

Articles

Influence of Learning Context on Learners' Use of Communication Strategies¹

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This study examines the influence of a meaning-focused versus a form-focused learning context upon learners' choices of communication strategies and their overall communicative performance. For this purpose, an 11-week study was conducted with three groups of students at a university in Japan. The control group studied English in a form-focused learning context. The experimental groups (1 and 2) studied English in a meaning-focused learning context. In addition, experimental group 2 received training in communication strategies. Two types of communicative tasks, 1) description of pictures and 2) narration of a picture story, were administered before and after treatments. Communication strategies were identified by two raters, based on the subjects' audio-taped communicative performance and immediate retrospection. Performances were evaluated separately by the same raters. The results show that both experimental groups significantly reduced use of reduction strategies and increased use of achievement strategies. Similarly, results show that communicative performance by the experimental groups was evaluated higher than that of the control group on the post-test. The findings suggest that learning context has an important influence on learners' use of communication strategies and their communicative performance.

本研究は、意味重視の学習と形式重視の学習が学習者のコミュニケーション法略の選択ならびに全般的コミュニケーションのパフォーマンスに与える影響を考察する。日本の大学において3つのグループが11週間にわたって調査された。統制群は形式重視の文脈で英語を学習し、二つの実験群は意味重視の文脈で学習した。実験群の一つはコミュニケーション法略のトレーニングも受けた。2種類のコミュニケーションタスクによるテストが事前、事後に実施された。タスクの音声録音とタスク遂行直後の被験者の内省をもとに、コミュニケーション法略が二人の判定者により認定された。パフォーマンスの評価は別途行った。その結果、二つの実験群で、縮小法略が有意に減少し、到達法略の使用が増加した。さらに、事後テストにおいて実験群のパフォーマンスは統制群より高く評価された。これらの結果は、学習の文脈がコミュニケーション法略の使用と、コミュニケーションのパフォーマンスに重要な影響を与えることを示している。

During the past two decades, second language (L2) research has focused on learners' strategies for learning and using a language. One such area involves studies of communication strategies (CSs) (Bialystok, 1990; Bongaerts, Kellerman & Bentlage, 1987; Bongaerts & Poulisse, 1989; Chen, 1990; Dornyei, 1995; Faerch & Kasper, 1983b; Paribakht, 1985; Poulisse & Schils, 1989; Tarone, 1983). CSs, which are learners' attempts to solve communicative problems occurring in the middle of realizing a certain meaning in spontaneous communication, are considered indispensable components of communicative performance. Since learners in communicative situations often encounter difficulty in realizing intended meaning because of limited linguistic resources, they resort to CSs in order to maintain communication.

CSs are generally defined either from an interactionist view (Tarone, 1983) or a psycholinguistic view (Faerch & Kasper, 1983a, 1983b). While the interactionist view emphasizes the learner and the interlocutor's mutual attempts to solve a communicative problem through negotiation of meaning, the psycholinguistic view narrows CSs to those within the learner's internal mechanism. It sets up two criteria for its operation: 1) the existence of a problem which the learner faces for actualizing intended meaning in the target language, caused by insufficient linguistic resources or by the difficulty of retrieving relevant linguistic items from the memory system, and 2) the learner's awareness of the existence of the problem and the necessity of solving it (Faerch & Kasper, 1983a). This study adopts the second definition.

CS studies have found that the use of some CSs results in more effective problem solving than others (Corder, 1983; Faerch & Kasper, 1983a; Tarone, 1983) and that the use of CSs contributes to variation in the overall effectiveness of learners' communicative performance (Chen, 1990). For example, reduction strategies such as *Message Abandonment* (Tarone, 1983) direct the learner to avoid solving a problem and to give up on conveying the message. On the other hand, achievement strategies such as *Analytic* and *Holistic* strategies (Poulisse, 1987) direct the learner to work on an alternative plan for reaching the original goal by means of whatever resources are available. These findings suggest that, in order to understand the variability in learners' communicative abilities in a language, we must study the factors which contribute to the differences in learners' uses of CSs.

