Abstract

Classroom experiments are activities where any number of students work in groups on carefully designed guided inquiry questions. Materials provide students with the means of collecting data through interaction with typical laboratory materials, data simulation tools or a classroom environment, with a series of questions and discussions that lead to discovery-based learning. This study involved an experiment for development of English language for the first year Engineering students at Visakhapatanam, India on a sample of 108 students out of 120 students of section - A & Section-B.
This Classroom experiment differed from classroom demonstration because the students were involved in participation. However, just as in an interactive class room demo, students involved in the classroom experiment were be asked to make predictions and to reflect upon their observations (Brown, H. D. (1990). It involved collecting observations or observing actions to try to answer a question or solve a problem. However, there were research and teaching experiments. Classroom experiments did this as part of a class to help students learn more about the material they were studying. In this case, the hypothesis to be tested was derived from material contained in textbooks or other course materials. The experiment involved both control and treatment groups in order to facilitate comparison. In the classroom, an observational experiment where students "see what happens" was also used when they were in discussions and presentations. The experiment involved comparison of LSRW system with a newly proposed system of L.O.U.D.E.R (Listening, Observing, Understanding, Discussing, Experiencing, Reviewing). When results of the experiment were collated it was found that the students opted for the new system. However large scale studies are recommended to institutionalize the proposed system.


**Introduction**

Students learn a new language quicker and easily than others in many cases. This fact is known by all who have themselves learned a second language or taught those who are using their second language in school. Some language learners are successful by virtue of their sheer determination, hard work and persistence. Yet there are other crucial factors influencing success that are largely beyond the control of the learner. Such factors can be broadly categorized as internal and external. It is their complex interplay that determines the speed and facility with which the new language is learnt (Alatis (Ed.).

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Then, about teachers, some language teachers are better than others at providing appropriate and effective learning experiences for the students in their classrooms. These students do make faster progress. The same applies to mainstream teachers in second language situations. The science teacher, for example, who is aware that he/she is responsible for the students' English language development, and makes certain accommodations, will contribute to their linguistic development.

Students who are given continuing, appropriate encouragement to learn by their teachers and parents will generally fare better than those who aren't. Students from families that place little importance on language learning are likely to progress less quickly (Brown, H. D. 1993).

Thus this study investigated the factors working behind the effective or ineffective learning of English language by the 1st year students of engineering at Indo-American Institutions Vizag-India, and to work out a viable new strategy for enhancing learning of English.

Objectives

1. To identify the factors behind learning of English language by the B.Tech students
2. To develop a strategy for effective learning of English (i.e. to see if LSRW model needs updating / recasting)
3. To work out a new model in place of LSRW to suit the new age students.

Methodology

Classroom Experiments in two stages:

1. Student groups given questionnaire to identify factors behind effective / ineffective learning
2. Student groups to respond to questions on LSRW and a new model to replace LSRW
Hypotheses

1. There exists a significant correlation between some specific underlying factors and effectiveness of learning English language

2. The said factors can be woven into a new model which could replace the traditional LSRW model.

Literature Review

Traditionally, engineering schools have relied heavily on extrinsically motivated behavior (Brown, 1994). Standardized tests, exams which have been given high value, are often used to drive student performance. In most countries that teach English as a foreign language, school-level instruction does not emphasize the function of English as a tool for communication (Bern’s, 1990) but instead focuses on knowledge of grammatical forms and structures that are often assessed on exams. As a consequence, students work hard to try to pass the exam in order to please teachers and parents rather than develop an internal thirst for knowledge and experience. It is not surprising that students often lose interest in English learning as a result. Even after years of study, few foreign language learners are competent to communicate freely with native speakers. It is incumbent upon EFL teachers to provide students with authentic, functional, interactive, and constructive language learning environments to reduce students' anxiety, raise their motivation, and increase their confidence.

Second language acquisition (SLA) researchers and education experts have pointed out that individual differences such as learners' affective domain, learners' motivational orientations (Brown, 1994; Pintrich & De Groot, 1990), and instructional strategies (Brown, 1993; Keller & Suzuki, 1988) perform significant roles in language teaching and learning. Recently, communicative language teaching (CLT) researchers have suggested that communicative approaches are needed in language teaching and learning (Angelis & Henderson, 1989; Bern’s,
Among pedagogical techniques that can help accomplish the ultimate goal of communicative language teaching, Brown (1993) has suggested the utilization of technology such as films, videos, and computers. Computer-based interactive multimedia (CBIM) is an instructional approach that integrates computer-assisted instruction and interactive multimedia which can help students develop the various competencies mobilized in communication (Chenier, 1996). Several research projects have been reviewed as part of this work (Chanier, T. (1996).

