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Gauging the effects of ESL oral communication strategy teaching: A multi-method approach

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Abstract

This article will present the findings of an interventionist study designed to examine the effects of oral communication strategy teaching (OCST) on learners' performance and on strategy use. Two classes in the secondary ESL classroom in Hong Kong participated in the study; one class received 16 hours of OCST and the other served as a comparison group. In weeks 1, 10 and 20, data were collected from the learners' performance in group work discussions, self-report questionnaires, observations of learners' strategy use, and stimulated recall interviews. The findings indicate that the treatment class generally outperformed the comparison class. In addition, there was corroborating evidence from the multi-method approach to support the view that young L2 learners tend to rely on 'bedrock strategies' in oral communication tasks. The findings will be discussed with respect to explicit and implicit learning and to a match between the cognitive/linguistic demands of strategy use and the learners' proficiency level. Finally, the distinct advantages of using a multi-method approach to gauging the effects of OCST are appraised.

1 Introduction

This paper reports on a study that aims to achieve two purposes. The first purpose is to assess the effects of strategy instruction on task performance and learners' strategy use for oral language tasks in the ESL classroom. The other purpose is to argue for a multi-method approach to investigating the impact of strategy teaching. This article begins with justifications for oral communication strategy teaching research. It is then followed by an overview of the research design. The data collection procedures, data analyses and findings are organised in accordance with the four methods of investigation, namely, task rating, strategy questionnaire, observation, and stimulated recall. Last but not least, the contributions of the present research are discussed and the multi-method approach is appraised.

2 Oral communication strategy teaching research

Strategies for second language (L2) oral communication are commonly known as communication strategies (CSs). Despite widespread disagreement in the research literature about the exact nature of CSs (see Dörnyei & Scott, 1997, for a comprehensive review), problem-orientedness has been identified as a primary defining criterion for identifying CSs (Bialystok, 1990). Speakers use CSs to "resolve difficulties they encounter in expressing an intended meaning" (Tarone, 2005, p. 488). In the present study, CSs are defined as tactics taken by L2 learners to solve oral communication problems.

The responses to oral communication strategy teaching (OCST) have been rather mixed (Chamot, 2005; Cohen, 1998; McDonough, 1995, 1999, 2006; Oxford, 2001). There are broadly two diverging schools of thoughts on CSs (Foster-Cohen, 2004). One approach focuses on the cognitive processes involved in selecting one or another strategy, and proponents of this approach (e.g. Bialystok, 1990; Bongaerts & Poulisse, 1989; Kellerman, 1991; Poulisse, 1993) believe that cognitive processes are unaffected by instruction and that CSs are therefore not teachable. The other approach, however, focuses on the linguistic expressions used in identifying types of CSs, and proponents of this approach (e.g. Dörnyei, 1995; Gallagher Brett, 2001; Konishi & Tarone, 2004; Lam, 2005) advocate the necessity to teach these linguistic expressions needed for effective L2 communication language use.

In view of the arguments over the value of OCST, the number of interventionist studies remains small. The few recent studies are now briefly reviewed to identify outstanding issues that require further investigation. Dörnyei (1995) relates a pilot 6-week training experiment with 109 students in Hungary in the use of three CSs, namely, topic avoidance and replacement, circumlocution, using fillers and hesitation devices. The results showed that there was improvement in measures related to both the quality of circumlocutions and the frequency of fillers and circumlocutions in the oral post-test which consisted of topic description, cartoon description and definition formulation. Dörnyei's (1995) study provides some evidence for the views that CSs may be teachable and that patterns of students' strategy use may be altered by training.

Salamone and Marsal (1997) report an experiment which aimed to investigate the impact of communication strategy instruction on two intact French classes of 12 undergraduates each. The treatment class received instruction in the use of circumlocution as well as strategies to cope with lexical difficulties, and the comparison class served as a control class. All participants completed pre- and post-tests that elicited explanations of concrete nouns, abstract nouns, and shapes. The findings showed that both groups showed significant improvements over time, but there were no significant statistical differences between the two classes in the post-test. The tests administered in this study were, however, written rather than oral. This puts the validity of employing a written test to assess the impact of CSs for oral communication into question.

More recently, Scullen and Jourdain (2000) examine the effects of the explicit teaching of oral circumlocution on undergraduate learners studying French as a foreign language in an American university. The treatment group was explicitly taught to use super-ordination, analogy, function, and description strategies immediately prior to the first, second and third practice session, respectively. Participants in both the treatment class (17 students) and the comparison class (eight students) completed a pre-test, three practice sessions, and a post-test. The results indicated that both the treatment and comparison classes made significant gains in successful identification over time, but the between-group difference on the post-test was not significant. Given the short period of training and the small group sizes, further investigation is no doubt desirable.

