Creating an English Writing Program tailored to Engineering Students' needs

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Abstract

This paper proposes a comprehensive English writing program tailored to the needs of engineering students. The program focuses on developing the students' writing skills in various areas, including grammar, sentence structure, and organization. The program includes various activities, such as lectures, exercises, and writing assignments, designed to improve the students' writing skills. In addition, the program provides guidance and support to students through feedback and guidance from experienced instructors. Finally, the program emphasizes the importance of self-reflection and self-correction so students can develop their writing skills meaningfully. A writing program crafted for engineering students would emphasize honing their technical writing aptitude, including the capacity to express detailed technical information concisely and accurately to both technical and non-technical people. This program would also aim to improve students' understanding of technical vocabulary and their ability to write concise and organized manner. Additionally, the program would likely include instruction on ethical considerations related to technical writing, such as plagiarism and data integrity. The program could be delivered through various methods, including classroom instruction, workshops, and online resources. Ultimately, the program's goal would be to help engineering students become more effective and confident communicators to be successful in their chosen fields. Last but not least, the program will give students a chance to get in touch with their peers and seasoned professionals in engineering to help them grasp the writing process to an even greater extent!

Key Words: Academic Engineering, English, Skills Writing, Self-reflection, self-correction, data integrity, classroom instruction, online resources, writing process.

Introduction

An English writing program tailored to the needs of engineering students would likely focus on developing the technical writing skills necessary for success in the field. It could include instruction on writing technical reports, research papers, and professional documents such as proposals and presentations. The program could also cover technical vocabulary, grammar, and punctuation specific to engineering writing and effective communication strategies for working with technical teams. Furthermore, it could incorporate hands-on activities such as writing and peer-reviewing technical documents, giving presentations, and participating in group projects. The program could also provide resources such as writing guides, sample

documents, and feedback on student work. Engineering students often face the challenge of writing in English, the language of instruction at most universities. Writing in English can be difficult for engineering students due to the technical nature of their studies and the complexity of the language itself. Therefore, creating an English writing program explicitly tailored to the needs of engineering students can be beneficial. This program should be designed to help engineering students develop their writing skills and improve their ability to communicate effectively in English.

The English language: Used in Specific Contexts for Specific Purposes

The English language is used in a variety of contexts and for a variety of purposes. For example, in academic settings, English is often used for writing research papers and giving presentations. In professional settings, it is used for writing emails, reports, and proposals. It is used for everyday conversation, text messaging, and social media. Each of these contexts and purposes may require different language skills and knowledge. For example, writing a research paper requires different skills and knowledge than conversing with friends. An English writing program tailored to the needs of engineering students would consider the specific contexts and purposes of English used in engineering and design instruction and activities accordingly. Robinson (1991) points out two main points: a) ESP is goal-oriented, and people learn English to get a better job. b) ESP courses are made based on what the students need. It shows that the ESP course is designed for a specific group of people and considers their needs. The prime purpose of the course is to meet the needs of the students. Fiorito (2005) outlines the main distinction between ESP (English for Specific Purposes) and ESL.

ESP is a learning-centred approach that focuses primarily on the needs of the students. According to Hutchinson & Waters (1987), it is an approach rather than a product and should not be confused with a particular language or methodology. ESP offers an incredible opportunity for language students to learn in a way tailored to their specific needs and objectives. With methods based on the student's primary goal, ESP provides much more effective results than traditional learning approaches. This is a great advantage that cannot be overlooked!

English for Specific Purposes (ESP) emerged in the 1970s, allowing students to pursue their subject studies in English. It is now popular in many parts of the world, as it caters to students' vocational and professional

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needs by meeting their specific needs. In contrast, General English is described as English for 'No Obvious Purposes.' Hutchinson & Waters (1987) point out that in addition to the usual duties of a classroom teacher, ESP teachers must also perform needs analysis, syllabus design, materials writing or adaptation, and evaluation. Furthermore, most ESP teachers need to be trained in ESP teaching, as they need to orient themselves to a new situation. Bracaj (2014) elucidates the multifaceted roles of ESP teachers with clarity. Teachers must create engaging learning scenarios that focus on their students' knowledge.

They must also design course materials and curricula catering to the class's needs. The teacher must get assistance and guidance from field experts as a collaborator. Moreover, the teacher must be a researcher to create material based on the latest findings. Finally, as an evaluator, the teacher must assess their students' performance through tests and evaluate the effectiveness of the course and teaching materials. Harding (2007) identified several reasons for the emergence of ESP, including: - Increasing demand for intercultural communication - Growing academic interest in the field - Advances in technology that enable people to communicate effectively across cultures - Growing global awareness of the importance of understanding different cultures and their ways of communicating. He has mentioned the following factors for ESP (English for Specific Purpose)

(1) There has been a marked rise in vocational learning and training across the globe, leading to more significant opportunities for individuals to gain the skills and knowledge needed to succeed in the modern economy.

