ASSESSING THE ROLE OF TRANSLATION AS A LEARNING STRATEGY IN ENGLISH AS A SECOND LANGUAGE: AN EMPIRICAL STUDY

Though translation or transfer from the first language has recently been accorded a place among other strategies of language learning as a basic and preferred learning strategy, and its use has been advocated by ESL practitioners within a post-communicative paradigm, yet few studies have been reported validating empirically its role in L2 learning. Specifically, its validation is not reported yet within strategy literature to the best of the present researcher's knowledge, though, the effectiveness of many other strategies such as the cognitive strategies of vocabulary learning through keyword, note-taking, elaboration, and some metacognitive and socio-affective strategies have been evaluated through empirical studies.

Viewing this lacuna in the strategy research field, a study was carried out by the present researcher, in order to empirically assess the effectiveness of translation as a language learning strategy in ESL in a formal classroom setting with class twelve Urdu speaking students. The chapter reports the findings of this empirical study.
**Background**

**Mother-Tongue Transfer as Interference**

Translation has been employed as a strategy in the teaching of second and foreign languages for centuries. It gained greater popularity under the rubric of the Grammar/Translation Method from the 1840s to the 1940s. During the nineteenth century, however, the relevance and utility of the GT method started to be questioned, as oral proficiency rather than reading or writing was needed more, keeping in view the development of transport, trade and commerce in the beginning of the nineteenth century; and the Direct Method came in vogue.

During the first half of the twentieth century, the Audio-lingual Method, based on structural linguistics and behaviourist psychology became popular. This was the hey-day of Contrastive Analysis and pedagogical theorists believed in eradicating mother tongue influence as much as possible through extensive practice of L2 habits. Lado (1957) and Fries (1945, 1952) laid down the foundation of contrastive analyses of the native and the target language so that differences between L1 and L2 surface features could clearly be pointed out and be made the focus of pedagogical materials.\(^1\) Comparative studies were thus carried out between various languages (Stockwell, Bowen and Martin 1965). Hence, though CA assigned an important role to the
L1, it was, however, a negative one, i.e., in the form of interference. (Selinker 1969; Duskova, 1969).

In recent times, evidence for L1 interference has been reported by Ard and Homburg (1983), and Broselow (1983). Rutherford (1983) and White (1985) also provide empirical evidence for this type of role of L1 acquisition. Among other recent studies Harley (1989a), and Harley, King and Burtis (1987) found subtle instances of transfer in the areas of lexicon and grammar among students learning French in an immersion setting. It did not necessarily lead to error, but occasionally it did. Remarking on this apparent learner tendency to assume translation equivalence in both semantic and syntactic areas, J. Schachter (1990) advocates deliberate intervention in the classroom in the form of comparisons of features of the two languages and how they carry the same or different functions.

Though interference is noted in present day research as an outcome of transfer as a natural phenomenon, the other side of the coin, i.e., its facilitative effect is also not lost sight of. Studies dealing with the negative or positive role in L2 learning have been dealt with in Chapter III in detail.
Mother Tongue Transfer in Communication Strategy Literature

During the early 1980s, L1 transfer was incorporated into a mentalistic view of learning by Corder (1983), Bialystok (1983), Tarone (1981) and Faerch and Kasper (1983). Strategies of learning and strategies of communication were the terms first coined by Selinker (1972), which provoked much fruitful research. Selinker (1972) was also among one of the first to refer to transfer from the native language as an important strategy of communication. Later, researchers continued to mention. Transfer of L1 rules "borrowing" "code-switching", and transfer as important achievement or risk-running strategies based on L1 resources. (An achievement or a risk-running strategy is a positive strategy since it aims at expanding one's resources to meet one's communicative goals, rather than curtailing the goal itself and be resigned to non-communication or impartial communication). Code-switching involves use of varying stretches of discourse from L1, ranging from single words to complete turns. When code-switching involves single words, it is referred to as "borrowing" (Faerch and Kasper, p.46). When the items or features of the learners' mother tongue are incorporated into their interlanguage, the strategy is known as transfer (Corder, p.16). This implies the adjustment of L1 items with L2 grammar, morphology or phonology.
Bialystok (1983) found in her empirical study three types of L1-based strategies: language switch, foreignizing, i.e., "creation of non-existent or contextually inappropriate target language words by applying L2 morphology/phonology to L1 lexical items; thirdly, translation, which reflected "the use of L2 lexicon and structure to create literal translation of L1 item or phrase" (pp.105-6).

Blum-Kulka and Levenston (1983) refer to the preliminary "equivalence hypothesis" of all beginners believing in the existence of one-to-one relationship between L1 and L2 (p.132). Haastrup and Phillipson (1983) also found in their empirical study the use of L1 based strategies of borrowing, anglicizing and literal translation among learners.5

Transfer from L1 constituted an important strategy of communication. However, it has not found a similar place of importance among strategies of learning. This may be considered an aftermath of the reaction against CA and the viewing of transfer even as a communication strategy in the form of evidence for interference.