Rossiter (2003a) reports the effects of communication strategy instruction on strategy use and on second language performance. Two classes of adult immigrants in Canada participated in this study. One class received 12 hours of direct communication strategy training, and the second served as a comparison group. Two oral tasks (picture story narratives, object descriptions) were administered in Week 1, Week 5, and Week 10. The post-test results showed a direct effect in favour of the communication strategy condition on a range of strategies used in the object description task, which was more effective than the narrative in eliciting communication strategies. Nonetheless, the author concludes that strategy training appeared to have little overall impact on learners in terms of task performance.

Regarding the effects of OCST on task performance, Nakatani's (2005) study produced rather different findings from Rossiter's (2003a). Nakatani (2005) focuses on awareness-raising training on oral communication strategy use. In the experiment, 62 Japanese female learners of English were involved and divided into the strategy training group and the control group. Over 12 weeks,

the former received meta-cognitive strategy training whereas the latter received only the normal communication course. The strategy group was also taught CSs that could help students learn more of the language such as asking for clarification, checking for comprehension, and paraphrasing. The effects of training were assessed by speaking test scores, transcription data from the tests, and retrospective protocol data for their task performance. The findings revealed that participants in the treatment group improved their oral proficiency test scores but those in the control group did not.

This necessarily brief review of studies provides a good justification for the present study in terms of a lack of adequate work on investigating the impact of OCST on strategy use and task performance, and an apparent lack of consistent findings across studies conducted in different contexts. In fact, strategy training is still unheard of in very many ESL classrooms (Lam, 2004). Continuing uncertainty about the effectiveness of strategy instruction on strategy use and task performance provides a further general rationale. Last but not least, the studies reviewed did not adopt a multi-method approach to investigating the effects of strategy instruction on learners' strategy use. It has been argued that a synthesis of approaches to investigating the impact of strategy training may offer a more comprehensive and fuller picture of learners' strategy use (Chamot, 2004; Cohen, 1998; Cohen & Scott, 1996; Oxford, 1996a; Wigglesworth, 2005). Hence, the fact that previous studies have tended to be relatively uni-dimensional in research approach provides yet one more good justification for a multi-dimensional study.

3 The study

3.1 Strategies targeted for teaching

On the basis of the theories of on-line speech processing and the problem-solving mechanisms in L2 speech (Bygate, 2005; Kormos, 2006; Levelt, 1989), eight strategies that might enable learners to overcome potential communication problems at different stages of speech production for teaching were proposed in this study (see Lam, 2005, for a detailed discussion). The definitions of the targeted strategies are presented in Table 1.

Name of strategy	Definition of strategy
Resourcing	The speaker resorts to the vocabulary, structures and ideas suggested in the task instruction sheet to help him/her solve problems with 'what to say' or 'how to say it'.
Paraphrasing	The speaker uses alternative expressions with similar meanings to replace those that he/she does not know or cannot think of 'what to say' or 'how to say it'.
Using self-repetition	The speaker repeats what he/she has just said as a stalling device to gain time to think of 'what to say' or 'how to say it'.
Using fillers	The speaker uses empty words such as 'well', 'actually', 'you know' etc. as a stalling device to gain time to think of 'what to say' or 'how to say it'.
Using self-correction	The speaker hears himself/herself make a mistake in pronunciation, grammar, choice of words etc. and immediately corrects it.
Asking for repetition	The speaker asks the interlocutor to repeat what he/she has just said to facilitate comprehension.
Asking for clarification	The speaker asks the interlocutor to clarify the meaning of what he/she has just said to facilitate comprehension.
Asking for confirmation	The speaker asks the interlocutor to confirm the meaning of what he/she has just said to facilitate comprehension.

Table 1: Strategies targeted for teaching and their definitions

The following research questions formed the basis of the present study:

1. Does training in the use of the target strategies lead to improved performance (English proficiency and task effectiveness) in L2 oral tasks?
2. Does training in the use of the target strategies lead to greater use of these strategies in L2 oral tasks?

3.2 Research design

An interventionist study was conducted in Hong Kong; two intact classes of Secondary Two ESL students (20 in each), who were between 13-14 years old and had six years of English at primary level and one year at secondary level, were involved. The mean scores of the two classes in a 3-part standardized English examination were 62.52 and 60.80 and the one-way ANOVA test showed that the scores showed no statistically significant differences (ANOVA, p= .1350). The two classes were randomly assigned to the treatment class (E) and the comparison class (C).

The teaching materials for both the C and E classes were designed by the researcher on the basis of available resources for oral group tasks (e.g. Klippel, 1984) and well-researched strategies-based instructional materials (e.g. Cohen & Weaver, 2006). The full set of materials was field-tested and revised in the light of feedback from teachers and students in a pilot study (Lam, 2004). Group discussion was selected as the major task type in the study as it was what the students were expected to do in their English oral lessons and other subject lessons. Moreover, discussion represents one distinct genre of spoken interaction which warrants due attention in the classroom (McCarthy & O'Keeffe, 2004). During the oral lessons, all the 20 students in each class were asked to work in five groups of four. Each group engaged in a variety of discussions involving problem solving, ranking, information gaps and opinion sharing.

