers. The evaluation method of the assignment is based on whether the students are able to speak the memorized sentences (e.g., in conclusion, let me remind you of some of the issues we have covered) by looking at the key words (e.g., conclusion, summarizing), paying attention to eye contact and voice quality. The instructor evaluates whether the student is able to speak smoothly.

3. Have students prepare for an OPIE assignment using Power-Point, the flowchart in Figure 1, and the checklist in Figure 2.

4. Have the students submit a PowerPoint file to be used in the presentation in advance. When creating slides, tell the students that there should not be a large amount of information on each slide and they should be easy to read, that they should write what they will say on each slide in the notes section so they can practice speaking using key words from the content shown on the slides, and that they should be able to explain the content even if it is not exactly what they wrote in their notes (see Figure 3).

5. After students give their English presentations, they will be asked to complete the same questionnaire (post) about "things to keep in mind when preparing for an English presentation" used in RQ 2 and 4. Semi-structured interviews will be conducted with four of the participating students
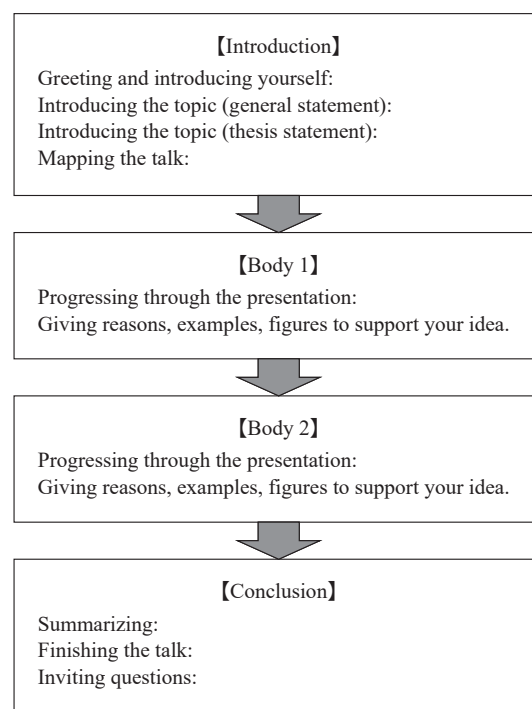

Figure 1: The flow chart used for preparation

with different English proficiencies (student A: TOEIC R&L score of approximately 450, student B&C: TOEIC R&L score of approximately 600, and student D: TOEIC R&L score of approximately 750).

5.2 RQ 5: Results and discussion of the educational intervention

Results of a pre-post questionnaire on criteria to keep in mind when preparing English presentations tested with a paired *t* test, and significant differences were found for eye contact: $t(35) = -2.27$, $p = .003$; memorization of the content: $t(35) = -3.58$, $p < .001$; interesting content: $t(35) = -2.28$, $p < .001$; time allocation: $t(35) = -3.17$, $p < .001$, and Q&A: $t(35) = -3.89$, $p < .001$, and a significant trend was found for logical organization: $t(35) = -1.95$, $p = .006$ and clear message: $t(35) = -1.89$, $p = .007$ (see Table 6). These results suggest that they conducted more rehearsals and prepared with an eye toward communicating to the audience than before the intervention.

In the semi-structured interviews, we primarily asked about what preparation helped them give their OPIE, and all four participants shared the opinion that practicing using slides as notes was helpful. Students' comments are as follows; "I was less nervous than before because even if I forgot the English sentences I had memorized, I was able to convey the content using the slides as hints" (students A & C) and "Practicing my speech based on the key words on the slides gave me the confidence to speak without a script (student B). "I enjoyed being able to speak in my own words because I was not speaking from rote memorization" (student D).

All four students responded that the flowchart (Figure 1) was also helpful in the following respects: "I was able to prepare

Check List Preparation Status: Ready: ◯ Needs more preparation: △ Not ready yet: X
Fill in each item with a ◯ △ X.
Rehearse at least twice before your presentation to check your preparation!

	Check 1	Check 2	Preparation criteria necessary for a good English presentation
Date	/	/	
1			I checked if I can pronounce words correctly
2			I prepared to speak with intonation, rhythm, and word stress
3			I prepared to speak at an appropriate speed, neither too fast nor too slow
4			I prepared to present while maintaining eye contact with the audience.
5			I prepared to use appropriate gestures while presenting
6			Prepared to use appropriate facial expressions
7			I practiced my presentations with good posture and without swaying or fidgeting.
8			I checked for grammatical errors that might interfere with the conveyance of meaning.
9			I prepared to present in a concise and easy-to-understand manner.
10			I prepared to use discourse markers appropriately (such as therefore, however, you know, by the way, for example, first, in summary).
11			I checked for appropriate use of vocabulary and expressions.
12			Using the keywords on the slides as cues, I practiced speaking in English about what I wanted to convey.
13			I prepared myself to be able to to involve the audience by asking questions to the audience, etc.
14			I prepared slides that are easy to read and understand. Examples: Clear headings, not too much text, large text and images that can be seen by people in the back, background color and text color (red text on a dark background color is difficult to see).
15			I checked whether the presentation follows a logical structure (introduction, body, and conclusion).
16			I used content that the audience is interested in/relevant.
17			I prepared my presentation with an awareness of whether the audience understands the main point of the presentation.
18			The presentation was rehearsed in advance to make sure that the time allocation for the presentation was correct.
19			I prepared for an appropriate question and answer session.