Translation as a Learning Strategy

While strategy research started developing two decades ago under the rubric of communication strategies, it was
much later that the receptive aspect of strategies became a matter of concern. However, Taylor (1975) underscored the importance of generalization and transfer as important strategies of learning even twenty years ago. On the basis of his empirical study consisting of a translation test of ESL students, he remarked that "... second language acquisition is an actively creative process dependent upon a students' ability to assimilate and subsume new information into already existing cognitive structures" (p. 73). He stated that transfer and overgeneralization learning strategies appeared to be two distinctly different linguistic manifestations of one psychological process: reliance on prior learning to facilitate new learning. Needless to say, Taylor was drawing upon the transfer theory of learning from cognitive psychology.

McLaughlin ((1978a) and Sridhar (1980) pointed out that the notion of interference was not incompatible with the notion of strategy. It is worth noting, however, that some communication strategy researchers (Bialystok 1983; Faerch and Kasper 1983) noted the receptive aspect of strategies too, and admitted the role of L1 transfer in reception. For example, Faerch and Kasper (1983) remarked, "... it should be mentioned that receptive communication strategies can also result in hypothesis formation: the learner might use his prior L1, IL or contextual knowledge in order to understand L2 items which are not yet part of his IL system.
Later, they defined transfer as the process by which L2 learners activate L1 knowledge in developing or using their interlanguage. Learners may activate L1 knowledge for the purpose of either communication or learning. (Faerch and Kasper 1987). 9

Language learning strategy research suddenly mushroomed during the past decade and various studies on the identification and classification of these strategies were carried out (see Chapter I). Transfer or translation figured as one of the strategies on many of these lists (e.g., O'Malley et al. 1985a; 1985b). Consequently, it was selected for foreign language instruction in reading and listening comprehension in strategy training programmes (e.g., CALLA by O'Malley and Chamot, 1988).

O'Malley et al (1985b) noted that beginning level Spanish and Russian students used transfer as a main strategy, but intermediate and advanced level students used transfer to a lesser degree. It may imply according to O'Malley and Chamot (1990) that, "while less proficient learners rely upon declarative knowledge about L1, more proficient ones may rely upon other types of information" (p.148).

Research by Del Mar et al. (1982) suggests that given the opportunity, learners will choose to translate without
encouragement from the teacher. This is found to be more true, however, of learners at the beginning or the intermediate stage than those at the advanced levels. Nyikos (1987) reported that less skilled learners sometimes are not even aware of the strategies of translation and repetition which they automatically use.

**Some Recent Theoretical Postulates**

Cummins's (1984) notion of common underlying proficiency for academic settings is an important contribution towards recognizing the value of L1 knowledge and skills for L2 learning. Cummins has proposed two dimensions of language use; context-embedded, which is typical of face-to-face interactions rich in contextual clues and; context-reduced which is applicable to academic settings where contextual clues are meagre and are chiefly linguistic.

On the basis of studies (Harley 1989a; Harley, King and Burtis 1987; Harley et al. 1990) under a five year project entitled the Development of Bilingual Proficiency (DBP), it was found that context-reduced academic skills were significantly related across the two languages in use. These findings are suggestive of an interdependence or commonality across languages with respect to context-reduced or academic types of proficiency. Cummins's model (1984), suggests that though the surface features of a bilingual's
L1 and L2 languages may be different, linguistic features at a deeper level of processing can be shared within "a common underlying proficiency". Results obtained with Japanese and Portuguese bilinguals did show interdependence of academic skills across languages and provided support for Cummins's hypothesis (Cummins and Nakajima 1987; Cummins et al. 1987).10

Widdowson (1975a) is a major figure among contemporary theorists to have argued for a potential role of translation in L2 teaching especially in the teaching of scientific and technical discourse, which according to him share the same communicative functions, but are expressed differently through different languages. He has also proposed addressing the three levels of equivalences between L1 and L2: structural (based on similarity of surface structures); semantic (based on deep structures) and rhetorical or pragmatic (based on similarity of function), in ESL teaching.

More recently, Vivian Cook (1992) has proposed the notion of "multi-competence", implying "the compound state of mind with two grammars".11 He suggests that people with multi-competence are not simply equivalent to two monolinguals but are a unique combination, and proposes many possibilities:
i) People with two languages might possess a merged language system rather than two separate systems.

ii) The L1 and L2 share the same mental lexicon.

iii) Second language users code-switch readily.

iv) Second language processing cannot be cut off from L1.

v) Both languages are stored in the same area of brain.

vi) Second language proficiency relates to first language proficiency.

Finally, Cook concludes by remarking that language pedagogy should be aimed at producing multicompetent individuals rather than "ersatz" native speakers.

Informal Experiments Advocating the Use of L1

A number of informal experiments which sometimes fall into the category of case-studies have been reported during the past few years involving the use of translation activities in the FL/ L2 classroom. These studies have been described in detail in Chapter IV, and so they will only be briefly mentioned here.

Based on his own classroom experience David Atkinson (1987) describes a variety of L1 applications in the classroom for eliciting language; checking comprehension, giving instructions regarding particular classroom activities, discussion of classroom methodology, checking for sense, and for employment in fluency activities (when at
a loss for words). These activities are chiefly focussed at beginning and intermediate levels. Butzkamm (1985) suggests the use of translation at beginning levels to make the foreign language structure clear to the student by literal translation through which the foreign language structure is "mirrored" in the native language.