The interventionist study involved a total of eight oral lessons spread over five months (i.e. Week 1 to Week 20) for each of the two classes. Each lesson lasted one hour and 20 minutes. The two classes did very similar activities in the English oral lessons. Nonetheless, the E class received additional instruction in the use of the eight target strategies whereas the C class did not. In Lesson One, students mapped a list of things on an island. To help students cope with the usual problems of 'what to say' and 'how to say it', the E class was taught to make strategic use of the resources available in the task instructions to express meanings. In Lesson Two, students had to prioritize items to be taken on a camping trip on the island. To overcome the difficulty with vocabulary items, the E class was taught to paraphrase and practise describing the items without saying exactly what they were. In Lessons Three and Four, the students were given a list of outdoor activities and had to describe each activity for a minute. The E class was taught to self-repeat or use fillers to gain time to think and to keep going. In Lesson Five, the students took turns to give information about food items so that the group could fill out a table. To resolve the problem of making pronunciation mistakes, the E class was encouraged to listen to their own speech and self correct whenever necessary. In Lessons Six and Seven, the students worked in pairs on an information gap task. The E class was taught to ask for repetition and to ask for clarification if they had difficulty understanding their interlocutors. In Lesson Eight, the students were asked to rank important attributes of friendship. The E class was taught to ask for confirmation if they had difficulty understanding their peers' opinions.

The instructional approach adopted for the E class was explicit strategy training (Chamot, 2004, 2005; Chamot & O'Malley, 1994; Cohen & Weaver, 2006; Oxford, 1990; Rossiter, 2003a). Students were informed of the rationale and the value of strategy instruction, given names and examples of the eight target strategies to model on, provided with opportunities to use and consolidate the target strategies, and guided to evaluate strategy use at the end of the lesson. As for the C class, the teacher conducted the group tasks based on her knowledge and skills and experience with no reference whatsoever to strategy use.

The teachers of both classes possess Bachelor's degrees in English language and literature, had a qualified teacher status and taught in the school for about seven years. In the E class, the teacher was also involved in the piloting of the present study and was thoroughly inducted into strategies-based instruction prior to the intervention (Lam, 2004; Lam & Wong, 2000). During the study, the researcher maintained close contacts with both teachers, making sure that they understood the lesson objectives, teaching materials, and suggested procedures. In addition, for the E class, it was ensured that the thinking and rationale behind the design of the strategy materials were made transparent to the teacher.

3.3 Data collection, data analysis and findings

As mentioned earlier, a multi-method approach to assessing the effects of OCST is advocated. It is a research tradition to assess the effects of treatment by measuring the learning outcome (Brown & Rodgers, 2002). Hence, the first approach adopted by the present study is to rate students' performances on group work discussions. Yet, there might be changes not amenable to observable changes in performance. In view of this, three other methods are used to probe strategy use to see whether it was altered by the OCST. A questionnaire is designed to assess students' perceptions of their own strategy use over the intervention period (Oxford, 1996b). While the questionnaire data are useful in yielding information about students' beliefs and perceptions, they do not necessarily provide evidence about students' actual strategic behaviours when engaging in specific tasks. It is then necessary to study observed strategy use (if any) when students are engaged in a task (Oxford, 1996a). However, surface evidence from observations does not yield insights into covert strategic thinking. Stimulated recall as an introspective method employed to elicit data about thought processes involved in carrying out a task or activity (Gass & Mackey, 2000) is, therefore, needed to gauge students' covert strategy use (if any) by tapping their underlying thought processes. The following section presents a synopsis of methods and results from the four afore-mentioned methods.

3.3.1 Task rating

To gauge whether the OCST would lead to improved task performance, a 'whole-class' group discussion task was conducted during normal class hours and the performances of all the five groups in both the C class and the E class in the task were rated and compared in Week 1 and Week 20. There were five groups of four in each class (see section 3.2), and rating was done on a group basis. Apart from the 'whole-class' task, there was a 'pull-out' group task designed for two randomly selected groups in each of the C and the E classes to do outside normal class hours. Both the 'whole-class' task and the 'pull-out' group task required the students to prioritise ten items and to give reasons; both tasks were of comparable difficulty and interest level, and had been piloted to ensure that they were able to generate good interaction. A total of 20 recordings of 'whole-class' tasks and eight recordings of the 'pull-out' group task were analysed; each recording lasted about 10 minutes (see Table 2 for an overview).