Following are the Abstracts of selected Research Projects Reviewed for This Study:


Method instruction plays an important role in the teaching of language. It is a planned and systematic effort of the teacher for establishing sequence in the various parts of the teaching. The direct method, as its name suggests, is teaching the foreign language without the interference of mother tongue. It is also called "natural method" because the students learn the foreign language in the same way as they learn their mother tongue. In this method, not the word but the sentence is the unit of the grammar, while the traditional method aims at teaching English by word-by-word translation in mother tongue. The child begins to develop his vocabulary from a single word. The Solomon four-group design was used for the treatment of the data. The students of Federal Government boy's secondary schools of Islamabad were the population of the study in this design:

To achieve the objectives of the study, null hypotheses were formulated and tested. Obtained data was analyzed, interpreted and concluded that direct teaching method was more effective as a teaching-learning technique for English as compared to traditional teaching method. Students in the direct teaching method outscored than students working in traditional learning situation. Low achievers in the direct teaching showed significant superiority over low achievers learning English by the traditional method. Thus direct teaching was found to be more effective method for teaching English to the low achievers as compared to traditional method of teaching. High

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achievers, whether they were taught English by direct method or traditional method, retained learnt material at the same rate. Low achievers taught English by direct method retained more material as compared to low achievers taught by traditional method of teaching. Therefore the direct teaching method seemed to be the more effective teaching learning technique for low achievers.

2. M. Chang (2005) Purdue University

This experimental study investigated effects of intrinsic motivation and embedded relevance enhancement within a computer-based interactive multimedia (CBIM) lesson for the learners of English as a foreign language (EFL). Subjects, categorized as having a higher or lower level of intrinsic motivation, were randomly assigned to learn concepts related to criticism using a CBIM program featuring English language text, videos, and exercises either with or without enhanced relevance components. Two dependent variables, comprehension, as measured by a post-test, and perceptions of motivation, as measured by the Modified Instructional Material Motivation Survey (MIMMS), were assessed after students completed the CBIM program. Two-way ANOVA was used to analyze the collected data. The findings indicated that (a) the use of relevance enhancement strategies facilitated students' language learning regardless of learners' level of intrinsic motivation; (b) more highly intrinsically motivated students performed better regardless of the specific treatments they received; (c) the effects of the two variables were additive; intrinsically motivated students who learned from the program with embedded instructional strategies performed the best overall, and (d) there was no significant interaction between the two variables.


Elementary students were provided a structured opportunity for natural language practice with their fluent peers. Limited effect on language proficiency was found. However, the discussion emphasizes the importance of using fluent students’ language input, an often ignored resource, in designing ESL programs.

Learners’ individual differences in learning English as a foreign language with large mixed ability classes need great attention in increasing their communicative language skills. One of the Learners’ differences is learning strategies. Learning strategy has a great role to promote students’ autonomy. It is one of the frontliners in developing communicative skills of English. Understanding students’ learning strategies becomes a strategic and important issue to gain brilliant ideas to design classroom activities and then, to promote students’ autonomy.

The study conducted with students in two senior high schools, SMA Negeri 15 and SMA Negeri 16 Makassar South Sulawesi Province, Indonesia found that students only used meta-cognitive strategies at a high frequency, and memory, cognitive, compensation, affective, and social strategies at a medium frequency. In meta-cognitive strategies, students have several degrees of autonomy promotion by independently organizing and evaluating their learning progress, although other five learning strategies need intensively great efforts to support their autonomy. Further implications of the study in English foreign language teaching and learning in the context of implementing school-based curriculum in Indonesia are also discussed.

5. Anna Gevorgyan & Siva Kumar (2010): Differentiated Instruction in an Armenian EFL Setting

The purpose of this study is to explore, reveal and identify as well as highlight the extent to which a differentiated instruction can boost students’ progress and meet their interests, language aptitude, learning styles, strengths and weaknesses in learning English. The present study aims at investigating the adult classroom setting in Armenia with respect to implementing differentiated instruction on a regular basis. The data were collected by means of a classroom study as an experimental process where the teacher was granted the opportunity of developing a curriculum with insights into differentiated instruction along with conducting continuous assessment as a major part of it.