Perkins (1985) advocates a translation exercise based on "units of meaning rather than word-for-word translation for advanced level learners. Another advanced level activity is suggested by Hieke (1985), who recommends the use of "translation" as a more realistic form of translation, which does not aim at complete translation of a text, but aims at an "accomplished version of restricted portions of a text" (p.99). Helen Thomas (1984) advocates use of translation for "developing the stylistic and lexical awareness" of advanced students. Gisela Thiel (1985) suggests "parallel text production", an activity which aims at text comprehension, the acquisition of lexical and grammatical structures, and the production of "intention adequate" texts. Titford (1983) recommends spoof translation (word-for-word) translation and back-translation in order to enhance the advanced learners' insight into the foreign language structure. Ian Tudor (1987) reports successful use of translation in fluency activities in his classroom, consisting of oral presentation, group discussion, and simulation activities.

Recent Empirical Studies

Among recent empirical studies, Ringbom's (1987) is important work to have attracted attention towards the positive and facilitative role of L1 transfer. He compared the positive as well as the negative transfers made by Swedish Finns learning English and discovered that the facilitation derived from learning a related language comes in the form of increased comprehension in the early stages.

Hulstijin (1991), however, argues on the basis of recent studies that L1 reading performance can only begin to correlate substantially with L2 reading after the knowledge of L2 has attained a threshold.12

Sparks and Ganeshow (1991) contend for correlating L1 and L2 aptitude and remark that when a student has difficulty in FL learning, his/her performance in L1 learning should be investigated. The same fact is corroborated by Skehan's (1986) study on language aptitude. Barts' (1991) study demonstrated that poor foreign language reading results from non-transfer of reading strategies from
By reference to a specific case study of a Spanish native speaker acquiring French verbs, whilst living in France, Giacobbe (1992) found that the adult L2 learners have to construct only those L2 notions which do not have a corresponding grammatical form in their L1; those that do have one, are directly available for incorporation or elaboration into the IL system. The transfer of skills at all levels from L1 to L2 is corroborated by the study of the writing skills of the students of Spanish made by Guadalupe et al. (1992).

Among recent empirical studies, only one study was found which directly studied the role of translation in L2 learning, i.e., the one performed by Kobayashi and Rinnert (1992). This study of English composition written by 48 Japanese university students examined differences between the tests resulting from two writing processes, the first process comprising writing first in Japanese, and then translating into English, and the other consisting of writing directly in English. It was discovered that in terms of quality of content, organization and style, lower-level writers tended to benefit from translation, whereas higher-level writers did not benefit much. Overall syntactic complexity was greater in translations than in direct writing. In terms of error-frequency, higher-level students
tended to make more errors that interfered with intended meaning in translation than in direct writing, but lower-level students did not show any difference.

**Purpose of the Present Study**

The specific purpose of the study was to seek answers to the following questions:

i) Does the study of translation enhance L2 learning in general?

ii) How are three different aspects of language, i.e., vocabulary, phrases, and tenses, influenced by the employment of translation as a learning strategy?

iii) A further research question added subsequently was, as to how the strategy of translation interacts with the level of L2 proficiency.

**Method**

**Instructional Methodology**

Two types of categorization are identified by O'Malley and Chamot (1990) for strategy instruction in strategy research: separate versus integrated, and direct explicit versus embedded implicit (see Chapter I, for details). Separate instruction implies independent intervention programmes for strategy training, while integrated training
incorporates the strategy instruction into regular classroom teaching. Direct or explicit strategy instruction tells the students directly which strategy is being used and; how and why to use it; but embedded strategy instruction does not explicitly inform them about the nature of the strategy taught or its advantages. There are arguments both in favour of and against these different types of instruction.

While most researchers advocate an explicit rather than an embedded approach of strategy instruction, in order to make the learners autonomous; the current empirical study has used an implicit or embedded approach for L1 strategy instruction. The reason for this is that implicit instruction, implying greater teacher control seems to be the only practical way to teach L1-based strategies. If the learners are given total freedom to rely on their mother tongue materials as an aid to learning whenever they feel a need, they may develop an overdependence on L1 use, which would prove to be detrimental in the long run. As pointed out before, use of L1 in the teaching of L2 has to be extremely judicious and carefully guarded, and the decision as to when and where to use L1 should appropriately rest in the hands of a teacher. This is not to advocate the use of embedded or implicit instruction in other situations too, as explicit or direct strategy instruction appears to have greater merit in general, for other contexts.
Subjects

The subjects were two classes of ESL students designated as the control and experiment group. They were also the researcher's regular students. The number of students in each class was approximately 60. Initially, the research began on the whole classes but as many students continued to fall out of the programme, by being absent from one or the other of the strategy instruction sessions, the final analysis was carried out only on 26 students from each group. All these students had either Urdu or Hindi as their mother tongue, which are considered here for the purpose of research as a single language. In a way, they can be deemed two dialects of the same language Hindustani; their structures being almost the same and the difference being chiefly in their different lexical items, that too, chiefly in the academic and formal registers.

The students came from widely different educational backgrounds, forming a heterogeneous group in terms of language proficiency. It should be noted, however, that this type of classroom sample is the norm rather than an exception in all universities of this country.

Materials

Separate instructional materials were prepared for the three areas of vocabulary, phrases and tenses, employing
translation as a teaching/learning strategy. The assumption has been pointed out already in the previous chapter that in general what constitutes a teaching strategy at the teacher's end, becomes a learning strategy at the learner's end.

