Problem-Solving Mechanisms Employed by Japanese Students in an EFL Classroom

EFL 教室における日本人 EFL 学習者の問題解決メカニズムの使用に関する調査

愛知教育大学　教育学研究科　日本型教育グローバルコース

包　玉溪（Bao Yuxi）

Research Problem Statement

English as a Foreign Language (EFL) learners in countries such as China, Russia, Japan, Korea, and others, are primarily learning English through classroom instruction. Acquiring a foreign language in a non-English-speaking country is hard to accomplish, especially speaking, which was reported to be the most difficult of the four language skills (listening, speaking, reading, and writing) to acquire throughout the long period of the learning process (e.g., Ur, 2002; Zhang, 2009). According to Ur's (1996) experience in teaching, factors that lead to difficulties in developing learners' second language (L2) speaking skills include the following: *inhibition, nothing to say, Low or uneven participation. mother tongue use.* The idea of this research originated from how EFL learners can overcome communication challenges and eventually achieve their communication goals, despite the fact that they are not perfectly proficient in speaking English.

When taking a closer look at EFL interactions, we can find that Asian EFL learners, whether Chinese or Japanese, share similar hurdles in EFL interactions. They appear anxious and may be hesitant to speak English (Liu & Jackson, 2008; McCroskey, Gudykunst & Nishida, 1985; Yashima, 2002) in classroom discussions or when communicating with teachers in L2. EFL interactions also run a high risk of developing into problematic circumstances, where speakers may have trouble expressing or understanding each other, or experience misunderstandings or even breakdowns in communication, due to their inadequate L2 resources and language abilities. In addition to gaps in knowledge of L2, individual differences (Dörnyei, 2005) and psychological factors are also perceived factors that can contribute to a reluctance to negotiate meaning. To keep the communication going and achieve mutual understanding, consequently, it is critical that EFL learners utilize various problem-solving mechanisms (PSMs) of Dörnyei and Kormos (1998) in Table 1, similar to Communication Strategies (CSs), to pre-empt as well as prevent communication from going awry.

Table 1. *The main components of the framework of PSMs in L2 use (Dörnyei & Kormos, 1998)*

Problem type	Relevant phase of speech production	Problem-solving mechanisms
Resource deficit	Planning and encoding the pre-verbal message	Lexical & Grammatical & Phonological PSMs
Processing time pressure	Planning and encoding the pre-verbal message	Stalling mechanisms
Perceived deficiency in one's own language output	Monitoring the phonetic plan and the articulated speech	Self-correction & Check questions
Perceived deficiency in the interlocutor's performance	Post-articulatory monitoring	Meaning-negotiation mechanisms

The Purpose of the Study

Employing CSs to tackle communication problems has been widely covered in the research literature (e.g., Tarone, 1977; Poulisse and Schils, 1989; Littlemore, 2003; Nakatani, 2010). However, empirical studies concerning PSMs (Dörnyei & Kormos, 1998) in EFL context are scarcer in the existing literature. To fill this literature gap, the author wanted to (1) explore how Japanese EFL students resolve communication difficulties using PSMs on two communicative tasks, and (2) identify the influences of task type on PSM use, and (3) further examine students' inner thoughts and reasoning regarding their use of PSMs. The emphasis placed on PSMs rather than CSs means that attention is being paid specifically to exchanges demonstrating extra effort to negotiate meaning that indicate the interaction has become difficult and problematic.

Research Method

A mixed-method research design (Heigham & Croker, 2009) was used in this study, with a predominantly qualitative method supplemented by quantitative analysis.

Participants: Nine 3rd-year English majors in an Oral Communication class at Aichi University of Education.

Task: Two types of group-work tasks, Sharing Story Task (SST) and Presentation of Ted Talks (PTT). SST requires students to share a recent experience or event in groups at the beginning of the class; in the PTT, students give interactive presentations of TED Talks in groups, then lead discussions based on their talks.

Data Collection Process:

Step 1. Ethical consideration measures were conducted to obtain informed consent before starting to collect data.

Step 2. Interactions of nine students on two tasks in classes in the second semester of 2021 were regularly recorded.

Step 3. The author analyzed the recordings for samples of interactions that demonstrated extra effort to resolve communication problems for the utilization of PSMs and transcribed these excerpts.

After categorizing the PSMs selected using the taxonomy of Dörnyei and Kormos (1998), participants included in these excerpts were interviewed to help clarify the transcription and classification of PSMs.

Step 4. A survey including closed and open-response questions was conducted at the end of the course in order to understand participants' English language learning experiences, get a self-evaluation of their classroom performance during their participation in the study, and gain deeper insights into their use of PSMs.

Step 5. Based on the results of the questionnaire, three participants were selected for a follow-up interview to get a deeper interpretation of the PSMs used or not used and the rationale for doing so.

