A Longitudinal Study into Communication Strategy Use Among Japanese EFL Learners

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Abstract

This research represents a year-long longitudinal study into the affects of communication strategy instruction on Japanese EFL learners' linguistic proficiency. The paper replicates research carried out by Nakatani (2005) and aims to equip learners with the linguistic and problem-solving skills to overcome linguistic barriers. The findings indicate clearly that influence of prominent socio-cultural factors have to be considered in order to maximize the full effectiveness of CS strategy use.
Keywords: communication strategies, speaking proficiency, problem-solving ability

1. Introduction

A small-scale exploratory pilot study was conducted to refine the methodological procedures and data collection methods to be later employed in a full-scale Ph.D. research experiment. The objective mirrors Nakatani's 2005 paper examining the extent of communication strategy (henceforth CS/CSs) use on Japanese EFL learners' linguistic proficiency. The research replicated Nakatani's paper in terms of research objectives, methodological procedures, and teaching targets. Additionally, it examined the extent CS-based instruction assisted learners in their attempts to overcome communication barriers. Unlike much of previous CS research (cf., Vàradi, 1983; Poulisse, 1990), often conducted with strategy-determined elicitation techniques, the research evaluated the relationship between CSs and their application during authentic interaction. Adhering to Nakatani's strategy training, learners in an experiment group received additional instruction on CS use and its practical benefits, in addition to standard English language instruction. Findings, however, contrast with Nakatani's, and only tentatively support the explicit teaching of CSs to Japanese EFL learners. It is proposed the deviance results from an over-reliance on reduction-type communication strategies due to cognitive retrieval difficulties stemming from socio-cultural influences prominent in collectivist countries.

2. CS identification

Recognition of variance within 'transitional competence' (Corder, 1967, p. 166) prompted studies to attempt the identification of techniques employed to assist with the cognitive, behavioural, and linguistic demands of language learning. The isolation of internal strategies resulted in the identification, classification, and description of compensatory techniques employed to facilitate the accomplishment of a communicative goal. Early empirical studies (cf., Selinker, 1972; Tarone, 1977) focused on the types of learner compensation due to inadequate linguistic competence, predominantly addressing structural or descriptive analysis of error analysis. Symbolising attempts to incorporate a competence into the *interlanguage* (Selinker, 1972) they allow the interlocutor to transcend communication barriers, and represent a subset of language-use strategies which deal with language production problems. Subsequent research focused on the extent to which CSs could be acquired, in addition to their precise influence on linguistic performance. Research findings (cf., Tarone, 1977; Vàradi, 1983) acknowledge the constructive influence they exert in aiding assorted features of linguistic development and improvement in overall communicative competence.

3. Research questions

Research into CS acquisition, in addition to the influence exerted on language development has been predominantly conducted with learners from individualistic countries (Hofstede, 2005), whose L2 (both grammatically and typologically) and learning experiences share common features with those from the L1 country. The similarity could account for the success learners display in adjusting to the teaching methodology, and ultimately the acquisition of the strategies themselves. In contrast, Japanese EFL learners, more versed in teacher-centred learning approaches, and faced with a grammatically opposite L1 (in the case of English) are more likely to experience difficulty with CS acquisition. Does a selective process occur which differentiates the different CSs due to their cognitive demands, socio-cultural or linguistic complexity? If so, the employment of which proves problematic for Japanese EFL learners? The extent to which Japanese learners select, employ, and acquire linguistic CSs and the rationale behind their choice is the focus of this research paper.

The study addressed four major research questions:

1. Does the influence of CS application on overall linguistic proficiency?
2. What is the extent to which CSs are employed during authentic interaction?
3. Can (any) linguistic improvement be accounted for by CS use? If so, how does CS use affect linguistic proficiency?
4. What are learners' selection and application of CS and the extent of socio-cultural influences on their choice?

