

## **AN INPUT-PROCESSING METHOD FOR TEACHING ENGLISH TO STUDENTS OF ENGINEERING LEARNING ESL**

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### **INTRODUCTION**

Learner language has been a constant area of interest for SLA researchers – especially for classroom Action Researchers. Whether it be the importance of learner errors to understand the acquisition of a second language (Corder 1967) or the Inter language (Selinker 1971) of a learner which is a proof that the learner is actively involved in the evolution of a system of his own before he/ she acquires the target language – understanding a learner language is very important for a teacher to evolve newer and more effective methods for teaching a second language.

In a thought-provoking article, “should LAD be a black box for language teachers”, Jayaseelan (1996), highlights the need to focus on the concepts of Differential and Transitional competence of the learners in a classroom for a teacher-researcher to get an insight into the acquisition processes.

### **THEORIES OF SECOND LANGUAGE ACQUISITION**

There are three theories of second language acquisition which we have considered.

- A. S.D. Krashen: Krashen (1985) refers to five hypotheses which form his SLA theory:
  - i. **Acquisition-Learning distinction:** According to Krashen, acquisition helps learners to initiate utterances whereas learning acts only as a Monitor given time, focus on form and knowledge of the rule concerned.
  - ii. **Monitor Hypothesis:** The learnt system helps in correcting utterances after they are produced.
  - iii. **Input Hypothesis:** The only way to acquire a language is by internalising comprehensible input. Comprehensible input is at a level just above the current

level of competence of the learner. This input is comprehended with the help of the non-verbal cues in the environment.

iv. **Natural Order Hypothesis:** There is a predictable sequence of grammatical markers in the process of acquisition.

**AFFECTIVE PERIOD HYPOTHESIS:** This posits that learners can acquire a language only when they are mentally comfortable while picking up a language. If the affective filter is up then, it is difficult to acquire language and vice-versa. The affective filter is highly dependent on the attitude of the learner.

- B. Merrill Swain: Swain (1985) refers to the role of comprehensible output in language acquisition. Output has three functions in language acquisition (related to accuracy):
- i. the noticing/triggering function or what might be referred to as its consciousness- raising role.
  - ii. the hypothesis- testing function.
  - iii. the meta linguistic function, or what might be referred to as its reflective role.
- C. N.S. Prabhu (1987): According to Prabhu, SLA occurs subconsciously when a learner is involved in "meaning-focussed activity."
- D. Rod Ellis and Gary Barkhuizen (2005) in their book *Analysing Learner Language*, discuss in detail the various aspects of learner language from various perspectives.

## CONCEPTS

At the outset, let us clarify the concepts that we have used in the title of this paper. *Input* is the linguistic data flowing into the mind of the learner from outside. *Processing* is the action of manipulating the input into a more useful form for production or for performance on a given task. *Output* is the information flowing out of the mind of the learner when he or she performs on a linguistic task (in our study- the written test soon after the Speech). *Storage* is the means of holding information for use at a later stage.

## PURPOSE OF THE STUDY

The Study attempts to explore and understand the cognitive processes involved in the processing of written and spoken text input for a spoken and written task given to a group of engineering undergraduates of Biotechnology (B. Tech) learning English as a second language. The results of the study are expected to provide us insights into the right method for teaching English as a second language.

## THE SUBJECTS

The subjects for our study were final year students of B. Tech (Biotechnology). They were doing a course titled "Communication Skills in English for Professional Practices". It is a totally internally evaluated course. The students have three lectures - of fifty-five minutes duration each - per week in a semester.

### SELECTION OF SUBJECTS

Fifteen subjects of almost similar background have been selected based on a Diagnostic Test of General Proficiency in English.