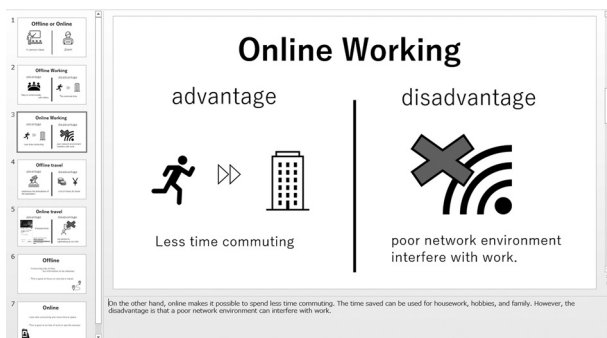Figure 2: Presentation preparation check list for studnets

Figure 3: Example of PowerPoint slides and notes

while checking the overall structure (students A & B)," "I was able to notice the missing parts, such as specific examples in Body 1 but not in Body 2 (student C)," and "I was able to prepare while checking the consistency of the Introduction and Conclusion (student D).

In addition, student C commented, "linking this flowchart with the expressions containing discourse markers made the preparation smoother." Student D commented on the assignment to memorize expressions, including discourse markers, "I have not had a chance to learn typical expressions used in presentations in an organized manner, but once I learn them, I can use them in future presentations, so I think the assignment to slur them up was very good."

Opinions differed on the checklist (Figure 2). Negative opinions include "I did check, but it was just a check, and I didn't really use it for preparation" (student A) and "There were so many items to check, and when I realized how many things I hadn't done, I was nervous and anxious about giving the presentation" (student C). Conversely, positive opinions are "It was clear and made it easy to understand what to pay attention to when practicing" (student B) and "Preparing with a checklist gave me a sense of accomplishment when the preparation was complete" (student D). There was also a constructive comment that "it would be good to conduct a rehearsal in class and listen to objective opinions, such as those of classmates, to check the results" (student C).

All four participants commented that practicing speaking based on key words and using discourse markers appropriately to explain things logically were very useful for their OPIE. We would like to continue these activities in the future, as we believe they offer effective training for acquiring the English skills necessary for work, including in the hospitality industry.

Table 6 : The results of pre and post survey: How applicable each criterion is

Criteria	Metacognitive activities ($N = 37$)				t	p
	Pre ($N = 37$)		Post ($N = 37$)			
	M	SD	M	SD		
1. Pronunciation	4.92	1.03	4.94	0.96	−0.15	.884
2. Prosody	4.33	1.15	4.42	0.81	−0.50	.619
3. Speaking speed	4.33	1.17	4.58	0.91	−1.36	.183
4. Eye contact	3.86	1.13	4.36	0.96	−2.27	.029
5. Gesture	3.69	1.06	3.94	1.15	−1.22	.230
6. Facial expression	3.94	0.98	4.08	1.23	−0.76	.454
7. Posture	4.19	1.09	3.89	1.33	1.34	.189
8. Grammar	4.47	1.11	4.58	1.11	−0.58	.563
9. Conciseness of sentences	4.53	0.97	4.78	1.05	−1.25	.221
10. Discourse markers	4.11	1.12	4.25	1.30	−0.64	.530
11. Vocabulary and expressions	4.53	0.91	4.42	1.08	0.49	.629
12. Memorization of the content	3.92	1.18	4.83	1.25	−3.38	.001
13. Involve of the audience	3.78	0.96	3.81	1.33	−0.11	.913
14. Easy-to-follow slides	5.06	0.83	5.03	1.00	0.15	.878
15. Logical organization	4.22	1.20	4.76	1.06	−1.95	.059
16. Interesting content	4.08	1.00	4.56	0.81	−2.76	.009
17. Clarity of main point	4.19	1.04	4.72	1.26	−1.89	.068
18. Time allocation	4.08	1.18	4.67	1.12	−3.17	.003
19. Q&A	3.39	1.13	4.36	1.05	−3.88	.000

Note: * $p < .05$, ** $p < .01$.