Task / Class	'Whole-class' task (Recorded during normal class time)		'Pull-out group' task (Recorded outside normal class time)		Total no. of recordings
	Week 1	Week 20	Week 1	Week 20	
C	5	5	2	2	14
E	5	5	2	2	14
	10	10	4	4	
Sub-total	20 recordings		8 recordings		28

Table 2: Task performance: data collection schedule and data set

Four English language teachers (one native speaker and three near-native speakers) were asked to independently assess each group's 'English proficiency' and 'Task effectiveness' scale in Week 1 and Week 20. 'English proficiency' was an impressionistic rating given by the assessors on a group's pronunciation, vocabulary use and grammar, and 'Task effectiveness' was the rating on the group's general effectiveness and confidence in handling the task. The rating was done on a six-point scale (1 = very weak; 6 = very good). The inter-rater reliability coefficients were .7125 for 'English proficiency' and .8790 for 'Task effectiveness'. The Kruskal-Wallis test (non-parametric) for small samples was conducted on the rankings of the four raters to determine if 'teacher' had any main effect on the ratings. The results confirmed that there was no teacher effect on the ratings ($p = .1711$ for 'English proficiency' and $p = .9593$ for 'Task Effectiveness'). So the average score of the four assessors was the rating assigned to each group.

Table 3 sets out the ratings on 'English proficiency' and on 'Task effectiveness'. For the whole-class task, each cell represents the mean ratings of all the five groups in each class. For the 'pull-out group' task, each cell represents the mean ratings of two groups in each class. The difference between the pre-post means is preceded by a positive sign < + > if there is a gain in the post- mean and by a negative sign < - > sign if there is a loss.

		Week 1		Week 20		Pre-post difference
'English proficiency' ratings (Six-point scale: 1=lowest, 6=highest)		Mean	S.D.	Mean	S.D.	Mean
'Whole class' task	C class	3.20	0.89	3.15	0.75	-0.05
	E class	2.95	1.05	2.90	1.02	-0.05
'Pull-out group' task	C class	2.63	0.92	2.63	1.06	0.00
	E class	3.50	1.07	4.00	1.20	+0.50
'Task effectiveness' ratings (Six-point scale: 1=lowest, 6=highest)		Mean	S.D.	Mean	S.D.	Mean
'Whole class' task	C class	2.95	1.23	3.40	0.68	+0.45
	E class	3.05	1.00	3.60	0.99	+0.55
'Pull-out group' task	C class	2.75	0.71	2.38	0.74	-0.37
	E class	3.25	0.89	3.50	1.20	+0.25

Table 3: Ratings on group discussion tasks

A clear picture has emerged from a comparison of the pre-post difference for each class. For the C class, there are four comparisons of 'pre-post difference' in total; only one of which is an improvement (i.e. +0.45). On the other hand, for the E class, there are three improvements (i.e. +0.50, +0.55 and +0.25). In addition, it can be seen that the E class had higher pre-post gains than C on three out of four comparisons (one 'English' score, i.e. +0.50, and two 'Task effectiveness'

scores, i.e. +0.55 and +0.25). These findings seem to indicate that the E class, which had received training in the use of eight target strategies, generally outperformed the C class, suggesting that the strategy training might be associated with greater improvements in 'task effectiveness' than 'English'. Nonetheless, it should be acknowledged that, given the small number of groups used for comparison, inferential statistics which are more appropriately used for larger samples were not used to detect statistically significant results in this study. The findings should be viewed in the light of this limitation. The study is, therefore, unable to provide conclusive evidence to address the research question that the OCST leads to improved performance.

3.3.2 Strategy questionnaire

To gauge whether the OCST would alter the students' self-perceived frequency of use of the target strategies, a strategy questionnaire was administered in Week 1 and in Week 20 to all students (i.e. 20 in each class) (see Table 4 for an overview).

Class	Week 1	Week 20	Total number of questionnaires
C	20	20	40
E	20	20	40
Sub-total	40	40	80

Table 4: Questionnaire: data collection schedule and data set

A six-point Likert-scale response ranging between 1 = 'very low' and 6 = 'very high' was used to gauge frequency. There were eight questions on the target strategies, with each question focusing on one strategy. In order to guard against the compliance effect in questionnaire surveys (Fowler, 1995), seven questions on non-target strategies that were not taught to students in the strategy instruction were also included in the questionnaires. An example is shown in Grid 1 (for the full set of questions, see Appendix).

Strategy 1
When I need to think of what to say, I use fillers such as 'um', 'urh', 'well', 'you know', 'I see what you mean' etc. to gain time.

The **frequency** of my own use of the above strategy in English group discussions in general is

1	2	3	4	5	6
Very low					Very high

Grid 1: An example of strategy question

Cross tabulations (CROSSTABS) were used to analyse each strategy question. CROSSTABS compares the ratings given by individual students to each strategy on a pre-post basis (i.e. Week 1 and Week 20). The numbers of students who gave higher/lower ratings to each strategy question on a pre-post basis were counted. The overall difference between the C and the E classes (expressed as percentage) is the effect size which indicates the extent to which the OCST might be associated with increases or decreases in self-perceived use of individual strategies. The effect size is calculated by summing up the differences between C and E (%) in the proportion of increased post scores and in the proportion of decreased post scores. These effect sizes were then subjected to the non-parametric Fisher Exact Test for small samples (Siegel & Castellan, 2000) to see whether they were statistically significant.

