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Importance of Writing Skills in the Engineering Curriculum

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Abstract

Writing is a key productive ability that everyone, especially engineering students, should strive to improve in order to advance in their careers. Students can "write to learn" and "learn to write" by incorporating writing skills into engineering courses. The principles of "writing to learn" and "learning to write" are central to the investigation of how writing is implemented in all engineering disciplines. Writing across the curriculum is a term coined by writing studies researchers to describe how it motivates students to write in classes where they might not anticipate facing to write assignments and courses that they take throughout their undergraduate studies.

Students who write to learn are actively interacting with material by thinking through and expressing key topics and themes presented in the course. Students will benefit from writing in an engineering course not only in terms of learning subject matter, but also in terms of integrating and arranging their thoughts in order to better recall knowledge taught in the course. Writing to learn also allows students to establish connections and grasp

the course's value even outside the classroom.

The incorporation of writing skills in the curriculum of engineering serves a number of purposes. That is, the ability to write promotes a better understanding of course material and helps students develop critical thinking skills. It demonstrates to students how real-world applications are linked. Furthermore, it increases students' confidence and capacity to use technical knowledge.

This paper discusses some of the most essential pedagogical and innovative writing skills activities, such as paragraph writing, peer corrective feedback (PCF), blog writing, and creating a technical writing outline, among others.

Keywords: productive skill, technical words, blog writing, Peer Corrective Feedback etc.

Introduction

Reading makes a full man; conference makes a ready man; and writing makes an exact man; and, therefore, if a

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man write little, he must have a great memory; if he confer little, he must have a present wit; and if he read little, he must have a great deal of cunning, to appear to know that he does not. Bacon means that writing and thinking go hand in hand in his essay '*Of Studies*,' when he says that 'writing makes an exact man.' Writing drives him to consider what he believes and wants to say, and he is constantly striving for the perfect word.

The great transitions that are taking place in the twenty-first century are thanks to the emergence of breakthroughs in Information and Communication Technology. It also resulted in significant alterations in the communications networks. To communicate effectively with others, one must learn a language in a systematic manner. Furthermore, each and every language student should master all four skills of a language in order to communicate with their companions in society. Likewise, people must learn a language with a great deal of focus, passion, devotion, and drive in order to achieve the goals and objectives of their activities. Students must study all four abilities of the language, LSRW, i.e., listening, speaking, reading, and writing, with greatest care and concentration in order to learn a language thoroughly.

Problems that a Language Teacher faces

Improving engineering students' English writing skills is a task that all language teachers face. While educating engineering students in a rural setting as a language teacher, I came upon this difficulty. I saw that students were having a difficult time expressing themselves in written English. Despite the fact that some of them could speak English fluently, they struggled to express themselves in writing. Most students were uninterested in writing, which led to their being bad writers, receiving poor grades in their subjects, submitting assignments with blunders, writing generic sentences, and composing incomprehensible paragraphs. Almost all of the engineering students in my class were very good at hiding their lack of reading and writing skills, so it was difficult for me to spot their flaws until they turned in their papers or took their tests. That's when I realised I felt the need to take action to help them improve their Reading and writing skills.

With my colleagues and senior language teachers, I first reviewed what techniques should be presented on writing skills in the Engineering Curriculum. They offered many techniques, including paragraph writing, drafting an outline for Technical Writing, Peer Corrective Feedback (PCF), and blog writing, all of which have proven to be effective for engineering students. They also encouraged

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me to create a welcoming environment in my classroom in order to cultivate a community of writers who are eager to improve their writing skills. There were also ideas such as encouraging students to read extensively, expanding their vocabulary, and showing the perseverance required to produce outstanding writing.

While I thought all of these ideas were wonderful, I thought they were a little too difficult for engineering students. Also, I was careful not to get caught up in the mechanics of writing; instead, I wanted them to write freely, using proper syntax and staying on subject. One of the insights I was fortunate enough to see was that when my students worked together, they were extremely motivated to learn. All of the collaborative learning techniques that I had introduced had shown to be extremely effective. As a result, I made the decision to address the issue of inadequate English writing abilities by including their desire to collaborate.