### DIAGNOSTIC TEST RESULTS

#### THE DATA

| S. No. | Name of the Students | Multiple Choice Q | Idiomatic phrase competition | Sentence paraphrasing | Summarizing | Paragraph-Writing based on text | Total |
|--------|----------------------|-------------------|------------------------------|-----------------------|-------------|---------------------------------|-------|
| 1.     | Rohit                | 8/10              | 1/5                          | 3/5                   | 3.5/5       | 3.5/5                           | 19    |
| 2.     | Mrinalini            | 10/10             | 1/5                          | 3.5/5                 | 4.5/5       | 5/5                             | 24    |
| 3.     | Neelam               | 9/10              | 1/5                          | 2.5/5                 | 4/5         | 4.5/5                           | 21    |
| 4.     | Nitin                | 10/10             | 1/5                          | 2.5/5                 | 4/5         | 5/5                             | 22.5  |
| 5.     | Ruchica              | 8/10              | 2/5                          | 3.5/5                 | 4.5/5       | 4.5/5                           | 22.5  |
| 6.     | Sakshi               | 9/10              | 5/5                          | 5/5                   | 5/5         | 5/5                             | 29    |
| 7.     | Shamit               | 10/10             | 2/5                          | 4/5                   | 4/5         | 3.5/5                           | 23.5  |
| 8.     | Barnalee             | 6/10              | 0/5                          | 2.5/5                 | 3.5/5       | 3/5                             | 15    |
| 9.     | Nancy                | 10/10             | 1/5                          | 2/5                   | 2.5/5       | 3.5/5                           | 19    |
| 10.    | Meenu                | 7/10              | 4.5/5                        | 4/5                   | 4/5         | 5/5                             | 24.5  |
| 11.    | Shikha               | 8/10              | 0/5                          | 5/5                   | 5/5         | 5/5                             | 23    |
| 12.    | Vikas                | 10/10             | 1/5                          | 4/5                   | 4/5         | 3.5/5                           | 22.5  |
| 13.    | Annu                 | 9/10              | 0/5                          | 3/5                   | 3/5         | 5/5                             | 20    |
| 14.    | Amit                 | 8/10              | 5/5                          | 3/5                   | 4/5         | 4/5                             | 24    |
| 15.    | Ekta                 | 9/10              | 2/5                          | 4/5                   | 4.5/5       | 5/5                             | 24.5  |

### **THE EXPERIMENTAL DESIGN**

Stage1 The learners choose materials (minimum three sources) for a self-chosen topic. They are given three days preparation time.

Stage2 The learners write a Script on the topic which could be used to make a presentation.

Stage3 The learners, then, give a Speech on their topic in the presence of the rest of the fourteen.

Stage 4 The learners, finally, take a written test (of ¼ questions) after every presentation. This includes the speaker as well.

### **THE EXPERIMENTAL DATA**

The data is:

1. The input sources chosen by the subjects.
2. The Script or Essay prepared by the subjects.
3. The Responses of the fifteen subjects.

### **DATA ANALYSIS**

The results are analysed along a set of chosen parameters to show how input processing is different in cases of script received through written texts and analysed and studied properly, from those where the script is received through a verbal presentation in class.

### **PARAMETERS FOR DATA ANALYSIS**

1. Contents – in terms of Idea units ( a group of words expressing an idea).
2. Grammaticality – Errors in vocabulary and syntax ; and Self- corrections.
3. Clarity – Instances of clarification done by the learner.
4. Creativity – Instances of self- expression.
5. Ability to criticize – Instances of argumentative writing.
6. Discourse structure – Coherence of expression with reference to the question given.
7. New expressions / Vocabulary.
8. Dependence on script.

### **DATA ANALYSIS**

The preliminary data regarding the high, medium and low performance based on the Written Test results was recorded in the Tables 1(a), 1(b) and 1(c). Table 1(a) is for

Rohit Marwah. Table 1(b) is for comprehend Barnalee Majumdar and Table 1(c) is for Mrinalini Sharma. The data was then analysed to the reasons behind the high, medium and low performance and their relationship with the nature and degree of Input-processing of the three learners.

### PRELIMINARY DATA ANALYSIS

**Table No. 1(a) Preliminary Data Analysis - Rohit Marwah**

| S.No.                   | Consolidated Marks | Speaker No. | Topic   |
|-------------------------|--------------------|-------------|---|
| <b>High Performance</b> |                    |             |   |
| 1.                      | 23.25              | 3           | Comparative study of writing skills of Sheldon and Crichton |
| 2.                      | 18.2               | 1           | 3 Novels of R. Cook   |
| 3.                      | 13.52              | 4           | Self Development  |
| 4.                      | 10.2               | 12          | Robin Sharma's 'The Monk who sold his Ferrari'              |

