

THE IMPORTANCE OF ACADEMIC WRITING SKILLS TO THE ESL UNDERGRADUATE ENGINEERING STUDENTS

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Abstract: Many studies have been highlighting the poor academic writing skills of the undergraduate engineering students in the recent years. This is also evident from the gradual increase in the percentage of student failures in various subjects during the course of study. Though there may be many contributing factors like, increase in the number of colleges, lack of awareness on the importance of academic writing, inadequate exposure to writing at school, discipline-specific writing challenges- it is generally believed that undergraduate engineering students lack good academic writing skills. The study tried to find out the importance of good academic writing skills for the ESL undergraduate students studying in the colleges affiliated to Jawaharlal Nehru Technological University, Hyderabad.

Keywords: Academic writing, ESL learners, needs analysis, undergraduate engineering,

Introduction: Science and technology have over crossed borders to become the key ingredient for comfort and success, which cannot be imagined in the absence of foreign language academic writing skills in the field of engineering. Imparting academic writing skills to engineering students has become need of the hour as the exchange of scientific and technological communication around the world is taking place via formal, clear, academic as well as effective writing, usually in a foreign language of wide circulation.

Academic writing refers to the kind of writing that fulfills a purpose of education in a college or university but it has been under-explored, un-examined and poorly reflected up-on area in spite of being the centre of academic performance and success for both academic teachers and their students.

India is known for producing the highest number of engineering graduates compared to the other countries. Around 10 lakh students graduate in engineering every year. Numbers of studies have been highlighting the poor academic writing skills of the undergraduate engineering students in the recent years. Though the curricula of many universities include English as one of the mandatory courses, lack of good academic writing skills is still a matter of concern among the engineering academics

This study is confined to the academic writing needs of the under graduate engineering students studying in Jawaharlal Nehru Technological University, Hyderabad and its affiliated colleges in the newly formed state of Telangana. Around one lakh students graduate in engineering from these colleges every year, the largest ever from any university in India. The faculty of engineering was chosen because of its popularity among the student community as the software and technological industries are booming with opportunities all around.

Engineering Education in India:

The beginning: Technical education began in India in 1974 in the form of survey schools. It started with certificate programs and progressed to diplomas, and then to Bachelor's degree in the second half of the 19th century. The fifties of the 20th century saw the emergence of the post-graduate courses. Though engineering education started off with four engineering colleges, one each at Madras, Roorkee, Howrah and pune, independent India had 100 industrial training institutes, 53 polytechnics, and 38 engineering colleges. Post-graduate education in engineering began after independence, during the early fifties, followed by doctoral programs. The fifties and sixties saw the expansion of technical education.

The eighties and nineties witnessed the establishment of a large number of polytechnics, engineering colleges, and pharmacy and management institutions run on a self-financing basis in four states, Karnataka, Andhra Pradesh, Tamilnadu and Maharashtra.

The changing Scenario: The advent of Information and Software technologies increased the demand for engineering studies and resulted in the expansion of engineering colleges in the country and state. The shift in higher education from elite to mass institutions has brought new challenges. The amount of writing done in these courses, as well as the demands made on writing skills by employers has increased.

In the context of higher education institutions writing skills are emphasized from the beginning of the student's career. As a result students need substantial writing skills and, therefore, depend on regular and explicit instruction, advice and feedback. Learning through writing as well as developing writing ability is necessary today to successfully

complete higher education.

Writing in Undergraduate Engineering Curriculum: Undergraduate engineering program demands many writing assignments as part of the curriculum starting from Essay writing to Report writing. The students are supposed to write Essays and Lab reports very frequently throughout their four-year undergraduate engineering course. During their penultimate year and final year of the program the students are supposed to submit mini and main project reports. This is totally a new experience to the students as they are not exposed to such serious writing in terms of language, content and structure of the report. Thus most of the students end up in copying or taking the help of consultancies. Though the students have a course in English in their first year that doesn't really help them much in their project report writing

English Course: English is offered as one of the subjects during the first year. The course has two recommended texts; one is for detailed study and another for non-detailed study. Apart from this they also have 'English Language and Communication Skills lab' for practical use of language. The curriculum also has 'Advanced English Communication skills' lab in third year. Though the course aims at improving LSRW skills of the students the focus is on the general grammar, something the students have already got exposed to till their intermediate. Moreover number of hours per week and the testing pattern that focuses on content rather than language skills, discourage both the teachers and the students to focus on all the skills particularly, writing. Though there are tasks covering the writing needs of the students, they are not so comprehensive. Apart from that as the demand for discipline-specific language skill is growing rapidly this course seems to be very general in nature.