**Materials for Vocabulary : Lesson A (see Appendix-B)**

For Control Group: A passage was given to the students from their own textbook, but it had not been taught in their class yet. Seven words from this passage were selected and underlined for teaching. For each word, the dictionary definition was given from Advanced Learner's Dictionary of Current English, along with information regarding the part of speech of a word, and if it was a verb, whether it was transitive or intransitive. This was followed with two example sentences for each word. This was again followed by two practice exercises, the first requiring a matching exercise, containing words in a column with their synonyms or paraphrases in the adjacent column. The second exercise required the students to make sentences with the given words.

For Treatment Group: The basic material for the treatment group too remained the same as above. The additions made to the exercise were that;
i) An L1 equivalent was provided for every target word and,

ii) The example sentences were translated in the mother-tongue, but only when deemed necessary, for making the meaning and the use of the word clear.

Materials for Tenses: Lesson B (see Appendix-B)

For Control Group: The aim was to teach the students the simple past and the past perfect tenses. A passage was again chosen with examples of verbs in the two sentences. This passage was approximately of the same difficulty level, or of a little lower than that chosen for vocabulary. The selected verbs were underlined in the passage. This was followed by a brief description of the varying forms of the two tenses with singular and plural nouns and all the three persons. Some examples of varying forms for regular and irregular verbs were also provided. Finally, the two tenses were briefly compared with regard to their function, and example sentences were provided to bring out the difference between their respective uses. This was again followed by two short paragraphs giving examples for the two different tenses in contracted sentences. At the end of the lesson, two exercises were given for consolidation: the first required the students to transform sentences given in simple present tense first into simple past, and then into past perfect; the second one required them to put the correct
forms of the verbs given in brackets into either simple past or past perfect tense.

For Treatment Group: The basic lesson remained the same, with the following additions or modifications introduced:

i) The students were required to provide L1 equivalents of all the underlined verbs in the given passage. The exercise is based on Hieke's transliteration exercise (see Chapter-IV). Transliteration, according to Hieke, is a selective form of translation with less global goals and a strictly pedagogical orientation. It does not refer only to spot translation of whatever might be considered difficult or critical by the teacher, but also implies that the teacher is free to edit passages of a text, which are too demanding or which blur the necessary focus on the primary learning goal. An important advantage with this type of translation is, however, that the selected focus points remain within and as part of the running text from which the portions have been taken.

ii) After the students completed the exercise themselves, they were given feedback by the teacher.

iii) All the example sentences provided in the lesson were translated in their equivalent L1 forms together by the students and the teacher. At first the teacher tried to elicit an answer from the students, if they failed, she
provided it herself.

Materials for Phrases: Lesson C (see Appendix-B)

For Control Group: The text constituted a short passage with eight phrases underlined for teaching. It was followed by eight example sentences bringing out the meaning of each phrase. The lesson ended with two practice exercises, the first required completing the given unfinished sentences with one of the appropriate phrases and the second required the students to make sentences of their own with the given phrases.

For Treatment Group: As usual, the basic text of the lesson remained the same for the treatment group too. An additional exercise suggested by Perkins was administered which involved translating in terms of units of meaning (see chapter IV). Here, the learners were given a passage in English along with its translation in L1. The students are asked to match the units of meaning underlined in the L2 passage to the corresponding units of meaning in the given L1 passage.

Instruments

A pretest and a post-test were constructed to assess the students' knowledge of the target vocabulary, phrases, and tenses before and after strategy instruction. Since the
groups were extremely heterogeneous in terms of proficiency levels, the pre-test was necessary to get a correct estimate of gains made by the two groups.

Pretest (see Appendix-C)

Task A (Vocabulary): It was a fill-in-the blank exercise requiring the students to provide the right form of the appropriate word chosen from the list. All the seven words selected in advance for instruction were tested in this question.

Task B (Tenses): A continuous passage with blanks was given and the students were asked to put the verbs in brackets either into simple past or past perfect.

Task C (Phrases): The last task required the students to fill in the blanks with the appropriate forms of the given phrases from the list. All the seven target phrases selected for instruction were tested here.

Post-Test (see Appendix-C)

Task A (Vocabulary): It was a four-choice multiple-choice question on the specified target vocabulary items.

Task B (Tenses): The task required the students to fill in the blanks with the given verbs in their appropriate forms, either in simple past, or in past perfect.
Task C (Phrases): The final task consisted in matching the specified target phrases with their meanings given in the opposite column. All the questions in both the pre and the post-test were fully objective.

Procedure

Pretest

The pretest was administered to both the groups on the same day in a regular classroom hour without prior announcement, following which four instructional classes were given to each group, one each for vocabulary and phrases and two for tenses.

General Instructional Procedure

Text sheets containing the lessons were distributed before every instructional session to all the students. The students were informed that these special classes were for the purpose of research, but their interest and motivation were ensured by telling them and rightly so, that the context of the lessons was directly related to their own language course and so these extra classes will be very beneficial for them.