Cognitive views of L2 learning (Bialystok, 1990; Bialystok & Sharwood-Smith, 1985; Ellis, 1986; O'Malley & Chamot, 1990; Tarone, 1983) hold that the ability to use language does not come about as a result of an increase in the static rules of the language. Rather, it requires cognitive

strategies and processes which control the knowledge. These cognitive views consider the type of language task a major factor in the proceduralization of language knowledge, by requiring particular cognitive strategies for effective performance.

These views raise questions in terms of the role of learners' strategies in mediating a learning context and their learning outcome. Does a learning context which directs learners to engage in similar tasks for an extended period of time effect acquisition of particular strategies? Do learners in a particular learning context search, use, and acquire particular strategies to process information effectively and efficiently?

The Study

This study investigates whether learners exposed to meaning-focused learning contexts use CSs in communicative tasks differently from those in form-focused learning contexts.

Method

Subjects: An 11-week study was conducted with 15 students of English at a four-year national women's university in Japan. Of the 15 students, 13 were sophomores, one a junior, and one a freshman. Majors were home economics (four), humanities (three), biology (two), and architecture (one). The Ss had studied English for more than six years in required junior and senior high school classes. Though the Ss were taking an English course, as required by the university when they participated in this study, the courses available focused on reading translation, not on English for communication. All Ss voluntarily participated in the study to improve their listening and speaking skills. The Ss English proficiency was considered at least intermediate in terms of grammar in that they had achieved scores high enough for admission on the English portion of the standardized entrance exam administered by the Japanese Ministry of Education. However, all Ss demonstrated difficulty in expressing even simple meanings in spoken English on the pre-test (discussed below). Ss were randomly assigned to either the control group or one of the two experimental groups (Ex1 and Ex2), with five Ss in each group.

Treatment: The control group studied English in a form-focused instructional context. The experimental groups studied English in meaning-focused instructional contexts. In Ex1, CSs were allowed to evolve without explicit instruction. To test the hypothesis that CSs may more efficiently develop

when they are explicitly recognized and practiced, Ex2 received direct instruction on CSs in addition to the activities used with Ex1. All groups received the same amount of instruction: five days a week, 90 minutes per day during the 11-week study. The time allotted for explicit CS instruction (Ex2) was approximately 10 minutes per day.

Teaching method for Ex1: Ss in Ex1 studied English using a series of tasks directing them to express meaning in English without anticipation of the linguistic forms they were supposed to use. Tasks were comprised of communicative exercises such as story telling, discussions, debates on different topics, and picture descriptions. (See Appendix for examples of the communicative activities.)

Teaching method for Ex2: In addition to using the same tasks as Ex1, Ss in Ex2 received explicit instruction about CSs. Analytic and holistic strategies are considered effective ways to convey meaning when the exact words to express the meaning are not immediately available (Poulisse, 1987). Therefore, these two types of CSs were selected for strategy training. On the first day of class, the Ss were introduced to definitions and examples of CSs. In addition, at the beginning of each class, Ex2 spent 5 to 7 minutes solving a lexical problem given on the blackboard. When the Ss encountered difficulty in expressing intended meaning, they were encouraged to solve the problems using the CSs they were studying.

Teaching method for the control group: The control group studied English in a form-focused learning context similar to traditional English classes in Japan. Instruction for this group focused on explicit explanation of particular linguistic forms followed by activities and tasks to practice those forms. The materials used with the two experimental groups (see Appendix) were adapted for use with the control group. With the audio-taped materials, different types of activities (multiple-choice, blank-filling, translation, dictation) were prepared. With the video materials, Ss were given the English transcripts and asked to translate them into Japanese. With the reading passages for debate, the major task for the control group was to translate the reading passages. Similarly, the pictures were used to teach formulaic expressions, with Ss tested on these formulaic expressions orally the following day.

