A Study on Evaluating the Discourse Skills of Engineering Students in Coimbatore, Tamilnadu, India

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Abstract

The focus of this paper is the application of written discourse with special reference to technical English writing skill of the engineering students in Coimbatore. The discourse theories of writing are focused upon in this research. Writing is an important part of the engineering course and is an area where students often need plenty of training. The analysis of written discourse is based on Unity, Coherence and Paragraph development. A test was conducted to see how far the students were able to write paragraphs coherently by using discourse markers.

Key words: Discourse markers, Unity, Coherence, Transitional devices, contrastive markers, Inferential markers.

Introduction

Engineering students learn the use of technical English through using their engineering and technical texts. They are exposed to a variety of formats in technical English in their
textbooks. The study and analysis of technical discourse is part of both linguistics and applied linguistics. Linguistic scholars concentrate on the description of the discourse and the teachers on learning and teaching the discourse. The teaching of technical English in the engineering colleges is utility-based as the technical discourse by nature is application-oriented. The ‘how’ and ‘why’ of the comprehension and application of technical discourse is not unconsciously learnt unlike the way in which the mother tongue is mastered. Even the students with adequate proficiency in English language fail to fare well in technical English writing skill as it involves several models, concepts and technical themes. All these have a systematic structure and pattern and students and teachers need to master these.

Generally, the technical discourse is more formal and demands precise contextual reference. The experimental technical facts are normally written in analytical tone which is actually revealed by the occurrence of discourse markers. The wide and extensive usage of cause and effect, purpose and function besides compare and contrast, process description and sequencing markers make the standard of technical English more complex. Perhaps, the descriptive, narrative and introspective and argumentative styles of the technical writing are induced by the usage of discourse markers. Briefly speaking, the occurrence of specific jargon, discourse markers, impersonal tone and objective styles are considered to be the indispensable trademarks of technical discourse.

**Discourse Markers**

Writing is an art and has to be acquired by constant practice. In formal contexts, we are required to express our thoughts and ideas both in spoken and written forms in a logical sequence, avoiding ambiguity. For that purpose, we make use of certain linguistic devices called discourse markers or transitional devices.

The main function of discourse markers is to bring out the logical connection between ideas, between sentences and between paragraphs. These discourse markers indicate specific relationships such as compare, contrast, cause, effect, etc.

**Paragraph**

A paragraph does not mean merely putting a few sentences together. There is an order in the construction of a sentence. There is also a proper sequence in the designing of a paragraph. A paragraph has to revolve around a central idea in such a way that the sentences within the paragraph strengthen it.

In an ideal paragraph, the central idea should be so explicit that it can be expressed in a single sentence which is called the topic sentence. The sentences in the paragraph function as supporting ideas.
A good and organized text or composition is the locomotive train and the railroad is discourse markers. If the train works well, then the train is able to move on the rail. If the engineer or driver of the train, that is, the writer who leads the train knows the interpretation of signs along the rails, then he is able to keep the train on the right track.

On the whole, the construction of knowledge of discourse markers can take place accurately if students are given the chance to work actively and continuously to recognize and use the effectiveness of the language for academic purposes. Engineering students are expected to read and write a lot of scientific and technical writings, they need to know the structuring of paragraphs and correct usage of these discourse markers.

To evaluate the linguistic knowledge in discourse and what could be done to improve, the present study is made.

Methodology

To examine and evaluate the discourse skills of engineering students, a test was conducted manually. Sixty students were selected at random from different branches of engineering. The focus of the questionnaire is to examine the proficiency level of the engineering students in written technical discourse.

Under Part-I, three questions - fill ups with discourse markers, fill ups with most suitable words (appropriateness of words) and connecting the sentences with suitable connectors or transitional device were asked.

Under Part-II, five questions comprising the subdivisions ‘a’ and ‘b’ focused on transcoding, identifying the topic sentence and supporting details, sequencing of sentences, paragraph writing and evaluating the different styles adopted in paragraphs were given. The test examined three significant areas of the knowledge level of students in handling the written technical discourse:

i) Transcoding the technical discourse (table format) which includes dual skills, namely, the information has to be comprehended well and it has to be transcoded into a passage or into graphics.

ii) Conversion of technical details into discourse.

iii) Paragraph writing and application of apposite discourse markers.

Analysis
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### Details

<table>
<thead>
<tr>
<th>No. of Students 60</th>
<th>Fill-Ups (DMs)</th>
<th>Fill-Ups (appropriate words)</th>
<th>Connecting Sentence(s)</th>
<th>Encryption</th>
<th>Decryption</th>
<th>Paragraph Writing</th>
<th>Identifying topic and supporting details</th>
<th>Sequencing of sentences</th>
<th>Evaluating the style</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>20</td>
<td>30</td>
<td>35</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>40</td>
<td>30</td>
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</tr>
</tbody>
</table>
Part -1

Part -2

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Under Part- II, a tabulated data on the comparison of two different kinds of people – left-handed and right handed persons were given and the students were asked to write a passage comparing both. Most of the answers exhibited contrastive tone.