The passages given in each lesson were first read aloud by the teacher and then the students themselves were asked to read the passages silently, trying to understand them
better. At this time the teacher/researcher did not give any meanings of difficult words or structures, and the students were themselves asked to guess the meanings from the context. In this way they were being given implicit instruction in the strategy of making guesses, a cognitive strategy of elaboration. When the students had read the passage they were asked different kinds of comprehension questions - global, local, referential, inferential and evaluative. It is worth noting that this activity, i.e., the answering of different types of questions, demands the use of various cognitive strategies of simplification, i.e., selection, inferencing and organization, apart from some metacognitive strategies in addition. This fact is pointed out in order to show that no teaching whether of a language or a content course can be called a "non-strategy" method. Meanings of difficult words were also asked of the students. Sometimes they were helped by the teacher in arriving at the right meanings. If nobody in the class was able to tell the meaning of a word or expression, then the teacher herself provided it finally. This was always done only through English in the control group, but in the treatment group the English explanation was followed by that in the mother tongue. After the passage had been explained fully, through the collaborative efforts of the students and the teacher, the ensuing practice exercises mentioned in the materials section were taken up.
Instructional Modifications for the Treatment Group

Apart from engaging the students in the special exercises provided in the lessons on tenses and phrases, the following points of deviations in instruction from the normal control group teaching can be noted:

i) The target words, phrases and verbs in the specified tenses given in the passages were translated in L1 along with their L2 equivalents and explanations.

ii) Some of the example sentences were also translated into the L1 when required.

iii) Sometimes explanations were also provided in L1 after being first given in English, if deemed necessary; and during the discussion of methodology of the instructional programme, a few words or sentences in the mother tongue were added, in order to make the instructions clear, and also to motivate the students.

iv) It should be noted, however, that the occasions for L1 use were very judiciously selected and L1 was never employed without being considered essential in a context.

Post-Test

A month was allowed to elapse in order to assess retention as well as acquisition of the taught items, after
which the post-test was administered to the students on all the three stipulated items, i.e., vocabulary, phrases and tenses.

**Rating of Tests**

Because of the completely objective nature of the questions in both the pre- and post-test, reliability was not a problem, and getting the answers checked by another rater was not considered necessary. Hence, the post-test scripts were rated by the researcher herself.

**Results**

The statistical analysis showed significant differences between the two groups. Comparison of the performance of the two groups on the pre-and post-tests (Table 5.1, Figure 5.1 and Figure 5.2) show that at the beginning the control group mean (14.30) on the pretest was higher than the experiment group mean (11.30), the maximum score for each test being 25. However, after the instruction, while the control groups score rose to a mean of 16.16, making an overall gain of only 1.86, the experiment group obtained a mean of 17.02, thus making a much greater gain of 5.72. The percent gains of the control and treatment groups were 7.44 and 22.96 respectively. Difference between the control group gain and experiment group gain, when analysed through a t-test was found to be significant beyond .001 level of confidence. A
Comparison of means of total gain scores obtained by the two groups

Figure 5.1
Comparison of means of pre- and post test scores for both the groups

![Comparison of means of pre-and post test scores for both groups](image)

**Figure 5.2**
Pearson product-moment correlation coefficient between the pre-and post-test scores of each group was .911 for the control group, but only .768 for the experiment group, implying a significant difference produced by the strategy instruction programme for the treatment group. The t-ratios for testing the significance of the two correlation coefficients were 10.78 and 5.85 respectively at p<.001 for the control and treatment group, thus showing that though the correlation between the pre-and post-test scores was significant for both the groups, it was higher for the control group, and lower for the experiment group. This further confirms the positive effect of the treatment.
TABLE 5.1

COMPARISON OF PRE- AND POST-TEST TOTAL MEAN SCORES OF THE
CONTROL AND THE EXPERIMENT GROUP

<table>
<thead>
<tr>
<th>Group</th>
<th>Pretest Mean (T1)</th>
<th>Post-Test Mean (T2)</th>
<th>Total Gain</th>
<th>Percent Gain</th>
<th>Correlation Coefficient (T1, T2)</th>
<th>t-ratio</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>14.30</td>
<td>16.16</td>
<td>1.86</td>
<td>7.44</td>
<td>.911</td>
<td>10.784</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Experiment</td>
<td>11.30</td>
<td>17.02</td>
<td>5.72</td>
<td>22.96</td>
<td>.768</td>
<td>5.858</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Significance of Difference Between Gains

Difference between the control group gain and experiment group gain when analysed through a t-test, was found to be significant beyond .001 level of confidence.

A descriptive analysis of the comparison of mean scores of the individual items on the two tests, i.e., vocabulary, tenses and phrases showed a much higher percent gain made in vocabulary (32%) and phrases (33.42%) compared to that in tenses (10.31), by the experiment group, while the control group showed much less difference across the three gain scores, i.e., 7.41, 7.81 and 6.85 per cent respectively for vocabulary, tenses and phrases (see Table 5.2, Figure 5.3 and Figure 5.4).