Data Collection

Prior to (pre-test) and immediately after the instructional sessions (post-test), Ss were scheduled to individually perform two kinds of communicative tasks. Each session took approximately one hour. The first task was to describe ten concrete objects drawn on ten separate sheets of paper. Each object to be described was presented on a sheet of paper with a group of

additional objects which shared characteristics with the target object and with one another. For example, a target object, a watering can, was presented with objects such as a bucket, a pitcher, a tin can, and a garbage can. Ss were told that native speakers of English would listen to their audio-taped descriptions to identify the objects described. Therefore, they were encouraged to describe the objects as specifically as possible, particularly if they did not know the exact words to name them. The second task was to narrate a story presented as uncaptioned cartoons. While the Ss were performing these tasks, the researcher was present and encouraged them to talk, by nodding or inserting words such as *Oh, I see, Say more, and Don't give up*. All performances on the two tasks were audio-taped and transcribed for subsequent analysis.

In addition, each subject's immediate retrospection on task performance was collected in Japanese, following the techniques proposed by Faerch and Kasper (1987). Immediately after the completion of a task, the Ss' audio-taped performances were played back and they were asked to describe what they were thinking while performing the task. The immediate retrospections were audio-taped, transcribed, and translated into English.

Based on the audio-taped and transcribed performances and the transcribed and translated immediate retrospection of the Ss, two raters categorized the Ss' use of CSs, according to the taxonomy described below.

Communicative Strategies Examined

The following CSs, based on existing typologies of CSs proposed by various researchers (Faerch & Kasper, 1983a; Poulisse, 1987; Tarone, 1983), were identified and scored in the analysis process of this study. The distinction between reduction strategies and achievement strategies was considered important in observing how closely learners' communicative goals were achieved (Varadi, 1983).

Taxonomy of Css

Reduction Strategies	Achievement Strategies
Message Abandonment	Analytic
Meaning Replacement	Holistic
	Conceptual Transfer
	Morphological Creativity
	Linguistic Transfer

This study adopted Tarone's (1983) definition of message abandonment: "The learner begins to talk about a concept but is unable to continue

and stops in mid-utterance" (p. 63). The following is an example of message abandonment: *When we hold the . . . I'm sorry I can't*. In this case, a subject intended to describe a *pot holder* but then gave up her attempt when she came across another unknown lexical item, *pot*.

Meaning replacement is different from message abandonment, as Faerch and Kasper (1983a) explain:

[T]he learner, when confronted by a planning or retrieval problem, operates within the intended propositional content and preserves the topic but refers to it by means of a more general expression. (p. 44)

Based on this definition, meaning replacement strategies were identified when a subject did not entirely give up the problem-solving process, but the realized meaning was far from the communicative goal. For example, *I use this . . . use bake hot cake*. The subject attempted to convey the meaning *spatula*, by describing its functional characteristics, a tool to turn over hot cakes on a frying pan. In this process, the subject encountered other lexical problems such as *turn over*. Instead of giving up, the subject overgeneralized the meaning by simply using the word *bake*.

The category of achievement strategies was based on a typology proposed by Poulisse (1987). The first, analytic strategies, describes characteristic features of a referent to be expressed. An example of this strategy would be, *I use it to clean on the desk or bookshelf to get rid of the dust on the desk*. Not knowing the exact word *duster*, the subject tried to describe the object by presenting its functions. The second category, holistic strategies, are defined as tactics for manipulating a concept and referring to it by using the word for a related concept that shares similar features. For example, another student did not know the exact words *spiral shape*, so she substituted, *This is like a spring*. The next sub-category, conceptual transfer strategies, involve the application of an L1-based concept to refer to a concept in the target language. For example, while not knowing the word *sting* for a description of a wasp, one subject applied the Japanese concept of sting, *needle*, saying *this insect has needle and stick us*.

A fourth kind of achievement strategy (Poulisse, 1987) is morphological creativity, in which learners replace a morphological fragment with a creative one when they do not know the exact word representing a reference. For example, when unable to recall the word *pleased*, a student created a new word by adding a morpheme to the noun *pleasure*, saying *he is very pleased*. Finally, linguistic transfer refers to the strategy of switching from the target language to the learner's first language to cope with a communicative problem.