Data Analysis

(1) The recordings of the two tasks (SST and PTT) in Table 2 were transcribed as described above, and then examples of PSMs were selected and categorized according to the adapted Taxonomy of Dörnyei and Kormos (1998) to answer the 1st research question.

Table 2. *Recordings of the data collected, and its duration*

Recording	Duration (mins)	Where	When
SST	51.92	classroom	2nd semester in 2021
PTT	129.36	classroom	2nd semester in 2021
Interview (S1)	38.52	campus	2022.03.24
interview (S2)	47.31	zoom	2022.03.15
interview (S8)	63.57	zoom	2022.03.28

(2) A Chi-square test was applied to examine if there is an association between students' PSMs use and the task type (RQ 2).

(3) In the current research, the transcriptions of the three follow-up interviews (Table 2) were thematically summarized and analyzed using the software Taguette to identify codes and themes in the respondents' replies that might be utilized to answer the third research question.

Conclusion

(1) What PSMs are employed in a Japanese EFL classroom to pre-empt and resolve communication problems?

Based on the content analysis of the results, it can be concluded that (a) participants in this study employed a variety of PSMs and, most of the time, in combination to overcome communicative difficulties during the interaction. Amongst them, code-switching, circumlocution, visual cues, rephrasing repair, comprehension checks, asking for clarification, and asking for confirmation were the seven types of PSMs that were favored by the participants in

this study. Whereas PSMs that seemed to expose the inability of the speaker, such as 'appeal for help,' 'feigning understanding,' and PSMs that would threaten the interlocuter's face, such as 'other repair,' were either not favored by the participants in the current study, or not found in the data, which supported previous findings by Ahvenainen (2005).

(2) Are there any differences in the PSMs employed in different tasks?

Under different task conditions, the SST task, which was typically less linguistically demanding, seemed to trigger more PSM use per minute than the PTT. Still, after performing the Chi-square test, it was determined that $X^2=1.44687$, df=2, p=0.484, statistically indicating no correlation between the amount of PSM used and the task type. Nevertheless, PTT seemed to produce more kinds of PSM than SST as more types of PSM were found in the PTT.

(3) What are some factors that influence EFL Japanese learners in employing PSMs?

In brief, the participants' PSM choice and use were the result of multi-faceted factors. The seven possible factors summarized from the three introspective interviews were: individual differences, learners' L2 ability (speaking, vocabulary, listening), responsibility for task maintenance, cultural influences, task characteristics, topic, and learners' PSM competence. These multifaceted internal and external factors interact and together influence learners' interactive performance and PSM use. Among them, in addition to linguistic factors such as L2 ability, individual differences from psycholinguistic perspectives such as personality, self-confidence, and motivation are recognized as having a greater impact on interaction in foreign language learning and PSM use. The culture that the participants are exposed to, whether they are responsible for the interaction task, and the characteristics of the task are also considered to affect how participants perform in interactions, which in turn affects participants' use of PSM.

Limitations and Suggestions for Future Research

The author of this study acknowledges that a number of limitations must be taken into consideration when discussing the research findings. First, constraints on the data transcription and analysis procedure should be addressed. The author manually transcribed the audio data and classified the PSMs, and afterward obtained the supervisor's checks and agreement on the classifications. Still, the identification of problematic segments of interactions and the classification of the instances of PSMs are unavoidably subjective to some degree and this could have had an impact on the results. Second, because of the author's active

participation, there may have been some communication difficulties when discussing topics specific to Japan (e.g., the discussion of the barbeque stove 'shichirin'), thus more Japanese was used between the subjects and the author, resulting in a higher frequency of code-switching in the results. Therefore, it is recommended that future studies try to slightly reduce the researcher's participation and record data more on interactions between subjects. Third, the theoretical framework adopted is relatively large, making it difficult to determine the association between task type and PSM utilization by simply applying one statistical method. Hence, this study has not fully explored the second research question. In addition, the applicability of the findings is restricted by the small-scale sample (9 participants) from a single university in Japan. Hence, the results of this research cannot be generalized to other cases with different contexts and subjects.

Given the limitations of this study, future research should focus on overcoming these limitations. For example, recruiting software to help transcribe and assist in the analysis may significantly reduce labor consumption and mitigate the influence of subjectivity on study results. When conducting similar research, it is suggested that future research on PSMs should expand the number of participants as well as the number and range of tasks. Furthermore, as found in this study, participants were inclined to adopt seven PSMs, future research could

take a different direction to examine the teach-ability of PSMs (Dörnyei & Kormos, 1998) and their efficacy in achieving communication goals.