|                           |       |    |   |
|---------------------------|-------|----|---|
| <b>Medium Performance</b> |       |    |   |
| 5.                        | 3.0   | 2  | Sheldon's Novels – 4                      |
| 6.                        | 2.84  | 10 | Dan Brown's Works                         |
| 7.                        | 1.00  | 15 | Truth beyond success and Failure          |
| 8.                        | 0.17  | 14 | Hypnotism                                 |
| <b>Low Performance</b>    |       |    |   |
| 9.                        | 0     | 5  | Short Stories                             |
| 10.                       | -1.51 | 8  | Assam                                     |
| 11.                       | -1.98 | 13 | Hostel Life                               |
| 12.                       | -3.1  | 7  | O' Henry's 'The Last Leaf' and 'Handcuff' |
| 13.                       | -5.73 | 11 | Violation of Women's Rights               |

|     |      |   |  |
|-----|------|---|--|
| 14. | -6.5 | 6 | Shakespeare's plays : `As You Like It' and `Macbeth' |
| 15. | -8.6 | 9 | Spirituality   |

**Table No. 1(b)****Preliminary Data Analysis -Barnalee Majumdar**

| Sl.No.                    | Consolidated Marks | Speaker No. | Topic   |
|---------------------------|--------------------|-------------|---|
| <b>High Performance</b>   |                    |             |   |
| 1.                        | 16.62              | 12          | Robin Sharma's 'The Monk who sold his Ferrari'                  |
| 2.                        | 12.76              | 4           | Self Development  |
| 3.                        | 10.375             | 14          | Hypnotism   |
| <b>Medium Performance</b> |                    |             |   |
| 4.                        | 8                  | 10          | Dan Brown's works   |
| 5.                        | 7.17               | 15          | The Truth beyond Success and Failure                            |
| 6.                        | 2.35               | 11          | Violation of Women's Rights                                     |
| <b>Low Performance</b>    |                    |             |   |
| 7.                        | -.01               | 9           | Spirituality  |
| 8.                        | -.25               | 8           | Assam   |
| 9.                        | -7.276             | 2           | Sheldon's novels  |
| 10.                       | -7.89              | 7           | O' Henry's works  |
| 11.                       | -8.77              | 13          | Hostel Life   |
| 12.                       | -8.97              | 5           | Short Stories   |
| 13.                       | -11.94             | 3           | Comparative Study of the Writing Skills of Sheldon and Crichton |
| 14.                       | -12.05             | 6           | Shakespeare's plays   |

**Table No. 1(c)****Preliminary Data Analysis - Mrinalini Sharma**

| S. No.                    | Consolidated Marks | Speaker No. | Topic   |
|---------------------------|--------------------|-------------|---|
| <b>High Performance</b>   |                    |             |   |
| 1.                        | 21.5               | 2           | Sidney Sheldon's novels   |
| 2.                        | 19                 | 5           | Short Stories   |
| 3.                        | 19                 | 15          | The Truth beyond Success and Failure                            |
| 4.                        | 18.5               | 12          | Robin Sharma's 'The Monk who sold his Ferrari '                 |
| 5.                        | 17.5               | 10          | Dan Brown's works   |
| 6.                        | 17                 | 6           | William Shakespeare's plays : 'As You Like It' & 'Macbeth'      |
| 7.                        | 16.15              | 11          | Violation of Women's Rights                                     |
| 8.                        | 15.64              | 13          | Hostel Life   |
| 9.                        | 15.4               | 3           | Comparative Study of the Writing Skills of Sheldon and Crichton |
| 10.                       | 13.78              | 9           | Spirituality  |
| 11.                       | 13                 | 4           | Self -Development   |
| 12.                       | 12.84              | 1           | Robin Cook's novels.  |
| <b>Medium Performance</b> |                    |             |   |
| 13.                       | 6.89               | 7           | O' Henry's works  |
| 14.                       | 3.27               | 14          | Hypnotism   |
| <b>Low Performance</b>    |                    |             |   |
| 15                        | -1                 | 8           | Assam   |

### THE FORMAT OF THE DATA ANALYSIS

- Personal Details.
- Preliminary analysis of the subject's data:
  - High Test Performance
  - Medium Test Performance
  - Low Test Performance
- Input-related Strategies
  - Selection of Text Sources
  - Note-Making
  - Note-Taking
- Input- Processing Strategies
  - Preparation from Text Source for Speech, Test and other individual Strategies
- Output-related strategies
  - Attitude towards Test
  - Choice of Questions
- Output as Input: Processing oral vis-à-vis written text input
- Summary of the subject as an Input-Processor
- A Typical illustration of the subject's style of Input- Processing

### A TYPICAL ILLUSTRATION OF ROHIT'S STYLE OF INPUT- PROCESSING

#### SCRIPT

If you are searching for a realistic situation involving terrorist acts, this book is for you. Vector is the ultimate end of the world situation. It sums up terrorist acts in one conveniently frightening package. The what if situation, about biomedical warfare, that will leave your mouth wide open till the very end.....