4. Setting and subjects

The study was conducted from October 2011 to August 2012 at the private International Pacific University (IPU), Japan. IPU equates to a British teacher-training college, with the majority of graduates receiving teaching licences and progressing to positions in primary and secondary education. Twenty-two, second-year undergraduates (8 males and 14 females; average age: 20) participated as subjects in the experiment. All students were enrolled in the thirty-week advanced English oral communication course (90 minutes twice per week) which is a required class as part of an English language curriculum whose objective is to equip students with the required language proficiency to become English language teachers. All

English classes at IPU are streamed according to student placement scores on a written English exam taken at the commencement of the semester. Overall English linguistic proficiency ranged from high-beginner to low intermediate (TOEIC® scores ranging from 400 to 550 [10–990 score range] average score: 450). Consistent with false-beginners, detailed syntax knowledge belies weak speaking proficiency despite increasing emphasis placed on communicative language learning in secondary education. Each student, who had completed on average six years English study prior to university, took an initial speaking proficiency test (IELTS) conducted with international students from New Zealand. The results were verified by a fellow native English speaking teacher at the university and indicated an even level distribution between both the control and experiment class (t = 1.437, p = 0.159). The correlation between the oral pretest and the placement test was 0.123 using the Pearson product-moment correlation statement of the statistical relationship between the two sets of scores. The average score for both the experimental and control groups was 83% (mean: 68%, SD: 8.2).

5. Lessons taught

The instructional sequence developed (cf., Chamot & O`Malley, 1994) has provided a useful framework for CS instruction. The sequence provides a five-phase recursive cycle for introducing, teaching, practicing, evaluating, and applying CS. The five phases of the instructional sequence are as follows:

Preparation:	Identification of current CSs use to develop metacognitive awareness.
Presentation.	Explaining and modelling CSs.
Practice.	Opportunity for practicing CSs with an authentic learning task.
Evaluation.	Self-evaluation of success in using CS, thus developing metacognitive awareness of their own learning processes.
Expansion.	Determining the most effective CSs, and devising individual combinations and interpretations of CSs.

6. Teaching procedures

The advanced oral communication syllabus was adhered to for both groups, in addition the experimental group also undertook supplementary training in CS instruction. CS instruction was explicit, with students informed how they represent tools which can be employed to assist linguistic competence at times of

problematicity. Individual strategies were incorporated into activity training and practiced to overcome communication barriers during interaction. They included both achievement and reduction strategies and were chosen as they covered the widest range of CSs. Upon course completion interaction from both groups was evaluated.

7. Data collection instruments and procedures

The nature of interaction necessitates a combination of multiple collection methods for accurate and robust CS-use measurement. Empirical data collection involved a combination of observed interaction and student feedback upon task completion. Statistically proven measurements of linguistic features (e.g. word count) address observed interaction, while underlying cognitive processes were evaluated through extensive student feedback. Although the limitations of assessment procedures are recognized, they provide valuable insight into the observable and unobservable data required for a comprehensive assessment of linguistic and cognitive influences exerted on CSs selection and application. The data collection instruments are summarized in table 1.

Table 1.
Summary of the data (both qualitative and quantitative) collection procedures

Procedure	Rating	Participant
1. Pretest interview between student and international student	Linguistic proficiency Linguistic proficiency	International student International student
2. Posttest interaction	Quantitative CS	Author
3. Learner verbal recall	feedback	Author
4. Learner post- recall questionnaire	Qualitative feedback	

8. The pretest interview

Initial evaluation of overall linguistic proficiency took place through paired student interaction. To allow an impressionistic evaluation of English speaking proficiency the elicitation method composed of student interviews. The questions, provided in advance, elicited opinions on topics with immediacy to university life. Students were informed (all oral and written instructions were provided in Japanese) that a

'correct' answer was not being solicited in terms of opinion, and were encouraged to express themselves freely. To relieve affective factors (student anxiety, nervousness) it was also emphasised that the data constituted the author's private research and in no way affected their class grade. Students were under no obligation to participate and made aware of this choice. The interviews (all recorded) were conducted in a separate classroom with only the author in observation. All interactions were later transcribed and details of the discourse were analysed for the following quantitative data:

a. The quantity of speech produced per student per answer. (words per c-unit)
b. The extent to which CSs use was exhibited in student responses

The rating assigned represented an impressionistic assessment of students' overall linguistic proficiency according to the IELTS grading scale which evaluates performance on a 1-9 scale (the scale focuses on the learner's fluency, ability to interact with the interlocutor, and flexibility in developing dialogue). As the author participated in the evaluation, and in recognition that several years' residence in Japan enables him to comprehend aspects of communication someone unaccustomed to Japanese learners may not perceive, one independent native English teacher was asked to co-rate using an identical scale. The evaluator rated a sample of the recordings of the interactions to minimize student recognition student influencing evaluation.