In addition to the typology described above, CSs were also identified as operating either at the macro- or at the micro-level. When CSs were used to achieve a global communicative goal, they were considered to be operating at the macro-level; when CSs were used to compensate for a particular lexical item in the process of solving a global communicative problem, they were considered micro-level.

On Task 1, the global goal was to tell what the target objects were. CSs used to solve the problems at this level were regarded as being on a macro level, as in:

This is a tool to clean up a room. We drop a dust from our furniture from this tool. This tool have a long handle and the top that has a cloth or wing or something.

In order to clarify the identity of the object *duster*, this subject described its function and appearance; applying macro-level CSs. On the other hand, to deal with the lexical problem *feather* in the description of the appearance of the duster, the subject used the word *wing*. This was regarded as a micro-level strategy.

On Task 2, CSs used to cope with difficulties in presenting a situation or an action were considered to be on a macro-level. In one of the cartoon stories, a man was lying in the space between two cars parked at the side of a street. The subject, when unable to express the meaning *a man was lying down on a space*, omitted this meaning unit. This strategy was considered macro-level. On the other hand, some CSs used to compensate for particular lexical items such as the use of the general term *doctor*, in place of *archeologist* were considered micro-level.

All CSs used by a subject to realize an intended meaning were counted separately. Two raters independently identified and classified CSs on the basis of their common characteristics, following the taxonomy of CSs established for this study. The results of the raters' identification and scoring showed reasonably good agreement. An average of 73 percent inter-rater reliability was obtained. For those instances in which agreement was not reached, a face-to-face meeting of the raters was held to resolve the difference.

Evaluation of Subjects' Communicative Performance

Besides the identification of CSs, Ss' audio-taped communicative performances were evaluated by the two raters. On Task 1, raters were asked to identify the items described by the Ss. The effectiveness of each subjects' performance was evaluated according to the number of correct objects identified by the raters.

On Task 2, the raters were asked to evaluate the subject's audio-taped communicative performances holistically, on a scale ranging from 0 to 6, based on the amount of relevant information provided by the subject. Inter-rater reliabilities on this evaluation averaged 80 percent, which was considered reasonably high.

Results

The discussion of results focuses on discussion of message abandonment, meaning replacement, analytic, and holistic strategies. Among the CSs listed in the taxonomy for this study, a number of strategies—conceptual transfer, morphological creativity, and linguistic transfer—were infrequently used, both on the pre-test and the post-test. Their sporadic use suggested a preference of an individual subject rather than that of a group. Therefore, use of these strategies will not be discussed here.

Tables 1 – 3 display the raw frequency counts of those strategies used by the Ss, along with means and standard deviations for both Task 1 and Task 2.

Table 1: Descriptive Statistics of Combined Reduction Strategies and Combined Analytic and Holistic Strategies for Task 1 and Task 2

	Task 1				Task 2			
	MA + MR (macro)		A + H (micro)		MA + MR (macro)		A + H (micro)	
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
Ex1 Frequency	30	7	20	73	29	6	1	24
M	6	1.4	4	14.6	5.8	1.2	0.2	4.8
SD	1	1.14	1	1.6	1.3	0.8	0.4	2.0
<i>n</i> = 5								
Ex2 Frequency	34	3	20	81	31	0	3	48
M	6.8	0.6	4	16.2	6.2	0	0.6	9.6
SD	2.59	0.89	2.65	3.42	1.4	0	0.5	2.5
<i>n</i> = 5								
CG Frequency	27	31	20	27	32	38	3	13
M	5.4	6.2	4	5.4	6.4	7.6	0.6	2.6
SD	2.3	0.84	2.55	1.95	1.5	3.28	0.8	2.07
<i>n</i> = 5								

MA = message abandonment, MR = meaning replacement, A + H = analytic and holistic strategies

Table 2: Descriptive Statistics of Individual Reduction Strategies for Task 1 and Task 2