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Comparison of means of gain scores for separate question types for both groups

Figure 5.3
Comparison of means in pre- and post tests for the three types of questions

Figure 5.4
TABLE 5.2

COMPARISON OF MEAN SCORES OF INDIVIDUAL ITEMS

<table>
<thead>
<tr>
<th>Group</th>
<th>Vocabulary MM:7</th>
<th>Tenses MM:11</th>
<th>Phrases MM:7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T1</td>
<td>T2</td>
<td>Gain</td>
</tr>
<tr>
<td>Control</td>
<td>4.71</td>
<td>5.23</td>
<td>.52</td>
</tr>
<tr>
<td>Experiment</td>
<td>3.32</td>
<td>5.57</td>
<td>2.25</td>
</tr>
</tbody>
</table>

Inferential statistics to find out the significance of the difference between gains made by the two groups on individual items yielded a t-ratio of 19.1, 2.8, and 19.6 for vocabulary, tenses and phrases respectively. The differences were significant for all the three items, but while the confidence level was $p < 0.001$ for both vocabulary and phrases, it was only $p < 0.01$ for tenses (see Table 5.3).
TABLE 5.3

SIGNIFICANCE OF DIFFERENCE BETWEEN GAINS ON INDIVIDUAL ITEMS

<table>
<thead>
<tr>
<th>Items</th>
<th>Control</th>
<th>Experiment</th>
<th>t-ratio</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary</td>
<td>.519</td>
<td>2.250</td>
<td>19.104</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td>Tenses</td>
<td>.865</td>
<td>1.134</td>
<td>2.802</td>
<td>p&lt;.01</td>
</tr>
<tr>
<td>Phrases</td>
<td>.480</td>
<td>2.346</td>
<td>19.616</td>
<td>p&lt;.001</td>
</tr>
</tbody>
</table>

Owing to the above findings, a need was felt to find out the relationship between scores obtained on different types of tasks, and this was again carried out by employing the Pearson product-moment coefficient of correlation (see table 5.4). The t-ratios were not significant for the relationships of the grammar task with vocabulary and phrase tasks, but approached significance for the relationship between vocabulary and phrases tasks. The required t-ratio for confidence at .10 level with 24 degrees of freedom was 1.71, while the obtained ratios were 1.07 and 1.02 respectively for both the control and experiment group at p>.10.
**TABLE 5.4**

**CORRELATION COEFFICIENT BETWEEN SCORES OF DIFFERENT QUESTIONS**

<table>
<thead>
<tr>
<th>Group</th>
<th>Vocabulary &amp; Tenses</th>
<th>t-ratio</th>
<th>Tenses &amp; Phrases</th>
<th>t-ratio</th>
<th>Vocabulary &amp; Phrases</th>
<th>t-ratio (p&gt;.10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>.114</td>
<td>ns</td>
<td>.078</td>
<td>ns</td>
<td>.214</td>
<td>1.073</td>
</tr>
<tr>
<td>Experiment</td>
<td>.149</td>
<td>ns</td>
<td>.148</td>
<td>ns</td>
<td>.206</td>
<td>1.029</td>
</tr>
</tbody>
</table>

A further analysis was carried out to investigate the pattern of the variability of scores within the two groups for both the tests (see Table 5.5 and Figure 5.5). The difference between the standard deviations of the pre-and post-tests for the control group was not significant, while it was positively significant for the treatment group at p<.01, showing a decrease of dispersion of scores as a result of the treatment. Figures 5.6 and 5.7 indicate that the use of L1 strategies reduced the heterogeneity of achievement for the experiment group.
TABLE 5.5

<table>
<thead>
<tr>
<th>Group</th>
<th>Pretest SD</th>
<th>Post-Test SD</th>
<th>t-ratio</th>
<th>Significance of Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>4.56</td>
<td>4.31</td>
<td>.651</td>
<td>ns</td>
</tr>
<tr>
<td>Experiment</td>
<td>6.12</td>
<td>3.62</td>
<td>4.105</td>
<td>p&lt;.01</td>
</tr>
</tbody>
</table>

The decrease in the standard deviation as a result of L1 strategy instruction implied a beneficial effect especially for the low scoring segment. To explore this further the entire sample was further subdivided into three levels, high, average and low, on the basis of scores obtained in the pre-and post-tests. The high and the low levels consisted of 8 top and 8 bottom scores, while the middle level consisted of 10 scores in each of the control and treatment group. It was found that while the gain from pre-to post-test was 2.87 for the top level of the control group, it was only 1.93 for the top level of the experiment group. This showed a tendency in the opposite direction among the higher level students, i.e., that high proficiency students did not gain from L1 strategy use. The results for average and low score groups were spectacular however, showing a gain of 6.70 and 8.31 for the experiment group, compared to 1.70 and 2.18 of the control group (see Table 5.6).
Comparison of standard deviations of pre- and post-tests of both the groups

Figure 5.5
Frequency distribution of pre-and post test scores of the control group

![Graph showing frequency distribution of pre-test and post-test scores.](image)

**Figure 5.6**
Frequency distribution of pre-and post test scores of the experiment group

Figure 5.7
TABLE 5.6

GAINS MADE BY HIGH, AVERAGE AND LOW SCORING STUDENTS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>High Scores</td>
<td>Control</td>
<td>18.06</td>
<td>20.93</td>
<td>.938</td>
<td>.3522</td>
</tr>
<tr>
<td></td>
<td>Experiment</td>
<td>19.25</td>
<td>21.18</td>
<td>.841</td>
<td>p&lt;.10</td>
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<tr>
<td>Average Scores</td>
<td>Control</td>
<td>14.80</td>
<td>16.50</td>
<td>.921</td>
<td>.1957</td>
</tr>
<tr>
<td></td>
<td>Experiment</td>
<td>10.50</td>
<td>17.20</td>
<td>.914</td>
<td>p&gt;.10</td>
</tr>
<tr>
<td>Low Scores</td>
<td>Control</td>
<td>8.81</td>
<td>11.00</td>
<td>.929</td>
<td>.3022</td>
</tr>
<tr>
<td></td>
<td>Experiment</td>
<td>4.37</td>
<td>12.68</td>
<td>.949</td>
<td>p&gt;.10</td>
</tr>
</tbody>
</table>
DISCUSSION