(2) Globalization is an ever-expanding phenomenon, and English has been selected as its language of communication. As a result, the use of English has continued to grow and spread across the globe.

(3) General English is taught worldwide at the primary level with great success. Unfortunately, students often find repeating the same course at secondary and tertiary levels tedious and unfulfilling. Therefore, it is essential to ensure that English studies have an application and purpose so that students remain engaged and can see the relevance of their studies.

Unlike traditional teachers, ESP (English for Specific Purposes) teachers have a variety of roles to play in language classrooms. However, as Harding (2007) points out, there are five primary roles they can take on:

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(1) Consultant or teacher of languages.

(2) Course creator and resource supplier.

(3) Researcher – not only collecting data but also gaining insight into the nature of the subject matter of the ESP field.

(4) Collaborator – Working collaboratively with subject teachers and providing support for subject teaching.

(5) Evaluator - Conducting regular evaluations of the materials and course design and administering assessment and achievement tests is essential for ensuring the quality and effectiveness of the learning experience.

While discussing the role of the teacher in the ESP classroom, he mentions that it is challenging because students may not have developed any knowledge or interest in their specialism. He emphasizes the importance of motivation when dealing with these students, emphasizing that "motivation is key to unlocking the potential of these students." He points out that :

Motivation is essential to adequate English language studies and the field of the studied specialization. Developing and leveraging both motivations simultaneously creates an exciting opportunity for the teacher and is in line with recent English Language Teaching (ELT) concepts such as Content and Language Integrated Learning (CLIL) (Harding 2007)

Weber (2001) proposed a concordance and genre-based approach to ESP essay writing, providing a strong foundation for law students to develop their essay writing and legal reasoning skills. This approach has two components: in the first step, students identify the structural characteristics of legal essays, and in the second step, they use concordances to explore the relationships between the generic structures and particular lexical items. Finally, they can write an essay based on the knowledge they have gained through the two steps. This approach is beneficial for those writing academic essays, as it encourages them to explore the structural characteristics of the genre and their possible lexical correspondences.

General Skills Of Writing

There is a widespread belief that Asian learners of English lack the skills of 'individual voice' and critical thinking. However, Stapleton's (2002) study has revealed that Japanese students demonstrate critical thought and individual voice elements. The author attributes the availability of the internet and its effects on the students' characters, which enabled them to articulate their ideas more clearly and to be able to critique the ideas of their peers, regardless of status. Stapleton suggests that teachers should be able to teach critical thinking and deductive writing style to Asian learners, who are usually stereotyped as collectivists and non-critical thinkers. Self-monitoring is widely accepted as an effective way to develop autonomy in language learning among learners. Charles (1990) and Chandrasegaran (1989) have highlighted the importance of self-monitoring for improving writing skills. Cresswell (2000) elaborates on potential issues with this technique. He believes that students may focus too much on the language and not enough on the content and organization of the text, as well as not being aware of their own needs and preferences. Cresswell suggests a three-stage program to train students in self-monitoring to address these issues. His study shows that such training positively impacts learners as it deals with the problems associated with self-monitoring as a technique.

Xiang (2004) conducted an experiment involving Chinese students to study the effectiveness of the self-monitoring technique in improving writing skills. The study's results showed that it is an effective tool in helping learners organize their compositions. However, the study also revealed that high-achieving students benefited more from this technique than those with lower achievements. Consequently, it can be concluded that self-monitoring is helpful, but its effectiveness may be limited for those with lower academic performance. Firkins et al. (2007) proposes an innovative hybrid pedagogy, combining genre-based and activity-based approaches, to teach writing to low-proficiency English students. This approach enables them to organize their writing better and understand the nature of the text in an activity-based setting, leading to increased achievement. In engineering colleges, final-year students must submit a project report based on the project assigned. As a result, most students experience project report writing problems. Flowerdew (2000) proposes a genre-based framework for teaching the organizational structure of academic report writing. She points out that adequate exercises focusing on genre structure and the problem-solution pattern must be given to students, which will be helpful for them in academic writing.