Invariably, this error had occurred due to the usage of contrastive discourse markers like ‘despite’, ’although’, ‘where as’, ‘yet’, ‘but’, and ‘however,’ etc. On the other hand, 30/60 students have linked the given data into a passage using correct comparative discourse markers like ‘similarly’, ‘comparatively’, ‘in fact’, ‘indeed’,’ and ‘at the same time’, etc.

In the second question, a passage was given and students were asked to convert a passage into a flow chart. The encryption exercise actually aimed at examining the intense comprehension capacity of the target group through conversion of it into a diagrammatic form. Maximum students stood above the level of average in encrypting this data into a flow chart. At the same time, the erroneous graphical encryptions like line graphs and tree diagram were also tried by some of the students. To comprehend a discourse, the learners need to recover the relationship between the discourse elements contextually. Inadequate skill in diagnosing the flow of discourse, perhaps, leads to several errors.

In fact, this was evidently witnessed in the transcoding exercises given to the students. Maximum number of errors was found in ‘decryption’ of the tabulated information into a comparative passage when compared to the ‘encryption’ of the given passage into a flow chart. The percentage of ‘encryption’ as a wholesome unit is one-third of ‘decryption’ (20/60). Some of the students revealed the broken discourse of the students, especially students who came from Tamil medium students coming from a very rural back ground. Apparently, less exposure and mother tongue influence may be the causes for the broken discourse witnessed in their written discourse. Some of the students failed in the ‘encryption’ test, because they had picked up a word or phrase at random from every sentence of the given passage and had drawn the flow chart.

In the next question, the knowledge level of the students in the appropriate contextual usage of discourse markers and their proficiency in application of different kinds of technical discourse were explored. The question asked the students to write a descriptive paragraph about the process of preparing tea. The objective of this question was to analyse the proficiency of the target group in the application of discourse markers. The style of discourse is usually determined by the appropriate usage of descriptive discourse markers. The paragraph writing exercise revealed the broken syntax and discourse caused by incorrect positioning of discourse markers. Some answers revealed that the errors were due to the lack of exposure to the language itself.

In the qualitative analysis, it was found that there was a difference in the discourse markers between the better writers and the weaker ones. The former, in general, tended to
use a larger variety of markers in their writings whereas the latter tended to repeat the same markers, which make the text dull. This is the example extracted from the test.

Example for appropriate composition

First, I took three tea bags for making tea and placed them in a jug. Second, I added boiling water to it and stirred the content. Then I allowed the tea to settle for five minutes. After that I added milk and sugar in sufficient quantity to suit my taste. Finally I poured the prepared tea in three cups. The tea is now ready for drinking purpose.

Example for the weaker composition

I took tea bags for making tea and kept them in a jug. Then I added hot water to it and stirred the mixture. Then I allowed five minutes to settle down. Then I added milk and sugar. Then I poured the prepared tea in cups. The tea is now ready to serve.

Results of the study have found a strong association between discourse markers and the quality of writing. Use of discourse markers enhances the subjects’ writing quality as some of the students have performed far more successfully. This may be due to the fact that the participants were able to generate different kinds of discourse markers. In other words, these discourse markers, besides other textual characteristics, help us to identify good and poor writings and, more importantly, the quality of writing is enhanced by the use of well-functioned and appropriate discourse markers. It was also observed that students’ writing had a large variety of discourse markers in their good paragraphs and this resulted in better cohesion. The repetition of the same markers indicates dull and poor composition.

Sequencing of sentences is an exercise that tests a person’s ability to arrange sentences that have been jumbled, that is, arranged in a random order in a logical sequence. Some students have faired well but most of the students were not able to think of the logical occurrence of a process or event. They had difficulty in looking for the connectives or discourse markers that were signposts of the logical occurrence of a process. Another reason was when the set of sentences contained sequencing markers like ‘firstly’, ‘secondly’, ‘thirdly’, ‘finally’, etc., students were able to sequence the sentences quickly. When the set of sentences contained other markers like, ‘for example’, ‘however’, ‘whereas’, ‘latter’, ‘also’, etc., they find it difficult to arrange the sentences because they need to exercise more analytical and logical thinking.

A paragraph is a unit of writing that consists of one or more sentences focusing on a single idea or topic. In fact a well-written paragraph comprises the following features: topic sentence, supporting details or examples, and conclusion sentences. In this 40/60 students were able to identify. Other students were not able to identify because of their
difficulty in comprehending the passage. Some students were not able to understand the meanings of some words. So, they had skipped the particular point or sentence. This is the reason for not identifying the topic and supporting sentences and they had given irrelevant sentences.

In the next question, a lengthy passage comprising four paragraphs with four different styles such as expository, argumentative, descriptive and narrative was given. Students were asked to identify and write the style adopted in each paragraph. In this only 30/60 students were able to identify and others were totally confused and wrong answers were given. Students from Tamil medium were not able to identify and most of them didn’t attempt the question at all.