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6. Marina Badalayan (2009): Task-Based Learning and Students’ Motivation in the Armenian Classroom Setting

This study was intended to explore and answer the following question: To what extent does task-based teaching/learning (TBT) motivate students and lead them to successful learning? It also intends to investigate whether the effectiveness of task completion, i.e. the outcome, depends on the fact that students carry out the tasks individually versus in groups or pairs. The data was collected through conducting various task types like information gap, reasoning gap, problem solving activities, as well as questionnaires, interviews with the students and teachers, and the field notes taken by the investigator. All these tasks were carried out in groups, pairs, individually or in whole class discussions. The experiment lasted for three weeks (seven classes). The participants of the study were students of two same level classes, and the teachers. The researcher divided students into pairs or groups and switched the turns during each lesson. The students filled out the closed-ended task questionnaires at the end of each lesson in order to find out the relevance and appropriateness of the tasks. At the end of the study the students and the teachers were asked to fill out an open-ended questionnaire intended to measure the overall effectiveness of the task-based teaching approach and to examine which ways of class organization were more successful in promoting and developing student performance. The results of the analysis indicate that a task-based approach to EFL might offer numerous benefits to the Armenian EFL learners. The findings of the study might help Armenian teachers to provide the learners with a variety of learning tasks and instructions that would give an opportunity to involve learners in a communicative, creative and cognitive way of learning.


The research was conducted at the Intensive English Program (IEP) of the Department of English Programs (DEP) at the American University of Armenia (AUA). The DEP is the only English department in Armenia that operates an English language Learning Resource Center (LRC). For effective language learning and teaching, learner needs, preferences and perceptions should be
given due attention. Using a combination of quantitative and qualitative research methods, the current study attempts to investigate the IEP student perception of the usefulness of the LRC resources, which LRC resources they used, and the extent of peer or tutor influence on the selection of the LRC resources and activities. In addition, it investigates the students’ perceptions of autonomous learning, their learning preferences, the students’ need for an LRC instructor and their perceptions of the role of the LRC in the improvement of their language skills. Findings strongly indicate a highly positive attitude towards learning autonomously and that the use of the LRC helps the learners become more autonomous in foreign language learning. This research has revealed that many learners have been able to benefit from the LRC, and it is worthwhile to offer the LRC as one of the alternatives in many possible ways of learning a foreign language.

8. Rubina and Nellie (2010): Student Self-Assessment and Strategy Use as a Means of Promoting Student's Autonomous Learning

This paper investigates the extent to which student self-assessment and learning strategy use may promote autonomous learning. For this purpose, the student self-assessment and language learning strategy use are investigated by means of a self-assessment questionnaire. The research was conducted in the Intensive English Program of the Department of English Programs at the American University of Armenia. Sixty-eight students participated in the study. The answers to the questions in the self-assessment questionnaire are compared with the answers to a guided letter writing task which was used to investigate the students’ readiness for autonomous learning. The validity of the student self-assessment is established through determining the relationships between the student self-assessments on the one hand and the exit TOEFL and the midterm test on the other hand. The study shows that self-assessment and learning strategy use have an impact on the students’ understanding of the concept of autonomous learning. Further research may provide more conclusive evidence.

9. Marine Arakelyan (2009): Motivation as One of the Contributing Personality Factors to Success in the FL Classroom

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This paper confirms that teachers are mostly interested in a particular kind of motivation – student motivation to learn. If any teacher is asked to identify the most powerful influence on learning, motivation would be the most widely-used term. Many of us believe that learning occurs when we want to learn. However, the concept of motivation has passed through a number of different interpretations and the term is used in different ways, by different people. The aim of this thesis was to investigate how teachers and students perceive the concept of “motivation” in Armenia as well as how to motivate and what motivates students to achieve success in foreign language learning. It also indicates that teacher and student motivation changes overtime and thereby necessitating a well-informed focus on what is the dominant type of motivation that triggers students to learn English in the Armenian setting. Specifically, the research focused on the type of motivation used in the Armenian setting, its change overtime and learners’ achieved success in learning English.

**Primary Data Analysis and Conclusions**

This study was undertaken in the Visakhapatnam district of Andhra Pradesh from April to October, 2011, to identify the issues involved in the learning of English language in India with special reference to engineering students and to suggest strategies to overcome the difficulties faced (Chanier, T. 1996). Thus, the objective of the pilot study was to identify special pointers associated with the learning of English by Engineering students unlike in the case of other groups of students such as those pursuing the study of medicine, management or arts. Secondary data suggested that there would be issues specific to Engineering students, particularly the link between English and other engineering subjects.

**Pilot Study:**

This study involved class room experimentation in two stages:

**Stage 1:** Students divided into smaller groups of 8 each (groups of only boys; groups of only girls; groups of boys and girls), and then a series of classes were conducted on ‘English learning Language in India’.
Techniques’, by the same teacher, the same students, and the same class room under standard conditions.