The number of criteria on the checklist may need to be narrowed down or gradually introduced, especially in classes for students who do not have sufficient English language skills. Furthermore, we would like to incorporate rehearsals in class so students can check each other's performance and preparation from multiple perspectives.

6. Conclusion

In this study, we examined students' metacognitive knowledge of English presentations and their metacognitive activities when preparing them, as well as the relationship between metacognition and differences in English proficiency, and conducted an educational intervention based on the insight we gained through this study and reported the results. We implemented educational interventions for 37 students, such as learning expressions, including discourse markers, introducing flowcharts and checklists, and guiding and preparing students on how to speak based on key words in PowerPoint slides rather than "rote memorization."

The educational intervention was found to be effective in making the students more aware of communication with the audience and avoiding lack of practice, including rehearsals in the preparation stage. However, the number of criteria in the checklist must be reviewed and the method of introduction must be reconsidered, especially for lower English proficiency students.

The activities implemented in these educational interven-

tions develop the ability to convey information in a flexible way and to explain logically, using discourse markers appropriately. OPIE practices can also help students pay attention to non-verbal communication skills, such as facial expressions, speaking style, and posture when speaking English. These skills are highly applicable when using English in the hospitality industry and other business settings. It will be important for teachers to teach OPIE classes with students' future careers in mind, so that OPIE classes do not end only for the sake of OPIE.

Future research and practice will continue to examine whether these educational interventions can apply during presentations, as well as whether they can complement the monitoring and control of metacognitive activity during the presentation.

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Appendix A

Questionnaire 1: Important criteria for a good presentation.

Please read the following details for the presentation assignment and answer how important you think the criteria listed below are to be able to give a good oral presentation in English. Choose your answer from the following options: 1: not important at all, 2: not important, 3: not very important, 4: slightly important, 5: important, 6: very important.

1. Able to pronounce words correctly (not so much incorrect pronunciation, but rather can the listener recognize the words?)
2. Able to speak with intonation, rhythm, and word stress (are they able to communicate prosodically)
3. Speaking speed is appropriate (not too fast, not too slow)
4. Able to use eye contact with the audience while presenting
5. Able to use appropriate gestures while presenting
6. Able to use appropriate facial expressions (not remaining expressionless)
7. Uses correct posture when presenting (not swaying or fidgeting)
8. Grammar errors do not interfere with the general understanding of the presentation content
9. Sentences are short and easy to understand
10. When speaking, able to use discourse markers appropri-

ately (such as therefore, however, you know, by the way, for example, first, in summary)

11. Able to use appropriate vocabulary and expressions

12. Able to memorize the content of the presentation (able to give presentation without reading a script)

13. Able to involve the audience in the presentation (e.g., asking questions of the audience)

14. Uses easy-to-follow slides (size of text, color, etc.)

15. The presentation follows a logical pattern (introduction → body → conclusion)

16. Uses content that the audience is interested in/relevant

17. The audience understands the main point of the presentation

18. The presentation is completed within the allocated time

19. Able to deal with and answer Q&A session appropriately

Appendix B

Questionnaire 2: How applicable are the criteria in preparing for a presentation?

Please read the following details for the presentation assignment and answer how applicable you think the criteria listed below are when you are preparing to give a good oral presentation in English. Choose your answer from the following options: 1: does not apply to me at all, 2: does not apply to me, 3: does not apply to me very much, 4: slightly applies to me, 5: applies to me, 6: applies to me very much.

1. I check if I can pronounce words correctly (not so much incorrect pronunciation, but rather can the listener recognize the words?)

2. I focus on being able to speak with intonation, rhythm, and word stress (are they able to communicate prosodically)

3. I remember to check if speaking speed is appropriate (not too fast, not too slow)

4. I remember to prepare to use eye contact with the audience while presenting

5. I remember to prepare to use appropriate gestures while presenting

6. I remember to prepare to use appropriate facial expressions (not to remain expressionless)

7. I remember to prepare to use correct posture when presenting (not swaying or fidgeting)

8. I ensure grammar errors do not interfere with the general understanding of the presentation content

9. I remember to keep sentences are short and easy to understand

10. When preparing, I remember to use discourse markers appropriately (such as therefore, however, you know, by the way, for example, first, in summary)

11. I check to see if I use appropriate vocabulary and expressions

12. I prepare myself to memorize the content of the presentation (able to give presentation without reading the script)

13. I prepare myself to be able to involve the audience in the

presentation (e.g., asking questions to the audience)

14. I remember to use easy-to-follow slides (size of text, color, etc.)

15. I check whether the presentation follows a logical structure (introduction, body, and conclusion)

16. I remember to use content that the audience is interested in/relevant

17. I remember to ensure that the audience understands the main point of the presentation

18. I ensure the presentation is completed within the allocated time

19. I remember to deal with and complete Q & A session appropriately