Under Part-I, questions comprising of Fill-Ups with discourse markers and another question with filling appropriate words were given. Some good composition with a larger variety of markers applied different kinds of elaborative markers.

Note the example of a well written paragraph for this question:

Students have ideas. They know what to say in their own language. They do not however, know how to put their views in English. They can get over this difficulty, if they follow a few tips. Firstly, they can express themselves reasonably, clearly, using simple sentences. Secondly, they must try to think in English rather than translate from their own mother tongue. This is possible only if their use of English becomes natural and automatic. For that purpose, they should speak English and listen as much English as possible. In general, they should practice the four language skills and try to imitate the kind of English and its structures that educated people. These tips solve their problem to a greater extent.

Other students had used inappropriate discourse markers with no coherence at all. Most cases of overuse, inappropriate or misuse of discourse markers suggest that discourse markers were used in their writing as a result of translation from their mother tongue to second language. Some of the students in this group wrote a text with excessive use of discourse markers which overshadowed the text and made it difficult to read. Some students wrote their passage without discourse markers. The lack of these discourse markers also made the text more difficult to read. This also suggests that the second language proficiency or insufficient L2 skills accounts for the lack of attention to organization, use of simple text structures, ineffectiveness in connecting sentences or inadequate paragraphing.

Of all the cohesive devices we have discussed so far, transitional devices play a major role in providing a smooth flow to the paragraphs. They help to establish a relationship between ideas in a paragraph and to create a logical progression of those ideas in a
Effective coherence can be achieved if we connect one sentence with the other using certain linguistic devices which help in the smooth transition of ideas. Without transitions, the paragraph will not be unified, coherent or well developed. Unconnected matter and diffused thoughts adversely affect by the use of inappropriate words. The writer has the freedom to choose any style he prefers but he has to strictly adhere to the principle of appropriateness. Wrong choice of words is likely to mislead the reader. This is obviously seen in the answers given by the students.

In choosing the most appropriate words, 20/60 had performed satisfactorily. In the place of ‘eminent’, ‘compliment’ and ‘proceed’ they had chosen ‘imminent’, ‘complement’, and ‘precede’ respectively.

Conclusion

The analysis was carried out to explore the proficiency of the target group in technical discourse on three different technical English writing skills, namely, transcoding graphical representation, conversion of details into discourse and paragraph writing and to find out how the unity, coherence and paragraph development is affected by the usage of discourse markers. From the findings, we could find out that these are destroyed for the following reasons:

i) Repetitive and redundant words.
ii) Presenting more than one central idea.
iii) Central idea not fully developed.
iv) Irrelevant supporting ideas.
v) Repetition of ideas clothed in a different way.
vi) Usage of inappropriate discourse markers.

Remedial Measures

i) Teachers can choose to make sure that the students are prepared as well as trained about the functions of certain discourse markers and employ the appropriate discourse markers by providing them model texts and exercises. Through this, the students will begin to explore available examples of discourse marker types other than those they frequently use. Thus, not only is critical awareness activated among the students but also the need to create variety in their linguistic choices.

ii) One of the eye catching differences among the students was the degree of knowing when to omit discourse markers and knowing where discourse markers do not serve any useful purpose. Lack of practice and reading and one’s own inadequate level of experience in language use contribute to this situation. So, students should be encouraged to overcome these shortcomings.
As a matter of fact, the English texts prescribed in the school education till higher secondary level exclusively comprise various genres of literature such as prose, poetry, short story, autobiography, etc. But the English texts prescribed in the Engineering colleges do not exhibit any such literary genres. So, these students do not have opportunities to learn the use of general language and thus have limited linguistic knowledge. Linguistic aspects of writing should be taught to these students.

iv) Functional aspect of language should be explained to the students.

v) Students should be taught that there are a number of other linguistic devices that affect the extent to which groups of sentences hold together and form a complete and cohesive text such as reference words (pronouns, ellipses, etc), and lexical sets (lexical repetition as well as conjunction). Students need to understand that the absence of discourse markers does not necessarily render a sentence or paragraph ungrammatical or unintelligible but it removes a powerful clue about what commitment the speaker makes regarding the relationship between the current utterance and the prior discourse. They need to know and understand the lack of discourse markers results in lack of cohesion the paragraph and contributes to the incomprehensibility of the passages.

vi) Discourse markers seem to be acquired developmentally stage by stage beginning with elaborative, followed by inferential, contrastive, causative, etc. Some types are given priority over the others. The distinction present between successful and less successful learners corresponds to the degree of flexibility that learners demonstrate when they select discourse markers, and when they utilize them appropriately. The use of discourse markers requires very special and long attention.

vii) More experienced writers seem to write more reader-oriented texts and use discourse markers as facilitating devices to make their text more comprehensible. So, students need to accumulate more experience in writing compositions. They should cultivate self-awareness of discourse markers in addition to the explicit instruction they might receive in technical writing.

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