	Task 1				Task 2			
	MA + MR (macro)		A + H (micro)		MA + MR (macro)		A + H (micro)	
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
Ex1 Frequency	11	0	19	7	23	1	6	5
<i>M</i>	2.2	0	3.8	1.4	4.6	0.2	1.2	1
<i>SD</i>	0.84	0	0.83	1.14	0.54	0.44	0.83	0.7
<i>n</i> = 5								
Ex2 Frequency	18	0	16	3	28	0	3	0
<i>M</i>	3.6	0	3.2	0.6	5.6	0	0.6	0
<i>SD</i>	3.51	0	2.48	0.89	1.34	0	0.54	0
<i>n</i> = 5								
CG Frequency	15	11	12	20	24	25	8	13
<i>M</i>	3	2.2	2.4	4	4.8	5	1.6	2.6
<i>SD</i>	1.87	1.3	1.67	1.58	1.30	3.74	1.14	1.51
<i>n</i> = 5								

MA = message abandonment, MR = meaning replacement, A + H = analytic and holistic strategies

Table 3: Descriptive Statistics of Individual Analytic and Holistic Strategies

	Task 1				Task 2			
	MA + MR (macro)		A + H (micro)		MA + MR (macro)		A + H (micro)	
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
Ex1 Frequency	17	62	3	11	0	7	1	17
<i>M</i>	3.4	12.4	0.6	2.2	0	1.4	0.2	3.4
<i>SD</i>	1.51	1.51	0.89	1.30	0	0.89	0.44	1.5
<i>n</i> = 5								
Ex2 Frequency	16	65	4	15	1	12	2	36
<i>M</i>	3.2	13	0.8	3	0.2	2.4	0.4	7.2
<i>SD</i>	2.28	3.80	0.44	1	0.44	0.89	0.54	1.9
<i>n</i> = 5								
CG Frequency	15	20	5	7	0	1	3	12
<i>M</i>	3	4	1	1.4	0	0.2	0.6	2.4
<i>SD</i>	2.35	1.58	0.71	0.89	0	0.44	0.89	2.07
<i>n</i> = 5								

MA = message abandonment, MR = meaning replacement, A + H = analytic and holistic strategies

Task 1

Statistical results: All three groups' pre-test scores of the combined macro-level message abandonment and meaning replacement strategies, which were used for problems of target concepts, show no statistically significant difference ($F=0.569$; $df=2, 12$; $p>0.5$). On the post-test, in contrast, the two experimental groups showed a substantial drop in the use of these strategies, while the control group stayed within the range of the pre-test scores. A one-way ANOVA shows that these differences are statistically significant ($F=49.14$; $df=2, 12$; $p<0.01$). Furthermore, the additional comparison between the two experimental groups showed no statistically significant difference ($t=1.24$; $df=8$; $p>0.05$). Individual macro-level reduction strategies show the same trend as the combined macro-level reduction strategies (see Table 2).

The data for macro-level analytic strategies complemented those for the reduction strategies. The means ranged from 3.0 to 3.4 on the pre-test, while on the post-test they ranged from 4.0, for the control group, to 12.4 and 13.0 for Ex1 and Ex2 (see Table 3). Although the control group increased slightly from pre- to post-test, there was a three-fold increase for both Ex1 and Ex2. A one-way ANOVA on the post-test shows this difference to be statistically significant ($F=19.67$; $df=2, 12$; $p<0.01$).

Descriptive results: Reduction strategies were the primary strategies used across the three groups on the pre-test on Task 1. Nevertheless, this does not mean that the Ss did not have knowledge of effective CSs. Their immediate retrospection reveals that they went through the problem-solving process by analyzing the characteristics of the objects. However, they often stopped in the middle of these processes, probably because the communicative problems they experienced seldom appeared in isolation but tended to be interlocked with one another. One subject's performance on Task 1 on the pre-test illustrates. *When we hold the . . . I'm sorry I can't.* The subject's retrospection reveals that she intended to describe the function of the target object, *pot holder*. However, as soon as she came upon another problem with a lexical word *pot*, she gave up her attempt.

