Reading Material for Developing Interactive Reading in Engineering Students

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Importance of Reading for Academic Achievement

Books are an essential tool of learning, even in this technological age. 'Learning to read and reading to learn' is not an outworn slogan. The need for developing the reading skill is all the more urgent because of the ever-increasing amount of reading our students are called upon to do. The problem is more acute as one goes higher up the education ladder; most reference books in tertiary institutions are in English.

Reading technical materials involves a complex process of obtaining discipline-specific information and retaining the same for future use and reference. Reading could be quite a challenging activity because of the complexity involved. Since reading is a complex process, Grabe argues that "many researchers attempt to understand and explain the fluent reading process by analyzing the process into a set of component skills" (1991, p. 379) in reading. Reading needs better concentration and motivation and especially reading of technical materials needs critical analysis and evaluative understanding.

In academic contexts, a student has to read and interpret textbooks, research papers and articles in technical journals, teaching notes, notices, internet resources, technical reports, directories, encyclopedias, laboratory instruction sheets, safety manuals and regulations and reference materials. Unless the student reads with a purpose and comprehends the text clearly he or she may not be efficient in his or her academic activities as well as in his or her chosen profession. Hence, it is imperative to identify dynamic and productive grasping techniques to improve reading.

The Aim

The present study aims to improve students' reading comprehension focusing on analysis and activities. Comprehension in reading refers to the identification of the central theme, supporting details and the aspect/s around which the ideas are developed. Comprehension of a technical text needs critical and analytical thinking which leads to the effective linking of the factors involved in the reading process. Hedge (2003) states that any reading component of an English language course may include a set of learning goals for

- the ability to read a wide range of texts in English. This is the long-range goal most teachers seek to develop through independent readers outside EFL/ESL classroom.
- building a knowledge of language which will facilitate reading ability
- building schematic knowledge.
- the ability to adapt the reading style according to reading purpose (i.e. skimming, scanning)
- developing an awareness of the structure of written texts in English
- taking a critical stance to the contents of the texts

The last goal can be implemented at an advanced level. Students, however, should be kept aware that not all Internet content is authentic since there are no "gate keepers" and anyone can post whatever he/she likes in this cyberspace.

Developing Comprehension

The word comprehension means 'the power of the mind to understand'. It has two parts, namely, reading and interpretation. While reading the given passage, one realizes the content, the attitude of the author to the subject, and peculiar diction through four types of reading such as skimming, scanning, receptivity (subsidiary details) and critical.

The ultimate purpose of a comprehension exercise is to test one's proficiency in the use of language through two skills - reading and writing. The analytical activity of using group work in teaching comprehension allows the two parts of reading and interpretation to be developed simultaneously.

The Sample Group

The researcher conducted an experiment in a class of undergraduate engineering students who pursue their engineering study at MVR College of Engineering & Technology, Paritala, Vijayawada. The college is affiliated to Jawaharlal Nehru Technological University, Kakinada. *Life, Language, and Culture* is the text prescribed by JNTUK. The material given to them comprised both reading and writing aspects of the language.

Methodology

The conventional approach to comprehension teaching ignores the importance of establishing purpose in respect of reading. A few teachers are using an approach which is rather conventional and unimpressive. The teacher asks the class to turn to a certain page or announces that he/she is going to teach a certain unit. He/she then explains some difficult vocabulary terms. This is followed by silent reading on the part of the class. The teacher then reads part of the text and comments on what he/she feels is difficult for the students. He/she may sometimes ask a few questions, which are usually answered by a few bright students, or if he/she fails to get the necessary response, he/she answers them himself/herself and proceeds to the next sentence or paragraph. A question and answer session follows in which the teacher does the questioning. A selected number of students supply the answers, often by lifting a few sentences straight from the text.

The legacy of teaching comprehension exercise through the Conventional Method of Teaching (CMT), by merely reading the given passage and answering the questions appended to it, was dispensed with. This enabled to ensure that the skills of reading and writing were imparted in an enjoyable manner.

