

Reading Resources to Help Engineering Students Develop Interactive Reading

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Importance of Reading for Academic Achievement

The passage emphasizes the enduring importance of books and the skill of reading in the modern, technological age. It argues that the slogan "learning to read and reading to learn" is still relevant, underscoring the significance of developing reading skills. This is particularly crucial due to the increasing volume of reading that students are required to undertake.

As education progresses, the demand for proficient reading becomes more pronounced, especially in tertiary institutions where many reference materials are in English. The author highlights the challenges associated with reading technical materials, noting that it involves a complex process of obtaining discipline-specific information and retaining it for future use. The complexity of the reading process is acknowledged, and the passage refers to Grabe's perspective on breaking down the fluent reading process into a set of component skills. This suggests that researchers are attempting to understand and explain reading by analysing it in terms of specific skills.

Furthermore, the passage suggests that reading requires enhanced concentration and motivation. It emphasizes that reading technical materials demands critical analysis and evaluative understanding. This underscores the idea that reading is not just about extracting information but also involves a deeper engagement with the material, especially when dealing with technical content.

In summary, the passage argues for the continued importance of books and reading skills in the face of technological advancements. It recognizes the challenges of reading, especially in higher education, and underscores the need for concentration, motivation, and critical analysis, particularly when dealing with technical materials.

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,

encyclopaedias, 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's focus on improving students' reading comprehension through analysis and activities aligns with the broader goals of enhancing various aspects of reading proficiency in English language courses. The comprehension of technical texts, in particular, requires not only the identification of central themes and supporting details but also critical and analytical thinking for effective comprehension.

Hedge's (2003) identified learning goals for the reading component of an English language course provide a comprehensive framework for educators:

Ability to Read a Wide Range of Texts in English: Encouraging students to engage with diverse texts helps develop their overall reading skills. Exposure to various genres, topics, and writing styles contributes to a more versatile and adept reader.

Building Knowledge of Language for Reading Ability: A strong foundation in language is crucial for effective reading. Building vocabulary, understanding syntax, and grasping the nuances of the English language contribute to improved reading comprehension.

Building Schematic Knowledge: Schematic knowledge involves the ability to activate prior knowledge and connect it to new information. This aids in better understanding and contextualizing the content of a text.

Adapting Reading Style According to Purpose (Skimming, Scanning): Teaching students different reading strategies, such as skimming and scanning, helps them adapt their approach based on the purpose of reading. Whether it's extracting specific information quickly or comprehensively understanding the text, these skills are valuable.

Developing Awareness of the Structure of Written Texts in English: Understanding the organizational structures of different types of texts enhances comprehension. This includes recognizing the main idea, understanding paragraph structures, and identifying transitions.

Taking a Critical Stance to Text Contents: Fostering critical thinking skills encourages students to question, analyze, and evaluate the content they encounter. This is especially important in technical texts where a deeper level of understanding is often required.

By incorporating activities that target these goals, educators can create a more holistic approach to reading comprehension. Analytical exercises, discussions, and practical applications can further enhance students' abilities to not only comprehend but also critically engage with a wide range of English texts.

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 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 often neglects the crucial aspect of establishing a purpose for reading. Some teachers follow a rather traditional and unimpressive method in which they instruct the class to turn to a specific page or announce the intention to teach a particular unit. Next, the teacher explains challenging vocabulary terms, and the class engages in silent reading. The teacher may read part of the text aloud, commenting on what they perceive as challenging for the students. Occasionally, a few questions are posed, typically answered by a handful of bright students. In cases where the expected response is not received, the teacher answers the questions and moves on to the next sentence or paragraph. Subsequently, a question-and-answer session ensues, with the teacher taking charge of the

questioning, and a selected number of students providing answers often by directly quoting sentences from the text.

The legacy of teaching comprehension exercises through the Conventional Method of Teaching (CMT), involving simply reading a given passage and answering appended questions, has been discarded. This shift aims to ensure that the skills of reading and writing are imparted in an enjoyable manner. Abraham (2002) advocates for an interactive approach, emphasizing that teachers should activate students' schema during the pre-reading phase. This involves helping students recognize the knowledge they already possess about the topic of a text through activities such as discussing titles, subheadings, examining photographs, identifying text structure, and previewing. These activities, collectively referred to as "pre-reading strategies," play a crucial role in preparing students for effective comprehension.

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 analysing 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 partially 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 textbooks 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, labelling 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

Motivation in Language Learning: The learner should be motivated to read the given text. Motivation should drive both extensive and intensive engagement with the text. The learner should be motivated to go beyond the text and make inferences.

Techniques for Motivation: The passage suggests that certain techniques have been adopted to provide motivation, but the specific techniques are not detailed.

Gradual Release of Responsibility: The study's strategy involves a gradual release of responsibility. Instead of traditional teacher-centred methods, students take on more responsibility. Both questioning and answering are done by the students, promoting active engagement.

Benefits of the Strategy: The strategy not only improves understanding but also enhances reading comprehension skills. It facilitates easy identification of students struggling with reading and comprehension. Encourages thorough investigation of the subject and promotes interaction among students.

Clarity in Subject Understanding: The interactive approach leads to a clear understanding of the subject matter. The approach enhances language skills by fostering communication among students.

In summary, the passage advocates for a student-centered approach that prioritizes learner motivation, active participation, and a gradual shift of responsibility from the teacher to the students. This approach is seen as beneficial for improving both understanding of the subject matter and language skills.

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