On the post-test of Task 1, similar message abandonment behavior was observed among the Ss of the control group, as in this example of a subject's attempt at describing a cylinder: *bottom is circle . . .* (silence). In contrast, Ex1 and Ex2 Ss drastically increased the use of analytic or holistic strategies on the post-test to describe the particular object more specifically and accurately, as seen in the following examples:

(Ex1) *The shape is . . . like drink can . . . can drink . . . the bottom . . . object . . . the bottom is circle . . . when you see the side . . . the shape is . . . rectangle.*

(Ex2) *The bottom . . . the bottom and top is circle . . . circle shape . . . and can juice is . . . the same of this shape.*

Task 2

Statistical results: The results concerning macro-level message abandonment strategies, which were used with problems of propositional meaning such as an action and a situation, show similar patterns to those obtained on Task 1. Message abandonment strategies, which constitute the predominant strategies on the pre-test across the three groups, shrank significantly on the experimental groups' post-test performance, while the control group remained within the range of the pre-test scores ($F=8.46$; $df=2, 12$; $p<0.01$). In addition, a t-test showed no statistically significant difference between Ex1 and Ex2 ($t=1.00$; $df=8$; $p>0.05$). On the other hand, there were statistically significant differences among the three groups on the macro-level meaning replacement strategies used on the post-test. A one way ANOVA shows that the Ex2, which had strategy training, eliminated the use of this strategy on the post-test compared to the Ex1, which did not have strategy training, as well as the control group ($F=9.24$; $df=2, 12$; $p<0.01$; $t=3.16$; $df=8$; $p<0.05$).

The results of micro-level achievement strategies, which were used to solve lexical problems within a process of solving a problem of propositional meaning such as an action and a situation, reveal a striking increase in their use among the experimental groups on the post-test. Ex2, which received strategy training, used both micro-level analytic and holistic strategies more than three times as often as the control group and twice as often as Ex1, though no difference was observed among the three groups on the pre-test. A one-way ANOVA as well as a t-test showed the differences among all three groups to be statistically significant ($F=12.97$; $df=2, 12$; $p<0.01$; $t=3.31$; $df=8$; $p<0.05$). The results of individual strategies show similar patterns, though raw frequency counts of holistic strategies were found to be higher than analytic strategies on Task 2 (Analytic: $F=9.33$; $df=2, 12$; $p<0.01$; Holistic: $F=9.34$; $df=2, 12$; $p<0.01$).

Descriptive results: Reduction strategies, especially message abandonment, were the primary strategies applied by all three groups on the pre-test. While the control group's use of these strategies remained at the same

level as in the pre-test, the experimental groups demonstrated strategic change in their communicative performance on the post-test, with significant increase of their use of micro-level analytic and holistic strategies.

The Ss' performance in the story narration task indicates that the success rate of solving lexical problems depends on top-down as well as bottom-up processing. When solving communicative problems, Ss in the meaning-focused learning context tended to analyze meaning units within the context of the particular communicative task in order to choose an appropriate CS. This context-dependent approach enabled Ss of the experimental groups to express their meaning more accurately and effectively than Ss of the control group, who relied primarily on a context-free approach. One part of the cartoon story on Task 2 was as follows.

An archaeologist discovered an ancient document on which a statue was drawn. Assuming that it was academically valuable, he decided to search for the statue. After he and his followers endured hardship, they managed to reach their destination, where there were ruins. The archaeologist climbed up one monument and found the statue for which he had been searching.

At this point in the story, there appeared several objects (e.g., *statue, ruins, monument*) which shared some characteristics in this context and therefore needed to be described distinctively in order to make the story coherent. However, most Ss in the control group failed to do so. Following is an example of a control group subject's performance:

A man who studied . . . who study . . . old monument . . . he found . . . monument . . . in . . . some . . . place. So, he . . . go to find it . . . he gathered a lot of people to . . . find it with him . . . at last they find a monument . . . and he find the monument he studied.