Abraham (2002) states that an interactive approach "demands that the teachers activate the students' schema" during the pre-reading phase by helping "students recognize the knowledge that they already have about the topic of a text" (p. 6), i.e. through discussion of titles, subheadings, photographs, identifying text structure, previewing, etc. Such activities are called "pre-reading strategies". As Orasanu (1986) explicates the notion of "schema" (or background knowledge) which

… can be thought of as a framework containing slots to be filled by incoming text information. For example, if a reader is presented with a text about going on vacation, he or she would likely have a slot in the vacation schema for packing a suitcase. Text statements about folding clothes or carrying bags could then fill the slot. If a reader did not have a vacation schema with a "suitcase-packing slot," the information about clothes and bags might not be readily understood. (p. 118)

The aim of while-reading stage (or interactive process) is to develop students' ability in tackling texts by developing their linguistic and schematic knowledge. Hedge (2003) argues that although some oppose the interactive activities carried during the while-reading phase, there are only few research studies that show the "effects of intervention and their outcomes". Moreover, "many students report positively on the usefulness of while-reading activities." (ibid, p. 210)

In this interactive reading, the whole class was involved both in reading and writing. In this context, 60 students from II/IV B.Tech CSE of MVR College of Engineering & Technology, Vijayawada were exposed to reading. They were asked to attend the lab text prescribed by JNTU, Kakinada. They were organized into 10 groups consisting of 6 in each. The researcher first asked a few signpost questions which helped the students to focus on the essential points in the short story. The short story is divided into 6 -10 parts. Each group had to analyze certain part of the text assigned to them. After analyzing the short story in parts, the researcher regrouped the students so that they could exchange information with the member of the other groups and build up a complete picture of the information in the short story. The researcher circulated among the groups and helped students to come to grips with the text. He did not tell them the right answer if they had selected the wrong option but challenged them to check against the text.

Effectiveness of the Study
This method introduced a learner-centered approach through group-tasking. Learner participation becomes indispensable and the learner understands the passage thoroughly. By analyzing the given text students noticed that framing relevant, appropriate and grammatically correct questions is more difficult than answering as in the conventional method. When these two went together there was greater understanding of the matter on hand.

Another skill-preparation for group work related to activities or performance that are needed as part of participating in the processes of placement for jobs was introduced to students . Development of communication skills, especially presentation skills, is given special attention in this group work. Simultaneously, the important aspect of fluency of language received greater attention as part of the preparation, and this was enjoyable.

Skills Improved
The technique used for the present study, on the other hand, motivated the students to actively participate in the activity given. The objective of developing the interactive comprehension skills was partial achieved by the researcher. The experimented analytical activity encouraged the students to interact with text.

In this focused activity, students became aware of text construction and their interaction with the

text improved their cognitive development. In the language classes, passages from various text books could be used for this task. Through this activity, students could improve listening skill, reading skill, writing skill, framing questions, sentence patterns, functional vocabulary and, above all, a thorough understanding of the passage. This interactive reading would also help the students to prepare for the same type of tasks they would encounter in other subjects like filling in tables, labeling diagrams, preparing to make presentation, and help them learn to use the texts without plagiarizing them.

On the whole, the approach used for the study brings the following changes among the students during the reading activity.

1. Distinguishes an active reader from a passive reader who normally reads the passage without understanding its meaning.
2. Brings out a better grasping of the text.
3. Improves all the skills of the language.
4. Helps frame questions to bring out a better idea about the passage.
5. Motivates students to think aloud.
6. Directs students to make predictions on the theme of the passage.
7. Uncovers the text structure.
8. Brings forth clarity in framing questions, sentence patterns and in the use of functional grammar related to writing skills during the generation of questions.
9. Improves the functional vocabulary.
10. Creates a visual representation of the theme of the passage.

Conclusion

As S. Gika (1985) points out the learner should be motivated so that he (a) wants to read the text he is given (b) wants to work through the text both extensively and intensively and (c) wants to go beyond the text and infer things from it. It is hoped that the techniques which were adopted would provide the motivation.

The strategy used in the present study not only improves the level of understanding of writing but also involves a gradual release of responsibility. That is, instead of teachers asking questions and students answering them, this approach gives more responsibility to the students where both questioning and answering are done by the students. This technique plays a pivotal role in developing and honing the skills of reading comprehension and at the same time it is easy for the teachers to identify the students who have difficulty in reading and understanding. On the whole, the elaborate investigation of the subject and a through interaction between the students are made possible and this results in clarity about the subject of the text as well as skills of the language

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