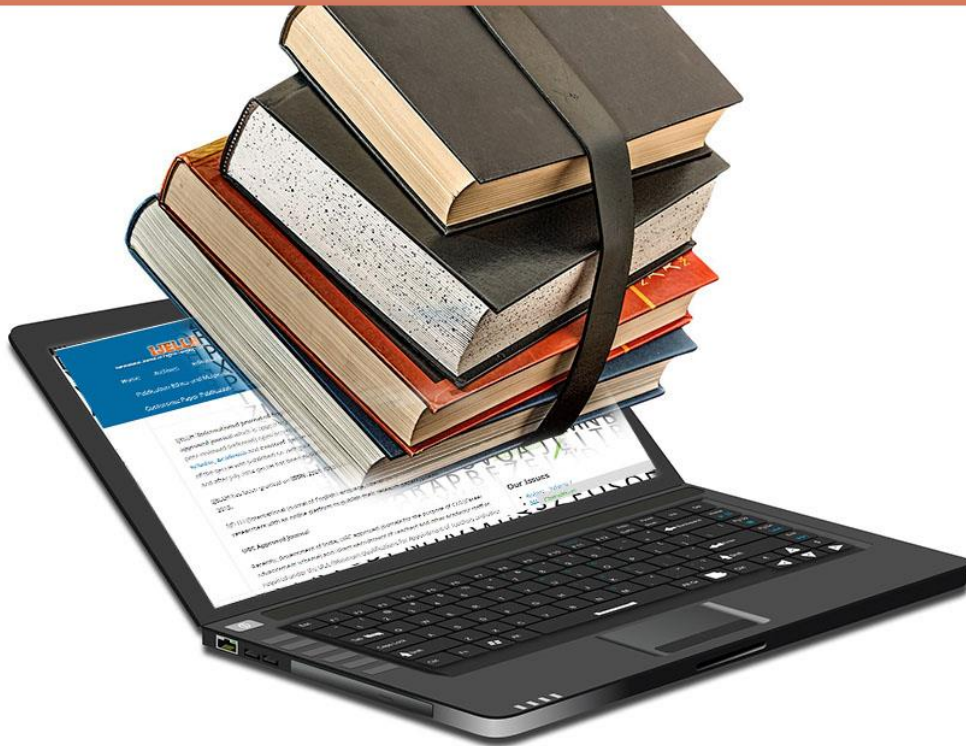


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Mr. Imandi Rajasekhar

Assistant Professor, Department of English,

GVP College of Engineering

Visakhapatnam, Andhra Pradesh, India

rajasekharimandi@gvpce.ac.in

## Language Learning Strategies Employed By Engineering Students

### While Reading and Writing In English – A Sill Based Study

#### Abstract

The present investigation is descriptive-interpretative in nature. The purpose of the study is to describe popular language learning strategies (LLS) as reported by Telugu ESL engineering students. Secondly to investigate the patterns of variations in frequency of students' reported strategy use with reference to gender, medium of instruction at school, school type, and learners' background (urban/rural), reading & writing proficiency and motivation. Thirdly to examine the relationships between frequency of students' reported strategy use and the four independent variables. Strategy Inventory for Language Learning (SILL version 7.0, Oxford 1989) is used as instrument to collect the frequency of strategy use reported by 492 Telugu ESL engineering students, ranging from overall strategy use to use of strategies at the individual level. Statistical methods such as independent sample t-tests, ANOVA, and Linear Regression analysis are used to help interpret the data. The paper also examined the relationships between frequency of students' reported use of strategies and reading and writing proficiency. The findings of the research show that Telugu ESL engineering students, overall, reported medium frequency of strategy use. The results of the data analysis also demonstrate that frequency of students' overall reported use of strategies is influenced significantly by factors like gender, background, reading & writing proficiency and motivation towards language learning and variables like medium of instruction at school, and school type, first language and age did not have much relationship to students' choices of strategy use.