Stage 2: A questionnaire was designed and administered to the groups of students individually and group-wise to measure the issues involved in the learning of English and associated factors.

The study brings out 10 basic factors which the policy makers can use in learning English language in the Engineering colleges. The factors identified were as under:

1. Confidence within
2. Financial hurdles
3. Parental upbringing
4. Peer groups’ cooperation
5. Teachers giving special attention
6. Self-motivation
7. Developmental opportunities through English
8. English as the bridge for developing knowledge in all other subjects
9. English as the bridge for integrating with better students
10. Governmental intervention

Primary data analysis shows that overcoming the problems would involve managing learning via the effective management of the above 10 factors.

Q1. Please rank the following parameters on 1 to 10 scale in the order of importance (10 being the most important) about learning the English Language.

   1. Confidence within [6]
   2. Financial hurdles [1]
   4. Peer groups, Co-operation [5]
   5. Teachers giving special attention [2]
7. Development opportunities through English [10]
8. English as the bridge for developing of all other subjects [8]
9. English as the bridge for integrating with better students [9]
10. Governmental Intervention [7]

**Interpretation:** Most of the students (70%) have rated “development opportunities & as bridge with other subjects / students” as the parameters regarding learning English, followed the “Governmental interventions”. The ranking is shown in the above table which is indicative of the factor responsible for poorer or better leaning of English. This is indicative of collaborative learning (Chung, J. 1991).

Q2. How do you overcome the hurdle of confidence within?

a. Personal effort
b. Parents
c. Teachers
d. Friends

**Interpretation:** Confidence can be built through various factors which are not common across student population. Each individual seems to have his / her own reasons. However, personal effort is the factor which can help to overcome all other problems. “manasu vunte maargamu vuntundi” (Telugu language traditional saying), i.e., Where there is a will, there is a way.

Q3. How do you overcome the hurdle of finance?

a. Parental income
b. Part time jobs
c. Loans
**Interpretation:** Finance has been reported to be a very minor problem in learning English. Books, periodicals, etc., are available and Internet is virtually free. Student needs to have keen interest and read the materials, interact, ask, discuss, review and recap the subject for effective learning.

Q4. How do you overcome the short comings in parental upbringing?

   d. Mentors  
   e. Peer groups  
   f. Self effort  
   g. Teachers  
   h. Scholarship

**Interpretation:** Parental upbringing is a problem but this can be overcome through Self effort, Peer groups and teachers fall into the same order. It is not necessary for children of well educated parents to be concerned about knowing or learning good English. In many cases children of uneducated parents do show wonderful performance while learning the English language. Therefore self-effort stands as the most important factor.

Q5. How do you overcome the peer group non-cooperation?

   a. Counseling  
   b. Parental involvement  
   c. Significant others (Those whom they see as role models)  
   d. Fostering friendship

**Interpretation:** Peer group non-cooperation is a temporary phenomenon and depends on certain situations. Significant others (C) others was rated as the most important factor by 60% of the respondents. Hence parental involvement to resolve peer group non-cooperation should be avoided and fostering friendship should be focused upon for better learning of English.
Q6. How do you overcome the hurdle of teachers not giving special attention?

   a. Mentoring the teachers
   b. Teacher training programme
   c. Student group pressure
   d. Parent group pressure

**Interpretation:** Training the teachers on better methods of reaching the students, especially the slow learners should be helped in overcoming the problem of special attention. Any act of pressure will only yield negative results. Students look for learning opportunity in great teachers and weaknesses in teachers will spoil students learning. Hence attention should be on the quality of teachers.

Q7. How do you overcome lack of self motivation?

   a. Goal setting
   b. Mentors
   c. Needs and wants
   d. Recognition/Rewards

**Interpretation:** Self-motivation is specific to situations and specific to students. A combination of a, b, c, and d factors will be at work. Mentors can help in goal setting and recognition of students’ needs and wants. Recognition and Rewards boost the learning motivation, as felt by almost all the respondents.

Q8. How do you develop better opportunities through better English?

   a. Better English makes better Engineers
   b. Better English makes better teams
   c. Better English makes better knowledge of engineering subjects
   d. Better English and soft skills make better hard skills.

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Interpretation: Respondents have rated all the factors a, b, c, and d equally important. Better English seems to create all round betterment from education to employment and beyond. Particularly in SW industry, better English develops better personality. Better personality develops better jobs, better careers.