The Importance of Teaching Writing Skills

The methodology for teaching writing involves various techniques, the most prominent one being a brainstorming strategy, which has been proven to have a tremendous impact on learners' writing performance. Through research, Rao (2007) concluded that explicitly instructing students on the brainstorming strategy has an apparent positive effect on their writing performance. Additionally, the majority of students surveyed had a positive attitude towards it. Unfortunately, most teachers are still obsessed with a product-based approach to teaching writing. The study suggests that teachers should prioritize a process-based approach over a product-based while teaching writing to foster better writing performance. The use of technology in teaching writing is increasingly important in the 21st century, given the advancements in technology across all fields. Stapleton & Radia (2010) emphasize that new technological tools and online resources can effectively enhance writing pedagogy. Research has been conducted on various approaches to teaching writing, such as product-based, process-based, and genre-based approaches. However, little research has been done on the role of technology in the writing process. Technological tools and online resources are invaluable resources that can be effectively used to develop writing skills in students. Taylor (2003) argues that using collateral materials in classrooms can have a positive effect and academic impact. She suggests that sustained use of these materials can help students experience the empowering and transformative nature of writing. Taylor defines 'collateral material' as materials supplementing a lesson or topic.

> *Collateral material is a concept from the reading theory that provides supplemental information to enrich a student's learning experience concerning a particular topic or theme. It can include books, magazines, newspapers, or materials specially created by the teacher. In addition to providing details and experiences that clarify cognitive information, collateral material also allows students to gain practice in knowledge application and interact with competent writing in the genres being studied.*

Cotteral & Cohen (2003) explain a writing programme that utilizes the concept of scaffolding to encourage learner autonomy and involvement in the writing process. The features of this scaffolding-based programme are as follows: a) Subjects about contemporary academic topics; b) A predefined format for an essay c) Assisting in finding texts and data; d) The essay will be taught progressively, each week focusing on a

different section; e) A comprehensive model of the composition process is presented; f) emphasis on language; and g) Peer and tutor feedback are provided regularly. This approach promotes an active, engaged learning experience for students.

Students' Perception of Their Writing

Generally, students require valuable feedback from educators on their writing pieces to develop their writing abilities. Merely saying words like 'good' or 'very good' is inadequate as they do not give enough detail for students to grow. Laycock (2010) believes explicit teacher directions are essential, based on their observant examination of the student's writing process and outcome. The teachers must evaluate the students' writing methods, certainty, and autonomy in addition to their present understanding. This observation and evaluation of the students' writing can cause feedback which is beneficial in honing their writing abilities. Nurmukhamedov & Kim (2010) examined the effectiveness of four types of comments for student revisions: a) Expressions (expressing students' issues), b) Instructions (directly prompting students to alter, remove and include), c) Queries (demonstrating elements of uncertainty and doubt), and d) Softening (preventing directness by suggesting or implying). Their study revealed that imperative and hedging remarks were more profitable in creating meaningful and valuable revisions than questions, statements, and comments. This was attributed to the reality that, whilst statements and questions are informative and stimulating, they do not always effectively result in successful revision. However, while hedging comments are effective, students had difficulty understanding them. A few students were unaware of the differential between how hedging comments appear and what they are supposed to do. They did not consider these comments as strong suggestions because the teacher used the word 'can' to frame hedge comments, instead interpreting them as suggestions for revision.

Hamid (2007) challenges the typical method of simply supplying corrected forms of erroneous writings from pupils. He maintains that this approach has a limited instructional benefit for learners and underlines that the corrected versions of the students' errors may not correctly reflect what they truly meant. Instead, he proposes more efficient means of redressing written work and offering meaningful feedback. McGarrel & Verbeem (2007) propose formative feedback as a successful way to motivate student writers to amend their intermediate drafts. They point out the contrast between formative feedback and evaluative feedback. The latter evaluates the draft based on the idea of an ideal paper and focuses on sentence-level mistakes, whereas

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the former stimulates feedback that cultivates an inquisitive attitude towards the text, stimulating the student writer to modify the draft. Formative feedback encourages students to consider their communicative purpose and refine the draft more profoundly, building the abilities and habits of the student writers needed for draft revision. Teachers must also manage their conflicting roles as collaborators and assessors in the second language writing lessons.

Developing Academic Literacy in Engineering Writing

Mary Lea and Brian Street (1998) suggested three ways to enhance students' academic literacies. The first is the 'study skills' approach, which strives to improve students' writing skills by teaching them to write essays using a formula (e.g., introduction, main body, conclusion, references). The second is called 'academic socialization,' which focuses on providing students with the knowledge to succeed academically without assuming they are deficient. The third is 'academic literacies,' which encompasses both study skills and academic socialization. When attempting to foster academic literacies in a disciplinary context, practitioners may lack an in-depth understanding of the knowledge-making practices and how they shape and limit certain knowers and their knowledge. Thus, they may enter the context with a certain degree of 'inexperience.'