Key Words: Strategy Inventory of Language Learning (SILL), Language learning Strategies(LLS), strategy use, t-tests, ANOVA

## 1. Introduction

There is a greater emphasis on learners and learning-centered classrooms in the field of education today. This is a significant shift from teachers and teacher-centered instruction. As a result of this approach, English Language Teachers acknowledged the importance of awareness and the use of Language Learning Strategies (LLSs) in second and foreign language (L2/FL) learning (Hismanoglu, 2000:1).

Language Learning Strategies are ‘operations employed by the learner to aid the acquisition, storage, retrieval, and use of information...; specific actions taken by the learners to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations’ (Oxford, 1990:8). LLSs are good indicators of how learners approach tasks or problems encountered during the process of language learning. The language learner capable of using a wide variety of language learning strategies appropriately can improve his/her language skills in a better way. The learner builds up learner independence and autonomy thereby taking control of his/her own learning (Fedderholdt, 1997:1). As Oxford (1990:1) puts it, “Learning strategies are steps taken by students to enhance their own learning. Strategies are especially important for language learning because they are tools for active, self-directed involvement, which is essential for developing communicative competence.” LLSs contribute to the development of the communicative competence of the students. Besides that, teachers who train students to use LLSs can help them become better language learners. Helping students understand good language learning strategies and training them to develop and use such good language learning strategies can be considered to be the appreciated characteristics of a good language teacher (Lessard-Clouston, 1997:3). At this point, it should

be strongly stressed that using the same good language learning strategies does not guarantee that bad learners will also become successful in language learning since other factors may also play role in success (Hismanoglu, 2000: 3-4).

LLSs are thus characteristic of a good language learner for many reasons. Firstly, LLSs are learner generated, i.e. they are steps taken by language learners. Secondly, LLSs enhance language learning and help develop language competence, as reflected in the learner's skill in listening, speaking, reading, or writing the target language. Thirdly, LLSs may be visible (behaviours, steps, techniques, etc) or unseen (thoughts, mental processes). Fourthly, LLSs involve information and memory which include vocabulary knowledge, grammar rules etc. (Lessard-Clouston, 1997: 2).

## 2. Research into Language Learning Strategies

One of the difficulties with researching language-learning strategies is that they cannot usually be observed directly; they can only be inferred from language learner behaviour. As Ellis (1986, p.14) rather colourfully puts it: "It is a bit like trying to work out the classification system of a library when the only evidence to go on consists of the few books you have been allowed to take out". Given the difficulties of such a task, the challenge has been to devise a means first of all to record and subsequently to interpret the phenomena involved, a process which Ellis (1986, p.188) likens to "stumbling blindfold round a room to find a hidden object". Over the years, different researchers have employed a variety of approaches to this rather daunting task, one of the most frequently used of which has been the gathering of data about good language learners and about what it is that they do that makes them more successful than slower language learners.

Joan Rubin's contribution (1981)

According to Rubin, language learning strategies affect the development of language system

by the learner directly. Based on self-respect, Rubin proposed LLS which are as follows:

1. Classification
2. Monitoring
3. Memorizing
4. Guessing inductive inference
5. Deductive reasoning looks for and uses general rules
6. Practice

Rubin (1981) classified/divided the strategies into two categories, Direct/Indirect Strategies.

Direct Strategies: - clarification/verification, guessing/inductive inferencing, deductive reasoning.

O Mally Chamot, Stewner, Manzares – Kupper and Russo studied the use of 26 strategies by learners of English as an L2 these strategies which fall into major categories which are as follows:

1. Meta Cognitive Strategies: refer to strategies of planning, thinking, monitoring, selfevaluation, regarding learning and the process of learning.

2. Cognitive Strategies: refer to strategies of direct manipulations demanded by the tasks.

Indirect Strategies: - monitoring, memorizing practice.

3. Socio-affective Strategies: -It refers to strategies of mediating and cooperating with other in order to learn a language.

For ‘O’ Malley and Chamot (1982), language learning strategies consist of both Learning Strategies to solve problems in language learning by the learner.

Learning Strategies: - that have been taught explicitly as part of L1 or L2. These strategies may not suit the learners learning styles.