My next task was to teach these concepts to my young engineering students. In retrospect, I realise that I needed to spend at least a week outlining the plan to them and what they should expect from it. When students got into a competitive game of putting as many crosses on their partner's work as possible, the entire premise of peer editing and reviewing went for a complete throw. I had to spend a lot of time

designing and arranging techniques that would fulfil their objectives as they become writers since I was executing strategies on students who came from a vernacular background. I also knew I wouldn't be able to complete the process in a single day. Because it was their first time, I chose to break each section into its own language class. I had to exercise the peer editing method several times to ensure that they understood exactly what they were expected to accomplish with the help language labs that are equipped with information and communication technology (ICT).

Methodology in the Action Research

The information I've provided below was gathered as part of an action research project I was conducting as I transitioned into regular teaching. I spent nearly four months implementing my interventions and determining the efficacy of this approach that I thought would benefit my engineering students. During this time, I concentrated on four primary aspects of writing: concept organization, idea content, word choice, and connective usage. I instructed students in four techniques over the course of four months, each for two weeks. To keep the method from becoming too confusing for my students, I opted to divide it into sections. In addition, I spent a lot of time encouraging the pupils to write first and worry about the details later. While

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selecting and sequencing the techniques, I kept in mind that the complexity level shifts from simple to difficult. I introduced engineering students the following four strategies:

Strategy 1

Paragraph Writing:

A good paragraph should have a consistent theme, order, and variation. The students were given basic instructions for this task. They should first consider the points they want to write about. They should not rush to elaborate on a remark before fully comprehending its meaning or ramifications. Furthermore, reading should be followed by reflection. Relevant details, quotations, drawings, and other items should be carefully considered and organised logically and systematically. Sentences should be arranged in a logical sequence. Every sentence should flow effortlessly from the one before it.

Activity

To begin, students are given a few connectives with which to construct sentences in a paragraph. These sentences will be used to form groups, such as also, again, as well as, besides, furthermore, in addition, likewise, moreover, consequently, hence, otherwise, and so on. They begin by composing a paragraph that the teacher has provided. Later, the teacher will go over their work with them. This type of activity

will increase the participants' sense of hands-on learning.

Strategy 2

Preparing an outline for technical writing

The nature and sequence of themes and sub-topics to be discussed in the report are indicated by an outline, which is a grouping of words, phrases, or sentences.

Activity

Students were provided an example framework and prepared outline for this exercise. They will be separated into groups and given the work based on this. Finally, the language teacher will have a lengthy discussion with the students on their work.

Strategy 3

Blog Writing:

A blog, sometimes known as a weblog, is a popular forum for sharing thoughts, opinions, and ideas. Blogs, like other social networking sites like Facebook and Twitter, provide a central location where everyone can express their opinions on any subject. It enables students to write rapidly, openly express and share their opinions on any issue related to their engineering background via the Internet, and engage with thousands of individuals from across the world in the process.

Activity

The language teacher must be familiar with ICT in order to participate in this activity. I started by showing the

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students how to use free websites such as Wordpress, Tumblr, Typad, Myspace, and Blogger. After that, each student created their own theme so that they could personalise their own blog. Students were encouraged to choose a topic that they were familiar with and write about it. Students were also trained by their language teacher about their (students') perspectives on current topics, perspectives on life, and experiences at the same time. They were gradually encouraged to update their blogs with at least two pieces every week.

Strategy 4

Peer Corrective Feedback

Corrective feedback is a type of performance feedback that is used to help students improve their grades. During lessons, teachers provide feedback to students to reinforce expectations and address student faults.

Activity

I introduced two approaches to Peer Corrective Feedback to the students. Those are

1. Written Corrective Feedback (WCF)
2. Oral Feedback (OF)- to be offered in tutorial sessions as follow-up

They were also given parts of writing on which they should provide input on substance, organisation, and language. This PCF practice improves learners' long-term writing skills.

Conclusion

As a language teacher and researcher, I am ecstatic to be able to provide this cutting-edge technique and pedagogy of writing skills to my students. At the end of the day, they emerge as successful language learners with strong writing skills.

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