.....

.....

Yuri is a Russian, who came to America on the promise of a fresh start and prosperity. In his motherland of Russia he was a biomedical engineer. He was part of a biomedical disaster that killed thousands.

.....

.....



This is where he meets Curt and Steve for the first time. They become friends fast because of their mutual hate for the American government. They plan operation Wolverine. The plan is to get 5 pounds of powder anthrax into the air circulation vent of the federal building. As sort of an after thought, Yuri also wants to spray Central Park with an additional 5 pounds.

#### SPEECH

I will give you a brief introduction/ a brief plot of/ his novel Vector/Vector was released in 1999/and what is written was/actually after writing Vector/he was so much/ he was so much/ he was so apologise because/after that/ he was not/ work an idea to the terrorists/the biological warfare/he was really apologise to that//

What Vector involves is/a realistic situation involving a terrorist/A terrorist/obviously a Russian/he is an American/so he will write against Russians/so he says/if a Russian enters the Americans/ American community/and then he is upto/he is biomedical/ engineer/even...basically/that Russian/he is Evri/Evri is the name/so he enters the/ for the/....a..../this/America/at the....sorry/and he talks about/spraying/ Anthrax powder/a.../at a place/I will just let you know what/ya../ the central Park is situated in the middle of New York/so he plans ki/ he/his friend/if I fails of/threats in the park/what will happen you all know/is deadly/so/this is the kind of plot he has created in Vector/

#### RESPONSE

(for the question: What are the medical crimes that can be committed due to the development in Biotechnology with reference to the three novels of Cook)

.....

The novels written by Robin Cook may give a sole idea, to the terrorism in the field of "Biotechnology Exploitation". Just imagine if anthrax is sprayed on to the whole community or you are killed to get the sample of your liver.....

#### A TYPICAL ILLUSTRATION OF BARNALEE'S STYLE OF INPUT-PROCESSING

##### SCRIPT

Temples

Kamakhya Temple

Kamakhya temple in Assam is most venerated Shakti shrines in India n is regarded as one of the Shakti peethas, associated with legends of Shiva n Daksha yagna. Kamakhya is located on a hill, Neelachala Parvat or Kamgiri near the city of Guwahati in Assam. This temple was destroyed in early 16<sup>th</sup> century n then rebuilt in 17<sup>th</sup> century by (king Nara Narayana of Bihar. There is no image of Shakti here, within a corner of a cave in the temple, there is a sculptured image of Yonee of the Goddess.

#### SPEECH

And something about temples and monuments/ kamakhya temple/ kamakhya temple/ and Umananda temple/ these are the two famous temples/ which are the two famous temples which are/ Umananda/ k-a-m-a-k-h-y-a/ it is pronounced as Kamakhya/ and Umananda temple/ -well/Kamakhya temple in Assam is the most venerated shakti shrines in India/ and is regarded as/ one of the shakti peethas/ associated with the legends of Shiva or Daksha/ yagna/ Kamakhya is located on a hill/ Neelanchala/Neelanchala Parvat/ This Kamakhya is located on the Neelanchala Parvat/ or Kamgiri near my place/ that is Guwahati/ the city of Guwahati/ And this temple was destroyed / destroyed/ in early/ in early/ this was firstly destroyed in the early 16<sup>th</sup> century/ and later on rebuilt/ by king/king/ king Naranarayana/ in the 18<sup>th</sup> century/ this/ in this Kamakhya temple/there is no image of Shakti/ within a corner of a cave/in the temple/ there is a sculptured image/ image of a yonee of the goddesses/

#### RESPONSES IN TEST

(for question no. 2 : What are the places worth visiting in Assam?)

Places that can be visited in Assam are

- a. Historical monuments
- Umananda Temple
- Kamakhya Temple

#### 3. Mrinalini sharma

##### A typical illustration of mrinalini's style of input-processing

#### SCRIPT

... so Sidney Sheldon has a thing for younger women. Especially strong willed, independent, dazzlingly beautiful women with brilliant minds and extraordinary skills in the bedroom.

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He writes about women who are talented and capable but most imp. retain their femininity.

Women have tremendous power-their femininity, because men can't do without it.