ELLIS (1986) A prominent researcher in the field of second language acquisition, discussed strategies and their classification in his book “Understanding Second Language Acquisition”.

He classifies strategies into three types. They are discussed as follows.

1. Production Strategies:- used to produce language by using one’s own linguistic ability.
2. Communication Strategies:- deal with problems while communication
3. Learning Strategies:- employed to develop linguistic as well as sociolinguistic competence in the target language.

Rebecca L Oxford (1989): One of the great researchers in the field of SLLs. She has been studying strategies and contributing greatly to identify and examine strategies in terms of teach ability and learn ability. She regards strategies vital in SLLS because the strategies make the learning easier, faster, personal, self-directed, transferable and teachable.

She classified the strategies into two main categories of direct & indirect language learning strategies. It shows the interrelationships between direct and indirect strategies and the six strategy groups.

### 3. Direct strategies

These strategies involve the following aspects a) memory b) cognitive and c) compensation. Mnemonic devices are crucial in enabling the readers to acquire a richer vocabulary more easily. It might involve, creating mental linkages among words, concepts, applying & review of these words, concepts and interconnection between them. Cognitive strategies involve a more thorough understanding, through visualization and embedding in present life experiences. Compensation subsumes such devices as guessers and circumlocutions where linguistic ability is absent.

#### 4. Indirect Strategies:-

These strategies deal with the following aspects 1) Meta-cognitive 2) Affective and 3) Social. Meta cognitive strategies involve, understanding the cognitive process itself enabling the learners to recognize those styles and strategies that make for better language learning. Affective strategies are concerned with the emotions and feelings of the learners. Finally, social strategies aid in sociolinguistic competence.

#### 5. Variables affecting language-learning strategies

Many factors influence students using language-learning strategies: age, sex, attitude, motivation, aptitude, learning stage, task requirements, teacher expectation, learning styles, individual differences, motivation, cultural differences, beliefs about language learning, and language proficiency (Rubin, 1975 Bialystok, 1979; Abraham & Vann, 1987, 1990; Oxford, 1989; Oxford & Nyikos 1989; Chamot & Kupper 1989; Ehrman and Oxford, 1995). As the aim of investigating language learning strategies is to produce more effective learning, it has to focus on research into the relationship between using language learning strategies and language learning results. Below will be presented a review of several main research based on language proficiency.

Ehrman and Oxford (1995) found that only cognitive strategies had a significant relationship with language proficiency in the SILL category. Other strategies, (memory, compensation, metacognitive, affective, and social strategies) had no significant relationship with proficiency. On the other hand, only cognitive strategies significantly influenced ESL/EFL learners' proficiency outcomes. To conclude, it is clear that there are significant relationships between language learning strategies and language proficiency. In other words, language learners who use

language learning strategies more than others generally achieve greater language proficiency, and research into L2 learning demonstrated that good language learners used strategies more frequently and appropriately to enhance their target language learning. Therefore, in order to help language students to learn the target language more successfully, and effectively, the relationship between the employment of language learning strategies and language proficiency should be further explored on a worldwide scale. As mentioned in this section, research into language learning strategies has found that more proficient language learners use learning strategies more frequently and more different types of strategies than less proficient language learners and are better able to choose strategies appropriate to the task. Thus, the types of language learning strategies used by different learners vary according to many variables.

#### 6. Sample Selection for the SILL based study:

The participants in this study were the fifth semester undergraduate students of Gayatri Vidya Parishad (GVP) College of Engineering (A), Affiliated to JNTUK, Andhra Pradesh. In the initial study, 492 students participated in the general survey. Sixty percent of total population had more than 10 years of English learning experience at the time of the experiment. All of them have attended a course in reading and writing skills in the first semester. The average age of the participants was 20years. Students in GVP institution hail from urban and rural locations, hence this criterion is included in the study.