9. The posttest interaction

Upon course completion, a final observed interaction was conducted. In identical conditions to pretest interviews, interactions were conducted in a separate classroom with only two students and the author present. Video-recording allowed score verification by independent raters. To combat the significance of rehearsed answers, a significant factor in the initial interview, only general topic outlines to be discussed were provided in advance. Without an element of preparation it was felt learner linguistic proficiency would not be sufficient to provide the data required. An identical scale employed to assess language ability was employed in both interviews. Independent raters were asked to watch a sample of interactions and allocate a score from 1-9. No information was provided beforehand and the raters were informed only to offer an impressionistic assessment of overall linguistic proficiency. Students were not advised how to answer to ensure elicitation of the kind of data sought in the study. Different tasks for the pre- and posttest were

employed to avoid improvement of scores through familiarization with the test content. Cards describing hypothetical situations (e.g. travel-related scenarios) were distributed, and students given five minutes to prepare an appropriate role-play. The activity replicates interactive activities students are regularly asked to perform during their weekly lesson. The interaction was concluded upon agreement of an 'acceptable' conclusion having been reached. The interrater reliability of the pre- and posttest estimated by Cronbach's alpha was 0.863 and 0.765, a high degree of coefficiency.

10. Retrospective verbal recall

The unobservable nature of numerable CSs dictates that comprehensive data collection is unobtainable through observation entirely. Revealing the underlying thought processes and covert strategic thinking requires further assessment methods (Gass & Mackey, 2000). Retrospective verbal recall requires learners to reflect on their performance with the feedback report serving as an introspective model as:

> […] it is not easy to get inside the 'black box' of the human brain and find out what is going on there. We work with what we can get, which, despite the limitations, provides food for thought […]
>
> (Grenfell and Harris, 1999, p. 54)

Consequently, immediately upon completion of the final interaction students were asked to reflect on how they interacted during the interaction. The immediacy of the questionnaire aims to record initial reactions when the information is most salient to maximise accuracy, and generalisability of the findings. Students were informed to describe the emergence, existence, overcoming of any communication problems encountered, particularly regarding the message they intended to convey and what was eventually conveyed. Video-recording of the interaction was used as a recollection cue to enhance the completeness and accuracy of recollection. Instructions were given to verbalise only what was clearly remembered, without guessing or inferring, and to provide details of thought processes *during* the interaction, and not assessment of the interaction itself. All answers were recorded in Japanese and transcribed. Although concerns over the accuracy of the data are recognized, retrospective recall provides access to student reasoning processes and responses underlying cognition, responses, and decision making. Although students are not able to articulate precise explanations for all linguistic processing, the quality and amount of verbalisation confirmed the usefulness of the technique as a means of

legitimately inferencing.

11. Results and discussion

Results of quantitative data analysis are presented below. These pertain specifically to the four research questions already stated. That is, CSs influence; CSs utilization; the extent of CSs adoption and reasons behind their application.

Research Questions 1:
The impact of strategy use on overall linguistic proficiency.

Analysis of linguistic proficiency modification during both pre- and posttest was conducted using paired-samples *t* test (two-tailed) (see Table 2). The findings contrast with Nakatani's conclusions showing significant training group improvement (gain: 1.38), and reveal a more modest gain in proficiency scores (mean gain: 0.63, $t = 3.03$, $p < 0.4$). Revealingly, the average gain for the control group surpassed that of Nakatani's research (gain: 0.25) which suggests improvement without the need for CS instruction. The difference between the gains for Nakatani's two groups was 1.08 compared with 0.47 which indicates less CSs use among the experimental group. Interestingly, this deviance appears despite the fact that Nakatani's students appear to be considerably lower level.

Table 2.
Results of *t* tests on Test Score Gains between the Two Groups

Group	Df	Pretest M (SD)	Posttest M (SD)	Gain	*t*	*p*
Strategy Training Group ($n = 22$)	21	4.00 (0.86)	4.63 (0.72)	0.63	3.03	.04
Control Group ($n = 20$)	18	3.65 (0.67)	4.03 (0.60)	0.38	0.89	0.87

An alternative means of quantitatively assessing performance includes analysing the length and grammatical complexity of test responses. Speech production refers to the quantity (words) students use in their answers. The duration of answers (c-unit) has also been shown as a means of assessing overall linguistic competence. The results (see Table 3) indicate the problem of under-elaboration among students. Reflecting a socio-cultural influence it illustrates a reluctance of learners to use the

test opportunity to display their linguistic ability. Conversely, without constant questioning, the learner relies on the minimum information to convey their message.