First of all, the results suggest that implicit or embedded, as opposed to explicit or direct strategy instruction can also be successful in certain circumstances, and should be permitted in contexts where teacher's monitoring of strategy use is more important than learner autonomy.

The second finding, which answers the first research question in the affirmative, is that L1 strategies enhance L2 learning in general. This finding is opposed to the general assumption that the use of L1 strategies is counter-productive for L2 learning. Though a number of practitioners in ESL have now started to advocate the use of L1 and deplore its remaining "a neglected resource" (Atkinson 1987), few have tried to prove this empirically. The study hence, confirms the tentative and speculative statements made by theorists and provides clear evidence for the gains to be had from L1 strategy use.

A third important finding from this research comes in the form of spectacular gains made in vocabulary and phrases by the treatment group compared to a lower level gain in tenses. This probably indicates that vocabulary and phrases are more amenable to L1 strategy use compared to grammar, implying consequently that semantic aspects of language
which are more generally shared across languages than structural aspects, may lend themselves to learning through their L1 cognates more profitably. This in turn, leads one to a consideration of schematic representation of knowledge in the mind. Anderson (1983, 1985) posits that knowledge can be stored in mind in two forms: declarative and procedural. All knowledge is in the declarative form initially, and is proceduralized with extensive opportunities for cued practice. Declarative knowledge is represented in the memory as meaning-based, non-language specific propositions which are known as schemata. Because of being non-language specific, these schemata are easily accessible across languages. All names, facts and statement of rules which are represented as declarative knowledge are easily transferable across different languages.

However, the knowledge of the grammar of a language is a complex matter, as it involves both the declarative knowledge of rules as well as its proceduralization. O'Malley and Chamot (1990) attempt to describe metalinguistic transfer by assuming a unitary meaning-based store of schematic knowledge. This concept is consistent with Cummins's (1984) notion of common underlying proficiency. Since meaning is not inextricably linked to particular lexical or structural features of a specific language, the bilingual person choses the language-specific schema according to the particular context. For example,
requests could be represented as a single meaning-based schema in a bilingual person's mind, but it will be represented as independent linguistic schemata in the L1 and L2 on the basis of the basic meaning-based schemata. Hence, individuals learning grammar in a second language, according to Anderson's model seem to have two tasks before them. First, they have to reconstruct a new language-specific schema based on the core-schema or the original meaning-based schema. They might be helped or hindered in this reconstruction by the L1 schema already present in their mind. The other task before them is to automatize this schematic knowledge through extensive, cued practice. This process hence, makes the learning of grammar much more complex than the learning of discrete lexical items or phrases. The latter depends chiefly on finding cognates in L1 for the meaning-based propositions which are represented through much shorter mental configurations than complex grammatical rules. Their automatization too, is consequently much easier. This is one way of accounting for difficulty in learning grammar through L1 strategies in the light of Anderson's cognitive model. However, other explanations are possible.

In the light of the above, two possibilities can be suggested: either L1 strategies are not proper for the teaching of grammar, or more time than was given in the
experiment is required for the teaching of grammar, as it needs extensive, cued practice. It would be unwise to hastily discard translation however, for use in teaching grammar on the basis of the first possibility and further research would be required to confirm it, with a longer period of strategy instruction. The investigation regarding the relationships between scores on different question types, showing a stronger relationship between vocabulary and phrases than their relationship with tenses also suggests the need for a different type of treatment for grammar teaching.

Yet another important finding was relating to the interaction of proficiency level with gains made through the use of L1 strategy. It was discovered that the higher level students were the least benefited from L1 strategy use. The gains made by the intermediate level were higher than those of the higher level, and those made by the lower level were higher than those by the intermediate level. This finding confirms the result of the study performed by Kobayashi and Rinnert (1992) on the effect of translation as stimulus material for a writing task, which revealed that lower proficiency students gained more from it than higher level students.

Other researchers have found greater incidence of L1 strategies among lower level students. For example O'Malley
et al (1985b) report that translation strategies were used much more often by beginning level students than by intermediate level students. Chamot (1988b) found that, "the traditional techniques of repetition and translation were consistently popular, but upper level students began to use inference." Del Mar et al (1982) also report the reliance of lower level students on translation as a basic strategy. Higher incidence of strategy use among lower level students has not been correlated, however, to greater efficacy of this strategy for the same level of students. The present study, hence, along with the one carried out by Kobayashi and Rinnert, extends the findings made by the above mentioned researchers by postulating that lower level students not only use L1 strategies more frequently, but they also benefit more from them.