It is a diagnostic study upon a representative sample of N=492 students of GVP Institution to examine the strategy patterns used by more successful learners. Strategy Inventory of Language Learning (SILL) based on the work of Oxford (1990) is used to collect data in order to examine the patterns in strategy use by Engineering Undergraduates all of them have taken a three credit theory course in 'English reading and writing skills (Course code: 15HE1101)' and it is supplemented with a two credit course of English Language Lab (Course



code: 15HE1102) in the first year. Again in the third year they need to attend a two credit course in 'Technical English and Soft Skills Lab (Course code; 15HE1103).

Table: Distribution of participants according to learner variables:

Participants		Background		Total (492)
		Urban	Rural	
Gender	Male	143	128	271
	Female	137	84	221
Medium of Instruction	0-5 yrs	24	23	47
	6-10 yrs	88	58	146
	10 yrs above	168	131	299
First language	Telugu	268	190	458
	Other	12	22	34
School Type	Government	122	49	171
	Private	158	163	321

#### Strategy Inventory for Language Learning (SILL) Version 7.0 (ESL/EFL)

The greatest numbers of descriptive studies have utilized a questionnaire developed by Oxford (1990), the Strategy Inventory for Language Learning (SILL). This instrument has been used extensively to collect data on large numbers of language learners (Cohen, Weaver and Li, 1998; Griffiths, 2003a; Nyikos and Oxford, 1993; Olivares-Cuhat, 2002; Oxford, 1990; Oxford

and Burry-Stock, 1995; Wharton, 2000). The SILL is a standardized measure with versions for students of a variety of languages, and as such can be used to collect and analyze information about large numbers of language learners. It has also been used in studies that correlate strategy use with variables such as learning styles, age, gender, proficiency level, and culture (Bedell and Oxford, 1996; Bruen, 2001; Green and Oxford, 1995; Griffiths, 2003; Nyikos and Oxford, 1993; Oxford and Burry-Stock, 1995; Wharton, 2000).

The SILL is a structured survey (Oxford, 1990), which according to Oxford and Nyikos (1989) the strategies which are included in SILL are gathered from extensive literature review. In addition, Oxford claims in general, SILL reliabilities have been high, and the reliability remains “very acceptable” (Oxford & Bury-Stock, 1995, p.6). Moreover, Green and Oxford (1995) remark that reliability using cronbach alpha ranging from .93 to .95 depending whether the survey is taken in learners’ own language or in target language. The SILL has been used in various studies to show how much strategy use correlate with various variables such as gender, learning style, proficiency level, task, and culture (Bedell& Oxford, 1996; Bruen, 2001; Green &Oxford, 1995; Oxford, Cho, Leung & Kim, 2004; Nyikos& Oxford, 1993; Oxford & Burry-Stock, 1995; Wharton, 2000). In addition, Chamot (2005) claims that SILL is a standard measure, and point that is more important, the most descriptive studies are based on the Oxford’s SILL. In this way, SILL allows easy comparison with other studies and helps the researchers to conclude their studies’ results in comparison with the results which were found by the other related studies in the literature. Such results can support each other in the way to that it is useful and helpful for suggestion of pedagogical implications.

In the present study, some modifications were made to the SILL questionnaire. This was necessary because in the original version there were certain strategy items which were either unusual for the Telugu ESL learners of undergraduate level or specifically unrelated to reading and writing skill. Therefore, some strategy items were removed, modified or added for

the purposes of the present study. The final version of the questionnaire contained 46 strategy items.

#### 7. Planning the content of the Questionnaire

The items to be included in the questionnaire were selected using the researcher's experience as a teacher at the same level and in the same setting for a number of years and using the information gathered from a focus group interview with a sample similar to the true sample of this research. The items were then fine-tuned using the comments from experts in the field of language education and using the knowledge gained through literature review (e.g. Dornyei, 2003; Oxford, 1990; Tseng et al., 2006). For example, ambiguous or loaded words and sentences, double-barreled statements were removed (Dornyei, 2003).

The data from the respondents were analyzed and some items that were found to be irrelevant were removed. The items with which respondents had problems of interpretation were re-worded and two items were added using the responses. The SILL form was digitized and the layout was made more user friendly using the comments of the respondents and those of the English teachers in the department. The final version of the questionnaire consisted two parts Part 1 had 12 items to collect background information and Part 2 had 6 sections of A,B,C,D,E and F containing 46 items on strategy use.