Experts in academic literacy aid students in comprehending and memorizing the norms or conventions of the field; it helps them showcase their understanding and expertise in the topic. (Paxton and Frith, 2013; Bharuthram and McKenna, 2006). The benefit of being able to ask open-ended questions is that it lets academic literacy practitioners make it clear that literacy practices are socially constructed. However, if academic literacy wants to get to the heart of disciplinarity regarding the underlying logic and drivers of the disciplines, they may need other tools to get to the knowledge structure.

English for Specific Purposes vs General English

The main goal of both General English (GE) and English for Specific Purposes (ESP) is to help students learn the language quickly and effectively. The main difference between ESP and GE is that ESP is aware of a need, while GE is not.

ESP students are conscious of their need for English and understand why they are taking an ESP course. They are aware of the purpose for which they require the language. (Nitu, 2002, cites Hutchinson and Waters, 1987). ESP teaching has a crucial advantage over EGP in that learners with a purpose for the English they are learning are often highly motivated and eager to be proficient at reaching their desired outcome. As Stevens notes, one of the main advantages of ESP is that it is pertinent to the learner (Dudley-Evans & St. John), whereas EGP students may not have the same drive and focus. Nonetheless, general skills are not exclusive to any particular aim.

The Features of Engineering College English Curriculum System

The College English curriculum comprises required and elective classes, giving learners various options. It ensures that the primary English needs of the students are met while allowing for personalized and specialized learning based on their English skill level and interests. In addition, the curriculum permits students to take comprehensive College English courses from freshman to senior year, depending on their circumstances. This ongoing and step-by-step parallel-course system facilitates the continuous enhancement of English ability as it aids them in achieving their desired employment. The following are the significant components of an effective curriculum:

- **Coordination of Required and Elective Courses**

    The College English curriculum has been designed to include compulsory and elective courses, providing students with diverse choices. The curriculum ensures that English language competency is met and allows for tailored and specific learning based on individual English abilities and interests. Students can take College English courses from first-year student to senior year, depending on their needs. This progressive, parallel-course system helps to improve English language skills and support their career goals continually.

EGP and ESP: An Effective Connection

English for General Purpose (EGP) and English for Specific Purposes (ESP) are two different approaches to teaching English as a second language. EGP focuses on general language skills that can be applied in various settings, while ESP is tailored to meet the specific language needs of a particular profession or field.

A connection between EGP and ESP can be effective because EGP provides a foundation of language skills, while ESP builds upon that foundation to provide specialized language knowledge. This combined approach can help language learners effectively communicate in general and specific situations.

Teaching in the Context of Extra-curricular activities

Teaching in the context of extra-curricular activities can effectively engage students and enhance their learning experience. By incorporating English language instruction into activities such as sports, music, or arts and crafts, teachers can create a fun and engaging learning environment. Additionally, linking language instruction to a specific interest or activity makes students more likely to stay motivated and engaged in their learning. This type of teaching can also help students to see the practical applications of language skills and how they can be used in real-life situations. Teaching English in the context of extra-curricular activities can be a valuable addition to a language curriculum.

Conclusion

To back this goal, a multi-faceted College English course system has been developed based on Engineering Education Accreditation Standards, the school's talent training objective, and the society's and individual students' self-evaluation desires. This system provides learners with various options, assisting them in meeting international engineering requirements. To foster students' initiative and increase motivation, a mixture of required and elective courses, a combination of extra-curricular activities and classroom teaching, and the effective pairing of EGP and ESP have been implemented. In addition, formative and summative assessments have been combined to create a novel assessment view, pushing students and teachers to uncover and address their weaknesses. Finally, the curriculum elements have been linked to craft a dynamic, open, scientific, reasonable, interdisciplinary, and cross-departmental College English curriculum system. The system is still in its early phase and needs the school's administration to coordinate and arrange it to reach the desired results.

Bibliography

1. Bracaj 2014, 'Teaching English for Specific Purposes and Teaching Training', European Scientific Journal, vol. 10, no. 2, pp. 40-49.

2. Dudley-Evans T., & St. John M. J. (1998). Developments in English for Specific Purposes: A multi-disciplinary approach. Cambridge: Cambridge University Press.

3. Harding 2007, English for Specific Purposes, New York, Oxford University Press.

4. Hutchinson & Waters 1987, English for Specific Purposes, Cambridge University Press, Cambridge.

5. Hutchison, T. & Waters, A. (1987). English for Specific Purposes: a learner-centered approach. England: Cambridge University Press.

6. Nitu, Raluca. (2002) Designing an ESP course – A Case Study. Dialogs 6/2002

7. Robinson, P 1991, ESP Today: A Practitioner's Guide, Prentice Hall, London.

8. Weber 2001, 'A Concordance - and Genre - informed Approach to ESP Essay Writing', ELT Journal, Oxford University Press, vol. 55, no. 1, pp. 14-20.