Finally, the study revealed that the use of L1 strategies can result in reduction in variability among students in a classroom, implying that combining L1 strategies with the usual L2 strategies will reduce the heterogeneity of the classroom and can promote more effective teaching. As one is aware, since extremely heterogeneous classes in terms of proficiency level are a common feature of the Indian ESL scenario, judicious employment of L1 strategies may come as a welcome resource in today's classrooms, where L1 use is considered taboo.
**Conclusion and Implications**

**Summary**

To sum up, speaking in terms of the research questions addressed at the beginning of the study, the following findings were made:

i) An addition of translation as a language learning strategy to the usual L2 strategies of learning in the ESL classroom results in greater effectiveness of learning compared to teaching only through L2 strategies.

ii) Secondly, the teaching of vocabulary and phrases can probably be carried out more effectively, through the use of the strategy of translation than the teaching of grammar.

iii) Thirdly, the study revealed that lower and intermediate level students tend to gain more from L1 strategy use than the upper level students.

iv) A related finding to the above was that supplementing L2 strategies with L1 strategies reduces the heterogeneity of a mixed proficiency class and facilitates effective teaching.

**Implications for Further Research**

Though the study provides evidence in favour of L1 strategy use, nevertheless, because of the paucity of
research in the area, several aspects of the findings made by the current study still remain inconclusive. Further research needs to validate the findings of the study preferably on a larger scale. A longer period devoted to the instructional programme would be desirable.

Secondly, apart from validation of findings made with regard to influence of translation on the learning of vocabulary and phrases, research is required to explore the potential of L1 strategies in other areas and skills of language. The teaching of grammar through the use of L1-based strategies specially needs to be carried out for a longer period than in the present study, to ensure whether or not grammar learning can be facilitated through translation. Kobayashi and Rinnert (1992) have found evidence for facilitative effect of translation on ESL writing for beginning level learners. Being the first of its type, their study however, requires confirmation. Both the receptive skills of listening and reading as well as the productive skills of speaking and writing require to be taken into account. The use of translation can also be compared between formal classroom and informal social settings.

Thirdly, this study corroborates the findings of some previous studies that translation is particularly useful for lower level, rather than higher level students. However, a
number of EFL practitioners advocate the use of translation specifically at higher levels (e.g., Hieke 1985; Thiel 1985; Perkins 1985; Thomas, 1984; Titford 1985). Titford (1983) opines that translation is a useful activity especially for the advanced learners as it addresses their inevitable questions at this stage of "HOW" regarding language "use" and "WHY" regarding its "usage". By comparing the L2 with the learners' L1, the answers to these questions can provide greater insight into the working of the second language. Another reason that he gives for employing translation at this stage are that it makes sense to build on the well developed "feel" for language that learners at this stage possess. Keeping these opinions in view, it is worthwhile to investigate further the role of translation at higher levels, rather than reject it outright.

**Translation in ESL Methodology**

Given the evidence regarding the facilitative role of translation or L1 transfer strategies, its incorporation into ESL curriculum is highly recommended as a part of strategy training programme. Since strategy instruction programmes are not so feasible in the Indian situation, owing to their tremendous financial and organizational demands, such strategy instruction would better be integrated with regular teaching materials.
Course materials may be designed to guide the teachers as well as the students regarding the use of these strategies, as for example in Ellis and Sinclair (1989). As argued before, while other strategies should be described explicitly in the course materials, the same cannot be done with L1 strategies. Thus, the materials themselves will have to be such as to elicit the use of L1 in reception and production tasks, leading to implicit instruction of the strategy. The different exercises employing translation described in Chapter IV, which include both grammar-based accuracy activities, as well as communication based fluency activities, can serve as models for these materials.

Titford, who is one of the strongest proponents of the use of L1 in L2/FL teaching advocates it as a consolidatory activity, to be taken up after the completion of the regular teaching activities. This is not the view adopted here, as L1 transfer is deemed to be a basic learning strategy in SLA, applicable to all processing of fresh input. The learners start processing L2 input in terms of their L1 knowledge, the moment they encounter it, and do not wait for a consolidatory stage of teaching, to take care of their L1-based linguistic or extra-linguistic knowledge. Hence, it is only commonsensical to incorporate L1 strategies from the beginning of the activities.
An important consideration regarding the employment of L1 strategies in L2 course materials concerns the proficiency level of the students. Since, research has demonstrated that the L1 strategies are specifically beneficial for lower or beginning level students, these strategies should prominently figure in the course materials for low proficiency students. They might be replaced by higher level strategies such as complex types of elaboration strategies, for higher level course materials.

Finally, since use of L1 and translation activities in L2 teaching has to be guarded and controlled, the decision to employ these strategies should appropriately be taken not by a single author of the course materials, but should depend on a consensus arrived at by many experts.

It is believed that a limited and controlled use of L1 strategies will greatly enhance the learning process of low-proficiency ESL students, chiefly those, who come from regional-medium schools and incessantly complain about incomprehension of classroom lectures delivered in English.

The status of the second language and consideration of learners' needs are in fact, two prime considerations in deciding about the relevance of L1 strategy instruction. In the bilingual society of India, where English serves the important role of a second language, and there is a greater need among the students to learn the accurate expressions in
reading and writing, rather than oral interaction in order to mingle with natives, the exploitation of the first language resources becomes all the more relevant.
REFERENCES