#### 8. Modifications to SILL Questionnaire:

- The strategy items 5, 6, 7, 20, 23, and 52 were removed, as they did not appear relevant for the Telugu ESL learners.
- The strategy items 1 and 8 were modified, as students in the pilot study do not understand the original statements in SILL.

- On the other hand, strategy items 10, 11, 12, 14, 18, and 24 were modified to fit into the context of the present study and further to avoid any confusion and ease their understanding of the strategy item in the questionnaire. It is observed during the pilot study that students expressed their inability to interpret meaning of the above strategy items in the questionnaire. Item 10 was rephrased as “I use new words I have learned while speaking and writing in everyday English.”, item 11 as “I try to imitate good English speakers.”, item 12 was rephrased as “I practice the pronunciation of English while listening to native speakers on you tube”, item 14 was rephrased as “I generally start conversations in English with others”, item 18 was rephrased as “I first glance over an English passage (read it quickly) then I go back and read some parts keenly.” and item 24 was rephrased as “I try to translate when I don't understand what I read”.
- Items 22 and 23 were added to the questionnaire because they were important cognitive strategies for reading and writing skills.
- The researcher used Google Forms to digitize the questionnaire and link the responses to smart excel sheet so that no human mistake is made while handling the quantitative data. The researcher used his blog ([www.englishbtech.blogspot.in](http://www.englishbtech.blogspot.in)) to share the survey link and all the participants of the study could access the link via their smart phones. This was done in order to make it convenient for the participants to respond to the strategy items.
- The response options consisted of a Likert type five point scale indicating different degrees of strategy use, with ‘Always True of me’ the one end and ‘Never true of me’ at the other. The intervening points were unlabeled. The respondents were asked to tick the relevant box for each item. The points on the scale were subsequently assigned numbers from 1 to 5 (e.g., Never true of me = 1, Always True of me = 5).
- Later this five point scale was coded as per SILL version 7.0

High	5. Always or almost always used.	4.5 to 5.0
	4. Usually used.	3.5 to 4.4
Medium	3. Sometimes used.	2.5 to 3.4
	2. Generally not used.	1.5 to 2.4
Low	1. Never or almost never used.	1.0 to 1.4

## 9. Research Questions

The present investigation attempts to describe the language learning strategies employed by engineering students learning English at the tertiary level in Andhra Pradesh. In order to establish some empirical data on the context of language learning of engineering students in Andhra Pradesh, the present investigation is designed to answer the following specific questions:

1. What are the types of language learning strategies reported to be employed by engineering students learning English at the tertiary level in Andhra Pradesh? What is the utilization of language learning strategies as reported by these students?
2. Do students' choices of language learning strategies vary significantly according to the age, gender, medium of instruction, reading and writing proficiency, motivation, Background (urban/rural) and the type of school they belong to? If they do, what are the main patterns of variation?
3. What are the implications of these research findings for the teaching and learning of English for engineering students in Andhra Pradesh?

## Summary of the Findings

### Analysis of background data of participants :

- Out of 492 participants, Male participants are 271 with 55.1% and female participants are 221 with 44.9%.

- Out of 492 participants, urban participants are 232 with 47.2% and rural participants are 260 with 52.8%.
- Out of 492 participants, Telugu speaking participants are 458 with 93.1% and others are 34 with 6.9%.
- Out of 492 students who studied in private schools are 321 with 65.2% and students from Government school are 171 with 34.8%.
- Majority of learners i.e. 64.4% reported medium level reading proficiency and 55.5% writing proficiency
- Only 7.5% of participants admitted that they are good at both reading and writing, while 5.1% are good at reading and 2.6% are at good writing. Majority of the participants 59.3% are good at listening and speaking.