Implications

This research has shed some light on how Japanese EFL students resolve communication difficulties in classroom interactions and reflected on the thought processes underlying such behaviors. As described in the conclusion section, the study took an entire semester to perform a qualitative analysis of EFL students' classroom interactions. During this research, the author utilized multiple data sources, including gathering detailed student input in terms of their PSMs use to triangulate and validate the results. This kind of research, in the author's modest view, is rare in the existing studies. The author hopes this study has contributed to empirical research on CSs, particularly on PSMs. Despite the restrictions described above, the findings of this study suggest three potential pedagogical applications.

Firstly, students can benefit from the various PSMs introduced in the research. As EFL students, we know that it is difficult to achieve the same level of English as native speakers. Notwithstanding this, what can we do to achieve the best results in communication and interaction? The secret sauce, so to speak, is to equip ourselves with various PSMs. As suggested by Littlewood (1981), "a repertoire

of linguistic items" and "a repertoire of strategies" are indispensable to an efficient communicator (p.3). Thus, when there is insufficient linguistic capacity, EFL students need to make the best use of various PSMs to scaffold communication.

The results of the interview analysis also indicated that many non-linguistic factors underlying participants' PSM use. In particular, individual differences had an impact on the participants' engagement in the interaction and personal performance. To be more specific, participants' personalities, confidence, motivation, self-esteem, etc., all impact a person's willingness to communicate (WTC) and PSM use. It is therefore crucial for students to have a greater understanding of these inner factors and adjust themselves to adapt to L2 learning so that they have a greater chance of succeeding in L2 learning. Moreover, learning different kinds of PSMs may also help alleviate their foreign language anxiety (FLA) and unwillingness to communicate (UWTC) in real-life communication and further improve students' communicative competence.

Secondly, teachers can also benefit from the outcome of this research, as the results provided a deeper understanding of the various factors influencing students' performance in class. Teachers should be mindful of these factors that affect students' FLA and UWTC while trying to find better ways that will help students combat these passive feelings. The fact reported from the survey and the follow-up interviews reflect that the participants in the current research had little or no familiarity with the majority of the PSMs. This implies that educators should raise students' awareness of the various PSMs and explicitly teach certain effective PSMs, as it may not only enable them to speak more and negotiate meaning in TL but also contribute greatly to their class engagement, involvement, and speaking skills.

Thirdly, English education in both China and Japan has increasingly focused on communicative language teaching in recent years and included CS as part of the teaching objectives. The current research demonstrated that the two tasks adopted induced substantial interactive exchanges in which students utilized PSMs to negotiate meaning. Therefore, tasks like these two that encourage student interaction in TL should be applied more in the classroom in order to satisfy the goals of communicative language teaching.

References

Ahvenainen, T. (2005). *Problem-Solving Mechanisms in information exchange dialogues with English as a Lingua Franca.* (Master's dissertation, University of Jyvaskyla).

Dörnyei, Z., & Kormos, J. (1998). Problem-solving Mechanisms in L2 Communication. A Psycholinguistic Perspective.

Studies in Second Language Acquisition, 20, 349-385.

Dörnyei, Z. (2005). *The Psychology of the Language Learner: Individual Differences in Second Language Acquisition* (1st ed.). Routledge.

Heigham, J., & Croker, R. (2009). *Qualitative research in applied linguistics: a practical introduction.* Palgrave Macmillan. Edited by Juanita Heigham, Robert A Croker.

Littlemore, J. (2003). The communicative effectiveness of different types of communication strategy. *System*, 31, 331-347.

Littlewood, W. (1981). *Communicative Language Teaching.* Cambridge: Cambridge University Press.

Liu, M., & Jackson, J. (2008). An Exploration of Chinese EFL Learners' Unwillingness to Communicate and Foreign Language Anxiety. *The Modern Language Journal*, 92: 71-86.

McCroskey, J.C., Gudykunst, W.B., & Nishida, T. (1985). Communication apprehension among Japanese students in native and second language. *Communication Research Reports,* 2, 11-15.

Nakatani, Y. (2010). Identifying strategies that facilitate EFL learners' oral communication: A classroom study using multiple data collection procedures. *The Modern Language Journal*, 94, 116-136.

Poulisse, N., & Schils, E. (1989). The influence of task and proficiency-related factors on the use of communication strategies: A quantitative analysis. *Language Learning*, 39(1), 15-48.

Tarone, E. (1977). *Conscious communication strategies in interlanguage:* A progress report. In H. D. Brown, C. A. Yorio & R. C. Crymes (Eds.), On TESOL '77 (pp. 194-203). Washington: TESOL.

Ur, P. (1996). *A course in language teaching.* Cambridge: Cambridge University Press.

Ur, P. (2002). A course in language teaching: *Practice and theory*. Cambridge University Press.

Yashima, T. (2002). Willingness to communication is a second language: The Japanese EFL context. *The Modern Language Journal,* 86(1), 54-66.

Zhang, S. (2009). The role of input, interaction, and output in the development of oral fluency. *English Language Teaching*, 2(4),91-100.