Table 3.
Comparison of the Two Group's Production Rate on Pre- and Posttest by t tests

	Strategy Training Group (n = 22)		Control Group (n = 20)			
	M	SD	M	SD	t	p
Pretest	1.89	0.51	1.67	0.58	0.9	*ns*
Posttest	1.99	0.47	1.88	0.67	0.87	*ns*

Research Questions 2:
Student CSs use during interaction

As part of the analysis of speech production, the extent to which recordable CSs were employed was also assessed. It is recognised that the reliability of measurement is partially subjective, and that reliability and accuracy of CSs use can significantly influence data analysis. However, results (see Table 4) indicate a clear preference for reduction-type strategies. Whether this represents a deliberate choice of the learners, or the result of lack of success at cognitive retrieval processing ability requires further clarification.

Table 4.

Means and Standard Deviations of Strategy Use on Pre- and Posttest

	Strategy Training				Control			
	Pretest		Posttest		Pretest		Posttest	
	M	SD	M	SD	M	SD	M	SD
Achievement Strategies:								
Help-seeking	0.45	0.6	0.85	1.5	0.55	1.1	0.49	0.7
Modified interaction	1.35	1.8	2.52	1.5	2.99	2.5	1.09	2.1
Modified Output	0.59	0.8	1.55	1.9	0.66	0.5	0.78	0.9
Time-gaining	0.45	0.9	1.58	1.0	0.23	1.0	1.04	0.9
Maintenance	1.36	2.1	3.22	2.1	1.78	2.7	2.86	3.2
Self-solving	0.83	0.6	1.59	1.0	1.85	1.4	1.10	1.1
Total	4.98	6.8	11.31	9.0	8.06	9.2	7.36	8.9
Reduction Strategies:								
Message Abandonment	15.3	3.5	11.9	5.5	16.8	7.8	15.1	4.9
First-Language-Based	1.58	2.2	1.5	0.8	3.7	2.3	5.2	2.5
Interlanguage-Based	5.53	3.8	6.2	3.8	3.5	4.4	2.4	1.9
False Starts	4.86	4.2	4.3	5.0	5.4	4.1	2.8	1.2
Total	27.27	13.2	23.9	15.1	29.4	18.6	25.5	10.5

Research Questions 3:

Can any linguistic improvement be accounted for by the use of CS? If so, how does CS use effect speaking proficiency.

In order to assess whether any correlation existed between students who performed well on the posttest (scores over 85%) and CS use, a correlation study was conducted. The results (see Table 5) indicate a strong correlation between students' test performance and CSs employment. This supports the theory of the beneficial influence on linguistic performance through CSs application.

Table 5.

Correlation between posttest scores and communication strategy use

	Achievement strategies	Reduction strategies
	r	r
Strategy training group	3.02	4.56
Control group	2.96	3.59

Research Questions 4:
Japanese EFL's CS adoption and the extent of socio-cultural influences on this choice.

Within the framework of psycholinguistic theory of speech production, students experienced problems in all phases of speech production, from conceptualization to articulation (Levelt, 1989, 1993; de Bot, 1992; Dörnyei & Kormos, 1998). Based on the definition of CSs as the learners' 'conscious plans' to deal with communication barriers, the identification of CSs (based on the student feedback) clearly indicated their intention to deal with the problem. However, consistent with other research findings, the data shows a high preference for avoidance strategies. It is hypothesized that this is the result of a conscious decision to overcome mental retrieval difficulties that could be more prevalent in collectivist countries. Based on the lexical access to syntax and morphophonology in Levelt's model, learners could avoid using the problematic lexical item and employ avoidance techniques as compensation for this failure.

12. Conclusion

It is proposed that if Japanese EFL learners are aware of CS application, it can offer greater opportunities to improve speaking proficiency through development of an understanding of how to overcome communication barriers. However, counteracting this exist numerous socio-cultural factors which also exert a significant influence on the language learning process. The language distance between English and Japanese ensures that learners of both languages will encounter numerous difficulties during discourse due to the lack of similarity which exists between the two languages. From the results of this paper and other research into communication problems it is clear that most problems occur due to linguistic related difficulty. As many as 90% of CSs (Satou, 2008) are selected to deal with lexical problems. How learners cope with these difficulties depends on their ability to process word retrieval during the planning stage of word production. The extent to which socio-cultural factors influence this process requires clarification, especially in terms of collectivist learner learning experiences.

13. References

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