#### Discussion of Research Question 1:

- The statistical analysis of SILL revealed that social strategies were the most frequently used LLSs with Mean value  $M = 3.31$  a medium level strategy Use and Memory strategies were the least frequently used LLSs with Mean value  $M = 2.91$ .
- Overall 71.5% participants are at medium level strategy use, 18.1% reported High strategy Use and only 10.4% are Low strategy users according SILL Version 7.0 (ESL/EFL) assessment criteria defined by R. Oxford. (1989)
- On memory strategies 104 (21%) reported High strategy use, 306 participants (62.2%) Medium strategy use and 82 learners (16.7%) are Low strategy users.
- On cognitive strategies 104 (21%) reported High strategy use, 334 participants (67.9%) Medium strategy use and 54 learners (11%) are Low strategy users.
- On compensation strategies 115 (23.4%) reported High strategy use, 320 participants (65%) Medium strategy use and 57 learners (11.6%) are Low strategy users.

- On meta-cognitive strategies 145 (29.5%) reported High strategy use, 315 participants (64%) Medium strategy use and 32 learners (6.5%) are Low strategy users.
- On affective strategies 120 (24.4%) reported High strategy use, 305 participants (62%) Medium strategy use and 67 learners (13.6%) are Low strategy users.
- On social strategies 159 (32.3%) reported High strategy use, 288 participants (58.5%) Medium strategy use and 45 learners (9.1%) are Low strategy users.

#### Discussion of Research Question 2:

- Gender and School Background has a statistical significance ( $p=.000$ ,  $p<.05$ ) this indicates that these independent variables are influencing the learners' strategy use of both direct and indirect strategies.
- Age group belonging to 18 & 19 Year participants have demonstrated better strategy Use (Mean =3.3524) than that of others.
- Female participants have a higher mean of  $M=3.3618$  than that of male participants  $M=2.9273$ . Hence we can say that Girl students are better strategy users overall.
- Participants from Urban background have shown better strategy Use with  $M=3.28$  than the participants from Rural background with  $M=2.97$ . So we can conclude that learners' background has significant effect on the strategy Use of learners.
- Self reported proficiency and reading and writing achievement test scores are mutually significant ( $p=.000$ ,  $p<.05$ ) with that of participants' overall strategy use.
- Participants who reported higher proficiency level demonstrated High strategy use of reading achievement  $M=3.51$  and Writing achievement  $M=3.46$  as per Oxford Scale of SILL. The more proficient learners have used more strategies than that of learners with low proficiency.
- Motivation to learn language has a statistical significance with Strategy Use of participants.

- Motivated Learners have better mean score for overall strategy use than that of not so motivated learners towards learning English. Hence the statistical data P value ( $p=.000$ ,  $p<.05$ ) indicated motivation influences learners' strategy use.
- The findings of both quantitative and qualitative analysis revealed that Learner Strategy Training was characterized by capable of facilitating the overall use of LLSs.

#### Discussion of Research Question 3:

The teachers are expected to prepare learners to face the challenges of the world today where knowledge and proficiency in English is an unavoidable requirement. In this modern world of information explosion, it is practically not possible to provide the learners complete knowledge of everything they learn. It is rather necessary to equip learners with the abilities, which can help them acquire the required knowledge independently without a teacher's assistance. This autonomy in learning can be attained only if learners are aware of learning strategies and apply them properly in learning. Language Learning Strategies (LLSs) are one of the most important learning tools that help learners equip with the knowledge of the process of learning.

Strategies are transferable and therefore strategies learnt in any subject can be transferred to learning of English. The curriculum planners and policy makers should integrate strategies-based instruction in the educational system from early stages of learning. The textbooks should provide scope, opportunity and necessary information for providing exclusive and integrated strategies instruction in the schools and colleges. Steps need to be taken for training teachers to carry out strategies based instruction.



## 10. Conclusion

The result of the investigation reported positive impact of the LLSs instruction on awareness raising and language skill development. This was a preliminary effort in the Telugu ESL context. An effort was made to inquire some unknown facts. However, many areas still remain untouched. Further studies of similar kind are expected so that more knowledge can be attained to improve the ESL pedagogy of Andhra Pradesh.

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