Q9. How do you make English a bridge for developing other subjects?

   a. English helps in better reading and understanding
   b. English helps in better reports
   c. English helps in better presentations
   d. English helps in making a complete personality

Interpretation: Respondents have rated all the factors a, b, c, and d equally important. Better English helps in understanding technical subjects better. In first semester students who scored badly, were able to do better in the next examination after improving their English by self effort, with the help of teachers, as reported by over 65% of respondents.

Q10. How do you use English as a bridge for integrating with better students?

   a. Buddy system
   b. Peer groups
   c. Ethnic factors
   d. Personality factors or class/campus environment?

Interpretation: Students felt that good English knowledge helps developing friendship with better students through buddy system, where one better student is coupled with one slow learner. For this, personality factors and ethnic factors can go a long way in building teams. In all these cases English helps as the major link.

Q11. How the Government can improve English language skills of students?

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a. Special attention for special students
b. Special attention for English learning and teaching
c. Special budgets for English learning and teaching
d. Special Institutions for English teaching and learning Example: EFLU

**Interpretation:** Government can help students learn the English language by all the steps indicated in a, b, c, and d, starting with special students and slow learners; and by giving student groups new institutions with specific ways of imparting education.

Q12. Your suggestions for your own language skill developed…

Students give up learning English when they find it getting tough. That time someone should help them, a mentor, a teacher, a friend or anyone who is acceptable to the student. In the final analysis, self help is the best help.

**Final Study**

In the next phase, experimental data was again collected through a structured questionnaire administered to the students in the class to see how the aforesaid bottlenecks could be overcome as felt by them.

Q1. What are the defects of LSRW?

1. LSRW system doesn’t emulate natural learning experiences.
2. LSRW system focuses on classroom more.
3. LSRW system kills initiative of the learner.
4. LSRW system is more prescriptive than open.

Q2. What are the improvements you suggest in LSRW?
1. LSRW has no ‘OBSERVATION’ which is the essential part of learning, i.e. the first lesson in learning.
2. LSRW doesn’t focus on understanding, the second lesson in learning.
3. LSRW doesn’t focus on discussing the third lesson in learning.
4. LSRW doesn’t focus on experiencing the fourth lesson in learning.
5. Finally LSRW doesn’t focus on reviewing in the final stage of learning.

Q3. Do you agree for ‘L.O.U.D.E.R’ (Listening, Observing, Understanding, Determining, Experience and Reviewing as a better mechanism than LSRW?)

1. Yes (80%)
2. No (10%)
3. Cannot say (10%)

Q4. How to implement the system of LOUDER?

1. Government must create English Volunteers for pre-school level.
2. NGOs must create new initiatives.
3. The family unit must create English Learning like learning of mother tongue.
4. All

Q5. What are your final recommendations?

Respondents have given mixed feedback on the options of a, b, c and d for question numbers 1 to 4.

This may be because students were unable to comprehend the concepts and respond. However, the researchers feel that in the final analysis, LOUDER is the ultimate solution for overcoming the constraints hidden in LSRW.
However a large scale research study would have to be initiated to migrate from LSRW to L.O.U.D.E.R as a mechanism to teach or learn English in the first 2 years of Engineering Education.

DISCUSSION

Results prove that everyone is interested in learning English language and in speaking English. They felt that the current system of teaching and learning English is not appropriate to the 21st century global students and hence they feel uneasy with English and also feel that it is difficult to learn English. One way to overcome this situation is to re-invent learning English following the same method or process of acquiring the mother tongue. This may necessitate recasting of the traditional LSRW model with a better one suited to the current generation. In the Internet world and the Globalised scenario, LSRW should be replaced with L.O.U.D.E.R, which encompasses – Listening, Observing, Understanding, Discussing, Experiencing and Reviewing. This will fulfill all facets of a learner’s development and transformation. Hence, we see the need to incorporate LOUDER into the learning systems, loud and clear which can take the help of modern tools of computer software too (Underwood, J. 1984).

Final Conclusion

The study has helped to identify the top 10 factors at work while learning English language. Any policy on the subject must consider these factors for successful outcomes. Since these are evolved out of real-time experimentation and actual feedback of the students involved in the study, the dependability is very high.

Further, the question of using LSRW (listening, studying, reading and writing) model was evaluated with the experiential data of the participants in the class room experimentation. It was found that LSRW has out-lived its purpose and the 21st century students already have the "state of the art" modes of learning (Maslow, A. H. 1970). Hence, a new model for English language learning based on how actually the infant picks up the mother tongue not at school but on its own

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(Note: References 12 to 21 cited above are the university research papers / Articles, taken from the open source of www. We thankfully acknowledge them.)

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