In this part of the subject's narration, she used the word *monument* to refer to the statue in the story. However, since there were both statues and monuments in the story, her use of the word was confusing. Rather than just a lack of vocabulary, her problem seems to be also a lack of analysis of the various meaning units within the global context. Objects such as an ancient painting, a figure drawn on it, ruins, monument and statue all were present in the story and therefore should have been referred to with distinct, specific vocabulary items. In fact, Ss of the control group generally failed to analyze and reconstruct meaning elements to represent particular objects in the context. As a result, their performance produced inconsistency and confusion in the story-telling task.

On the other hand, Ss in the meaning-focused learning context managed to distinguish the objects by using different vocabulary items and thus maintained coherence and clarity in their narration of the story. For

example, a figure was described as *a doll or a monkey. Monument* was described as *pyramid, castle, or building made of stone*. The following are two segments of an experimental group subject's narration:

(Ex1) *One famous doctor . . . find . . . a paper. This paper has drawn . . . the doll. He think . . . this is a god . . . of . . . Inca people—ancient Inca people believed . . . God. So, he think . . . in Inka, there is a doll like this . . .*

(Ex2) *There is one man and he studied ancient matter very well and . . . a certain time . . . he found . . . very old picture and . . . there . . . the picture like money . . . is drawn, so he thought . . . South America . . . Ahh . . . there is . . . this picture- . . . he thought . . . same . . . same object . . . he thought there must be same object in South . . . America . . .*

These results suggest the importance of an interactive operation between higher-order interpretive skills at the discourse level and lower-order lexical knowledge in the process of solving lexical problems.

Evaluation of Subjects' Communicative Performance

The independent ratings of identified objects on Task 1 by two raters show that both raters, listening to the Ss' audio-taped description of the target objects without knowing to which group they belonged, could identify two to three out of the 10 objects on the pre-test. In contrast, on the post-test, the same raters could identify an average of eight objects for Ex1 and nine objects for Ex2. These results contrast with the number of objects identified by the same raters from the control group's description on the post-test where the average number remained three objects.

Similar results were obtained from the Ss' communicative performance on Task 2. On this task, the Ss' audio-taped performances were holistically evaluated by the same raters on a scale that ranged from 0 to 6, according to the amount of relevant information provided by the Ss. The average scores given by the raters on the pre-test were 2.6, 2.4, and 2.4 for Ex1, Ex2, and the control group, respectively. Though the control group's scores on the post-test stayed within the pre-test range (2.5), those on the experimental groups' performance improved significantly. The raters scored an average 4.3 for Ex1 and 4.5 for Ex2. One-way ANOVAs yield statistically significant differences between the control group and the experimental groups (rater 1: $F=26.74$; $df=2, 12$; $p<0.01$; rater 2: $F=15.96$; $df=2, 12$; $p<0.01$). On the other hand, no statistical significance was obtained in the comparison between Ex1 and Ex2.

The results of the evaluation of the Ss' communicative performance positively correlated with their use of CSs. The experimental groups' macro-level analytic strategies on task 1 correlated with the success

rates in which the objects they described were identified by the two raters. Similarly, the experimental groups' use of micro-level analytic and holistic strategies resulted in perceptible improvement in the evaluation of effectiveness of their communicative performance on Task 2 on the post-test.

Discussion and Conclusions

The purpose of this study was to examine whether different types of learning contexts would contribute to variation in the use of CSs by learners on communicative tasks. Also, in order to examine whether direct strategy training in a meaning-focused learning context is necessary for learners to develop effective CSs, explicit strategy training was provided for Ex2.

Post-test results did not show generally significant effects of this training, except on the Ss' uses of macro-level meaning replacement and micro-level holistic strategies on Task 2. Ss of Ex2 did pay more attention to the meaning to express, but according to the raters' evaluation there was no significant difference between the performance of Ex2 and that of Ex1 on Task 1 and 2. Therefore, the overall effect of direct strategy training upon learners' choice of CSs was found to be modest. The learning context, then, seems to be responsible for the major effect on the experimental Ss' strategy choice and application.