The impact of the OCST on the E class as compared with the C class on students' self-perceived strategy use is assessed in terms of effect size. The values of the effect size (expressed as percentages) are presented in decreasing order of magnitude in Table 5.

Name of strategy	Effect size (%)
Attentive listening (NT)	+ 66.1 (p = .0288) *
Focusing more on content than language (NT)	+ 60.1 (p = .0072) *
Resourcing (T)	+ 53.8 (p = .0491) *
Using fillers (T)	+ 30.4
Letting others take the floor (NT)	+ 29.7
Using self repetition (T)	+ 20.6
Using pauses to gain time to think (NT)	+ 18.3
Asking for confirmation (T)	+ 14.9
Paraphrasing (T)	+ 5.2
Asking for repetition (T)	+ 5.1
Using self-correction (T)	- 10.5
Continuing to express oneself regardless (NT)	- 13.8
Relying on oneself rather than on resources (NT)	- 14.8
Asking for clarification (T)	- 20.3

* *Significant at .05 level*

Table 5: Relative effects of the OCST on the E class as compared with the C class on self-perceived strategy use

The findings in Table 5 indicate that there were overall gains in effect size in favour of E over C in six out of eight target strategies (T). Moreover, 'Resourcing' had a statistically significant gain of +53.8% (p= .0491). As for non-target strategies (NT), there were gains in effect size in favour of E over C in four out of six non-target strategies with statistically significant gains for "Attentive listening" (+66.1%; p= .0288) and "Focusing on content" (+60.1%; p= .0072). Overall, the OCST appeared to be associated with statistically significant increases in the self-perceived use of one target strategy, i.e. 'Resourcing', and two non-target strategies, i.e. 'Attentive listening' and 'Focusing attention more on content than language'.

3.3.3 Observation

In addition to the strategy questionnaire, observation was used. It aimed to study whether the OCST altered observable strategic behaviour in terms of frequency. The same English group work discussion, involving only the two pull-out groups in each class, was used for qualitative analysis of observed strategy use in Weeks 1, 10, and 20. The dataset therefore consisted of 12 recordings (see Table 6 for an overview). Each recording lasted about ten minutes and a total of 120 minutes of English discussions were transcribed and analysed for observed strategy use

Class	Week 1	Week 10	Week 20	Number of video recordings
C	2	2	2	6
E	2	2	2	6
Sub total	4	4	4	12

Table 6: Observation: data collection schedule and data set

A speaker's turn in the transcript was identified as the unit of analysis. As observed strategy use was the focus of this part of the present study, every turn was segmented into units in which each indication of the use of a target strategy type was categorized and coded (non-target strategies were also identified but not included for discussion in this article). Two independent raters, using

the software NUD*IST (Version 4)[1], were employed to identify and code strategies in the 12 transcripts. The inter-rater reliability coefficient was .9212.

Frequency counts of the observed use of individual strategies and the whole sample of strategies by each group (four students) were conducted to gauge the effects of the OCST. To standardize comparisons, the counting of strategy use per 100 words produced by each group was used as a standardized measure (non-target strategies were also identified but not included for discussion in this article).

Table 7 presents descriptive statistics to compare C's and E's standardized frequencies (per 100 words) of observed strategy use across Weeks 1, 10 and 20. Each cell represents the combined frequencies of the two 'pull-out' groups in each class. W represents the total number of words produced by two groups of students and N represents the raw frequency counts of all the eight target strategies.

Target strategies	C Class			E Class		
	Wk 1	Wk 10	Wk 20	Wk 1	Wk 10	Wk 20
	W=2532 N=180	W=2372 N=136	W=1798 N=118	W=2105 N=117	W=1958 N=118	W=2141 N=117
Resourcing	0.6	0.2	1.3	0.1	0.5	1.6
Paraphrasing	0.2	0.1	1.3	0.4	0.3	0.3
Using fillers	0.1	0.3	0.1	0.0	0.4	0.4
Using self repetition	5.4	3.8	2.0	4.3	3.7	2.4
Using self-correction	0.5	0.7	0.6	0.7	0.8	0.5
Asking for repetition	0.1	0.1	0.5	0.0	0.0	0.1
Asking for clarification	0.1	0.3	0.1	0.0	0.1	0.1
Asking for confirmation	0.1	0.2	0.7	0.1	0.2	0.1
Aggregated frequency of use	7.1	5.7	6.6	5.6	6.0	5.5
Aggregated variety of use	8	8	8	5	7	8

Table 7: Standardized frequencies (per 100 words) of the observed use of individual and the whole sample of target strategies

The frequencies of individual strategies demonstrate that there was a clearly upward trend in the use of 'Resourcing' by the E groups (0.1, 0.5 and 1.6) in Weeks 1, 10 and 20 respectively. Considering that the majority of the values were below 1.0, the rise from 0.1 in Week 1 to 1.6 in Week 3 was dramatic. In contrast, the C groups did not show such a consistent upward trend. However, the aggregate frequencies of the target strategies show that there was not any consistent pattern of increase for the E groups (i.e. 5.6, 6.0 and 5.5) as compared with the C groups (7.1, 5.7 and 6.6). These findings seem to lend some evidence that while the OCST might be related to a clear and strong upward trend in the students' uptake of 'Resourcing', the effect was not apparent with the whole sample of target strategies.