I appreciate his novels since they have broken the myth of dumb blonde-of a woman is beautiful ergo she's stupid. He has portrayed his women who are as capable at their job as any man would be

Sidney Sheldon --- In all his books, very explicitly explains that how a woman can use her beauty and her sexuality to entice the people around her and then get her goal achieved. The femininity and sexuality of a woman, as said, is the most powerful weapon, and also a deadly one, so it helps the woman achieve, whatever she demands. This strength of a lady is well used by Sidney Sheldon in his books-----

#### **SPEECH**

This (Master of the Game) is a wonderful book to learn/how to manipulate men/and three of the plots/ I have already told you/ and you can well imagine/ and dazzlingly beautiful women and yet/ extraordinary skills in bedroom/ that is the of the/ most important/ ingredients of the Sidney Sheldon's novels/----

He writes about women who are talented/ capable / and most important/ retain their femininity/ women have this because men can't do without it/ and that is very well exploited/ in Sidney Sheldon's novels-----

What I like his novels/is because/they have broken the myth of a dumb blond/ If a woman is beautiful/ she is stupid/He has portrayed a woman/ who is capable in a job/ as any man would be/----

In all his novels/ very explicitly explains/that how women can use/her beauty and sexuality/ to entice the people/and then get her/her goal achieved/The femininity and sexuality/ of a woman/ are most powerful/ and can turn into/ a very deadly weapon/ so it helps the woman achieve/ whatever she wants/ whatever she demands/ the strength of a lady/ is well used/ by Sidney Sheldon in his books/ -----

#### **RESPONSE**

(for the question: What is the role of traditional beauty in the success of the female protagonists of Sidney Sheldon? )

All the protagonists of Sheldon's novels are dazzlingly beautiful ladies with the most deadly and powerful weapon, their sexuality. It is this beauty with brain that makes the lady rise in power and control the world around her. Beauty is the opening port which makes them land at the right place and, hence, is followed by brains. But without beauty, the brains are not well complemented. So, all the female characters are beautiful, amazingly beautiful and that paves way for success.

### **PRELIMINARY CONCLUSION**

The three learners have exhibited different ways of processing input as well as different production strategies – written as well as spoken.

### **OPTIMAL INPUT PROCESSOR**

Mrinalini is successful as a student because she processes the input she listens to as well as the input she reads and comprehends- in the same way. She constantly creates new syntactic structures to present her ideas/ concepts she has picked up from the input. She doesn't process the input at every level. So, she is an Optimal Input Processor. That is the reason for her maximum score in her own test and 11 more tests where she gets high marks. Errors and self-corrections are almost nil and there is 90-95% discourse coherence

### **MAXIMAL INPUT PROCESSOR**

Rohit Marwah constantly process input at every level and thus ends up in non-cohesive discourse and grammatical errors. He processes the input at the level of Script/Notes, Speech as well as Test Responses. His number of errors is high and there are instances of self-corrections in all the 15 pairs of Responses- including his own. So, he gets high scores only in 4 tests. His discourse coherence is only 50%. He gets second highest score in his own test.

### **MINIMAL INPUT PROCESSOR**

Barnalee doesn't process the input at all. She just rote learns certain points and headings and subheadings. Even in her Speech, instead of expressing herself, she just repeats the points in the same format as the text without any syntactic innovations. Thus her responses have the maximum number of errors and her discourse is incoherent. There are minimal self-corrections. This proves that she is a poor input-processor. In her own topic she gets low & negative scores.

### **A NEW METHOD OF TEACHING ENGLISH TO ESL LEARNERS AT THE UNDERGRADUATE LEVEL**

Based on the findings of this research study, we would like to recommend an Input-Processing based method to second language teaching for undergraduates.

The method involves the following steps:

1. Make the learners choose a topic of their choice and give them 3 days time to choose their text sources (a minimum of 3) and prepare a proper Script that would help them in giving a Speech on their topic in the class
2. The Speech time could be restricted to 15 minutes. The Speech could be recorded and transcribed for evaluation and comparison.
3. The students have to take a Written Test soon after every Speech for 30 minutes. The Speaker as well as the listeners would take the Test.
4. The Response Sheets could be evaluated by the subject teachers as well as the teachers of English.
5. Compare the linguistic features in the Responses with the those in the Script and the Notes for a qualitatively better evaluation

This method would definitely give better insights into the transitional as well as the differential competence of the learners.

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