As a whole, reduction strategies were the primary strategies used by the three groups on the pre-test. In contrast, on Task 1 on the post-test, macro-level analytic strategies became the major strategies for Ex1 and Ex2. On Task 2, micro-level holistic strategies were the most commonly used type of strategy by these two groups. The significant increases in the use of these strategies seem to correlate with the increased effectiveness of these groups' communicative performance. On the post-test, more objects described by Ss of the experimental groups were identified by the raters, and the communicative performance of both groups was judged to be more effective than that of the control group.

It is doubtful that these results were due to the development of the experimental groups' grammatical or lexical knowledge of English. The two groups' task performance (a few examples have been provided previously) clearly indicates that these students had no more linguistic knowledge than the Ss in the control group.

These findings provide further evidence, as suggested by cognitive views of L2 acquisition (Bialystok, 1990; Bialystok & Sharwood-Smith, 1985; Ellis, 1986; O'Malley & Chamot, 1990; Tarone, 1983), that L2 learners' language

ability does not consist of linguistic knowledge alone, but develops as a result of interaction between linguistic knowledge and cognitive processes. Furthermore, the process of applying a particular CS does not operate only at the local lexical level but also includes the analysis of a global communicative goal and the establishment of meaning units within the goal. These findings suggest that strategies used to cope with communicative problems are not automatically transferred from the learner's first language but are acquired in the process of using the target language in particular contexts. While learners may possess effective CSs in their first language, this does not guarantee their being able to apply these strategies to problem-solving in target-language communication.

These findings provide some implication for language pedagogy. If the goal of a language program is to develop learners' communicative ability, a learning context which focuses on explicit instruction of linguistic structures alone may not be sufficient for reaching such a goal. In such a context, learners are likely to develop strategies such as analyzing linguistic structures and memorizing bits of linguistic information but may fail to develop strategies of retrieving those linguistic resources from memory by analyzing a global communicative goal and constructing meaning units within the goal. This may be especially true when the target language is being learned in a foreign language environment where the classroom is the primary source of input for the learners. Therefore, to help learners develop their communicative ability of the target language, various instructional procedures need to be considered.

First, the curriculum should be constructed with a clear goal, as seen in task-based language instruction (Nunan, 1988, 1989), allocating sufficient instructional time to tasks directing learners to engage in problem-solving processes to convey their intended meaning. Second, teaching materials should be chosen and developed with a sound theoretical basis, corresponding with the instructional goal. Instructional materials should include visual aids such as pictures, maps, and symbols which are useful for creating communicative tasks. Video materials also initiate communicative language use such as discussions and debates. Finally, the teaching methods to be adopted must go hand in hand with the goals set up by the curriculum. Learners as active participants in the learning process should be placed in the center of learning, allocating sufficient time for letting them engage in communicative tasks in paired work or small group work.

Finally, in terms of future direction for studies on CSs, the necessity and effect of strategy instruction need further investigation. Some researchers (Bialystok, 1990; Bongaerts, Kellerman & Bentlage, 1987;

Bongaerts & Poulisse, 1989) question the necessity of teaching CSs to learners, from a standpoint that L2 learners already possess those CSs in their native languages and therefore are able to transfer them to L2 communication. On the other hand, some studies (Dornyei, 1995; Wildner-Bassett, 1986) reveal a positive effect of strategy training on learners' communicative performance.

This study, with the inclusion of a strategy training group, examined whether or not a learning context alone is a necessary and sufficient condition for learners to develop effective CSs. The obtained results show no difference between a group with strategy training and the one without it, except on the use of micro-level analytic and holistic strategies on the narration task. However, this was a preliminary study with small sample size and with a short period of time for strategy training. More studies with larger sample size and with more extended period of strategy training need to be conducted before reaching any conclusion. Furthermore, such studies need to incorporate variables influencing the outcome such as learners' proficiency level, learners' personality traits, qualitative aspects of fluency, and different types of discourse in which learners engage.

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Note

1. This paper is based on part of the author's doctoral dissertation, which was accepted by SUNY at Buffalo in 1993. An earlier version of this paper was presented at the 28th TESOL convention in Baltimore, March 8-12, 1994.

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