3.3.4 Stimulated recall

To go beneath the surface evidence of strategic behaviour, stimulated recall interviews (SRIs) were used to investigate whether the OCST altered students' strategic thoughts in terms of frequency. Immediately after the 'pull-out' groups finished the group task in Weeks 1, 10, and 20, each of the four students in every group was individually interviewed by the researcher. All the SRIs were audio-taped; each SRI lasted about 20 minutes, including the play-back time. The dataset consisted of 48 SRIs, which were transcribed and analysed (see Table 8 for an overview).

Class	Week 1	Week 10	Week 20	Number of audio recordings
C	8	8	8	24
E	8	8	8	24
Sub total	16	16	16	48

Table 8: Stimulated recall: data collection schedule and data set

During the SRI, a video-tape of the English discussion was played back to the student and he/she was asked to watch and pause to report on what he/she had been thinking about during the task. From time to time, the video-tape was paused and the researcher asked, "what was at the back of your mind at that moment" (Gass & Mackey, 2000, p. 118). Every time when the video was stopped and when the students did the reporting constitutes an episode. An episode comprises the video play-back of a related clip, the prompt (if any) by the researcher and the prompted or unprompted reporting of a student. The RECALL (segment) is the reporting of the student and identified as the unit for analysis (Green, 1998). The RECALL in each episode is segmented into unit(s) in which each mention of a strategy type is categorized and coded (Gass & Mackey, 2000).

Two coders were asked to independently identify and code target strategies, non-target strategies, non-strategies in all the 48 SRIs. The inter-rater reliability coefficient was .8937. Target strategies, non-target strategies and non-strategies constitute 100% of all the coded segments. The proportional frequency of each target strategy (expressed in terms of percentage) is the frequency of the target strategy in relation to the total number of coded segments. (Non-target strategies and non-strategies were identified but not included for discussion in this article.). Results of the target strategies are presented in Table 9.

Week / Strategy	Frequency counts (N)						Proportional frequencies (%)					
	C class			E Class			C class			E class		
	1	10	20	1	10	20	1	10	20	1	10	20
Resourcing	0	0	0	3	16	11	0.0	0.0	0.0	4.1	17.2	17.5
Paraphrasing	9	2	7	4	4	7	19.6	5.7	14.9	5.5	4.3	11.0
Using fillers	1	0	0	0	3	3	2.1	0.0	0.0	0.0	3.2	4.8
Using self repetition	0	0	0	0	1	2	0.0	0.0	0.0	0.0	1.1	3.2
Using self-correction	0	0	0	0	0	1	0.0	0.0	0.0	0.0	0.0	1.6
Asking for repetition	0	0	0	0	0	1	0.0	0.0	0.0	0.0	0.0	1.6
Asking for clarification	0	1	0	0	0	0	0.0	2.9	0.0	0.0	0.0	0.0
Asking for confirmation	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
Aggregated frequency	10	3	7	7	24	25	21.7	8.6	14.9	9.6	25.8	39.7
Aggregated variety	2	2	1	2	4	6	2	2	1	2	4	6

Table 9: Raw frequencies and proportional frequencies of the reported use of individual target strategies in SRIs

The figures in Table 9 support the view that, for the E class, there was a rather consistent and strong tendency to report more of 'Resourcing' (4.1%, 17.2%, 17.5%) over time and there was no

evidence of such a strong and sustained trend in the reporting of other target strategies. The OCST appeared to be related to a noticeable impact on the reporting of 'Resourcing' only in SRIs. However, it should be noted that the E class displayed consistent and substantial increases in the aggregated frequency of reporting use of the target strategies in Weeks 1, 10 and 20 (i.e. 9.6%, 25.8% and 39.7%). In comparison, the C group appeared to change its focus from time to time with no predictable patterns (21.7%. 8.6% and 14.9%). This way, the finding seems to suggest that the OCST might have an impact on the reported use of the target strategies of the E class over time.

4 Discussion and conclusion

First and foremost, regarding Research Question 1, the study has provided evidence to support the value of OCST. For one thing, the treatment class generally outperformed the comparison class on discussion tasks, particularly in 'task effectiveness', which was assessed in terms of the students' general effectiveness and confidence in completing the tasks. There were no corresponding findings with regard to English proficiency. The result therefore suggests that the OCST might have a positive effect on enhancing the self-efficacy of the learners, thereby supporting the importance of strategy training in promoting positive affect in the ESL classroom (Rossiter, 2003b). Nonetheless, it should be noted that, to reduce the workloads of the raters, group performance rather than individual performance was assessed. This might have affected the findings regarding English proficiency as it is best tracked on an individual basis. In addition, given the small sample size and the small number of comparisons made between the C and the E classes, only descriptive statistics but not the more powerful inferential statistics with statistically significant values could be used. The findings should, therefore, be viewed in this light.

Regarding Research Question 2, findings from the multi-method approach indicate that the OCST had different impacts on the frequency of strategy use of the whole sample of target strategies. While the OCST was not correlated to any increases in observed strategy use of the whole sample of target strategies in Weeks 1, 10 and 20, it appeared to be connected with the increasing reporting of strategy use in the stimulated recall interviews. These findings indicate that the explicit focusing of strategies in the training may have a pervasive impact on students' strategic awareness, thereby enabling students to identify and report the use of strategies in the interviews. The value of raising L2 learners' strategic awareness in conducting oral communication tasks has been confirmed in recent students (Nakatani, 2005; Sayer, 2005).

In addition, as awareness-raising is implicit and may not yet be fully reflected in learners' observable performance data, it could be argued that the OCST appears to have a positive impact on students' declarative knowledge 'about' strategy use. The OCST has yet to have a strong effect on the speakers' procedural knowledge of 'how to' implement strategy use. It is through repeated practice that declarative knowledge of strategy use may be automatised to become observable, procedural knowledge of strategy use. This argument is in line with Johnson's process of "proceduralising declarative knowledge" through practice (Johnson, 1994, p.125). Hence, while the training effect may not yet be observable, the value of strategy training may lie in its helping students acquire declarative knowledge, which is the first step to proceduralisation on the learning continuum. All in all, the effects of the ORCT on learning manifest in ways that may or may not be observable; learning can be implicit or explicit (Lam, 2004, 2005; Schmidt, 2004).

As for the frequency of the use of individual target strategies, there is corroborating evidence – from the different research methods – to support [the conclusion] that the OCST might be correlated to the consistent increases in the self-perceived use, in the observed use and in the reported use of 'Resourcing' over time for the treatment class, but not the comparison class. This may imply that 'Resourcing' can be the most teachable and favoured strategy of junior L2 speakers when handling interactive, oral tasks. 'Resourcing' (i.e. the strategic use of available resources in the form of suggested vocabulary and structures provided in the task instructions) may enable the elementary-intermediate L2 learners to cope with the problem of 'resource deficits'

during the initial phase of speech processing (Dörnyei & Kormos, 1998, p. 356; Kormos, 2006). The deployment of 'Resourcing' might help fill lexis-related knowledge gaps of the L2 speaker and enable them – almost effortlessly under time pressure – to solve the problems of 'what to say' and 'how to say it' during the preverbal stage of speech production (Kormos, 2006). This argument is consistent with that in Samuda's (2001) study which showed that learners mined relevant language from the task rubrics to bring about greater precision in negotiating meaning in oral group tasks. Samuda (2001) argues that the mined language functions as a communication strategy and as such it functions in a similar way as 'Resourcing' in the present study. Similarly, Gallagher Brett (2001) argues that "if a handful of useful phrases are made available to learners, [learners] will take advantage of them" (p. 58) as such resources provide for entry into minimal communication.

The other reason for the apparently high uptake of 'Resourcing' may be attributed to the match between the proficiency level of the students and the corresponding linguistic and cognitive demands of 'Resourcing'. When using 'Resourcing', all that the learners need is to be able to comprehend, select and make use of the suggested ideas or language structures in order to operate at a basic level during the English tasks. This is consistent with the notion that strategies that demand only surface processing tend to be favoured by elementary learners (Green & Oxford, 1995). It is therefore possible that oral strategies that enable speakers to formulate ideas and to express them in a relatively effortless way may serve as 'bedrock strategies' (Green & Oxford, 1995, p. 282) in oral communication for young learners, an example of which appears to be 'Resourcing'. This might also explain why the other target strategies such as 'Asking for repetition', 'Asking for clarification', and 'Asking for confirmation' were sparsely used or reported by students in the present study while there was evidence that they were picked up by more advanced students in earlier studies (Bejarano, Levine, Olshtain & Steiner, 1997; Lam & Wong, 2000). It should also be borne in mind that strategies are in fact personal approaches of learners to cope with tasks and learning styles and that strategies are intertwined (Ehrman, Leaver & Oxford, 2003). It was found that learners of different cognitive styles used different types of CS (Littlemore, 2003). This raises the interesting issue of coping with learner differences in implementing CS instruction in the classroom.

The findings of the present investigation have thrown light on the implementation of OCST in the secondary ESL classroom. First, this study has sought to highlight explicit focusing to raise strategic awareness in handling group work discussions. Such awareness appears to be a necessary condition for developing latent, unobserved, declarative knowledge of strategy use, which is likely to be the first step to develop observable, procedural strategy use. To facilitate the proceduralisation of strategy use, repeated exploration and practice over an extended period of time is necessary. Hence, it may be desirable to incorporate strategy-based instruction into the normal curriculum on a long-term basis to yield optimal results. This study has also sought to open discussion on the possibility of introducing 'Resourcing' as one example of "bedrock strategies" to allow elementary L2 learners to initiate and maintain communication. As time passes, they might be able to internalize some of the vocabulary or structures, which will in turn benefit learners' inter-language development. Last but not least, to maximize the benefits of strategy development and use, it is generally desirable to match the cognitive/linguistic demands of strategy use with learners' proficiency level. It may even be necessary to provide junior L2 speakers with linguistic scaffolding and/or appropriate and accurate linguistic models so that they know how to use oral strategies to good effect (Littlewood & Liu, 1996).

Regarding the research methodology in strategy training studies, a multi-method approach helps complement the strengths and weaknesses inherent in each and every research method. Learners' performances in group work discussions reflect the effects of strategy training on task performance, but they do not give information about strategy use. Whereas questionnaire findings do provide such information, they do not necessarily reflect actual behaviours. While observations do reflect behavioural learning outcomes, they cannot tap learners' (strategic) thought processes

the way the stimulated recall methodology does. As learning may or may not be observable, it is desirable to employ research instruments that can gauge both observable and unobservable changes in order to get a full picture of the impact of strategy intervention (Wigglesworth, 2005).

As each method makes a distinct contribution to our understanding of the impact of OCST, findings from the eclectic approach provide us with information about: changes in ratings of students' task performance (via recording data); changes in underlying self-perceptions (via questionnaire data); changes in proceduralised strategy use (via observational data); and changes in underlying strategic thinking (via stimulated recall data). These findings from the multi-method approach are consistent with those from previous strategy research in that the impact of strategy training may show up in different measures (Dansereau, 1985; Oxford, 1996a). The triangulation of findings made feasible by a synthesis of research methods may therefore be desirable to gauge both the process and product of oral communication or language learning as a whole.

The study discussed here is modest, and limited in its sample size and the narrowness of its scope. While the use of intact groups is desirable (Brown & Perry, 1991) and the English standards of the two classes were controlled for, the two classes might still have differed in terms of cognitive styles, initial strategy use, personality, motivation etc. Such variables might have affected the results of training (Ehrman, Leaver & Oxford, 2003). The target strategies taught to the learners need to be rigorously investigated beyond the Hong Kong context in order to build a picture of how they might interact with learners in other Asian cultures and beyond, given that cultural preferences affect strategy use (Oxford, 1996a). In addition, the same strategy-based instruction may be implemented with students of more advanced English proficiency to see how these students respond to the same set of strategies. Finally, the group discussion selected for the present study is one type of divergent task where interaction among participants is expected rather than obligatory. To encourage greater negotiation and interaction among members, it seems necessary to try out convergent tasks with only limited possible outcomes. Trying out more task types may facilitate the investigation of OCST on strategy use across different task types, as the strategy use may partially be dependent on task type (Gallagher Brett, 2001; Wenden, 1995).

Note

[1] NUD*IST (Version 4) stands for Non-numerical Unstructured Data Indexing Searching and Theorizing. It is a computer package designed to aid users in handling non-numerical and unstructured data in qualitative analysis. QSR NUD*IST does this by supporting processes of indexing, searching and theorizing.

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Appendix

Strategy questionnaire

1. When I need to think of what to say, I use fillers such as 'um', 'urh', 'well'. 'you know', 'I see what you mean', etc. to gain time.
2. I pay more attention to the content of what I say than to the words I use or to my pronunciation.
3. When I have difficulty thinking of the right word(s), I let others say something first rather than use similar words or phrases to express myself.
4. When I realise that I have used the wrong words, phrases or pronunciation, I immediately correct them by myself.

5. When I have difficulty in expressing myself, I refer to the notes given by the teacher for suggestions of words and structures to help me in the discussion.
6. When I don't understand others, I ask them to repeat the words or phrases they have just said to help me understand their meaning.
7. When I don't understand others, I continue to express my meaning rather than ask them to clarify themselves.
8. When I have difficulty in thinking of the right word(s), I use words or phrases with similar meaning to express myself.
9. When I don't understand others, I listen quietly and hope that I can understand without having had to ask them to clarify themselves.
10. When I need to think of what to say, I repeat words or phrases I have just said to gain time to think.
11. When I don’t understand what others mean, I ask them to confirm what they mean so as to help me clarify their meaning.
12. When I need to think of what to say, I pause to let myself have time to think and then continue the utterance from where I left off.
13. When I don't understand others, I ask them to clarify what they mean.
14. When I have difficulty in expressing myself, I try to think of my own words rather than refer to the notes given by the teacher for suggestions of words or phrases to use to help me in the discussion.