Importance of academic writing: Imparting academic writing skills to engineering students has become need of the hour as the exchange of scientific and technological communication around the world is taking place via formal, clear, academic as well as effective writing, usually in a foreign language of wide circulation. The task becomes even more challenging when it comes to ESL learners. The difficulty of acquiring academic writing competence in a second language (L2) is even greater because an L2 writer has to grapple with a wider range of issues, among which are L2 proficiency and cross-cultural differences (Leki 1996).

A great majority of novice writers, regardless of whether the language in which they write is their first or second language, need systematic guidance and well-designed instruction to acquire academic writing competence (Guangwei 2007). Writing is seen as the

most challenging skill for a significant number of undergraduate students who are studying engineering. Even after completing the course successfully students are found inefficient in meeting the course requirements in producing an appropriate piece of writing which is both linguistically and communicatively valued.

Evidence of the growing importance of English L2 writing is becoming increasingly dominant in both educational programs and in professional writing in non-English dominant countries (Leki, 2001).

Academic writing is a much desired skill for the students studying at tertiary level. Especially for the ESL students, academic writing is often perceived as challenging mainly due to their problems in grammar and vocabulary.

In the context of Asia, most students have not been exposed to academic discourse in their formal writing courses during secondary school education, and are often introduced to academic writing at university. As a part of the whole new cultural experience of university, students need to learn a new academic discourse because writing at university is very different to the style of writing which is taught at school (Davis 1994; Mullins et al. 1995)

It is generally believed that Academic writing skills epitomize the language of scholarship and demonstrate eligibility for higher education. It is the quality of an individual's written work that determines his or her scholarship and acceptance in academia. Poor academic writing skills have often been alluded to as a key factor in the failure of ESL students in meeting institutional literacy expectations. (Bacha, 2002 ; Zhu, 2004).

Academic writing is one of the most desired skills at university as the student's assessment takes place through writing. Academic writing fulfills a crucial function in the context of higher education; one needs "a specific awareness among students that writing is important. As the students advance through the university they are often expected to produce texts that increasingly approximate the norms and conventions of their chosen disciplines, with the expectation peaking at the level of post graduate study (Coffin, Curry, Goodman, Hewings, Lillis, and Swan)

Writing has been considered the most important or a major problem for students, and its importance is also supported by numerous other research efforts (e.g. Bridgeman&Carlson,1984;Horowitz,1986;Jenkins et al., 1993; Leiki & Carlson, 1994;Rosenfield et al.,2001;Zhu & Flaitz,2005).Traditionally, there has been greater emphasis placed on writing than on skills in the other language domains. A review of services provided by English language support centers (or writing centers) at the post secondary and

graduate levels and in journal articles also indicates that far more attention has been paid to the development of writing skills in the academic settings than in other domains.

The writing proficiency of the ESL engineering students may be reasonably fluent in English, but they have problems with organizing their ideas coherently. This leads to the failure of presenting their own thoughts because they lack 'independent, critical and self-monitoring approaches to inquiry. Adjustment of students to the expectations of their lecturers is very crucial to success at university. This adjustment is especially important in relation to writing skills, as writing is the most common medium used to assess students' grasp of the content of their courses (Bickmore-Brand 1998)

Earlier Studies: Engineering curriculum always stressed the need for sound language and written communication skills to produce competitive professionals to meet the demands of the global market. The Society for Manufacturing Engineers in its, *Manufacturing Education Plan: Phase I Report, "Industry Identifies Competency Gaps Among Newly Hired Engineering Graduates"*(1997), expressed serious concern over the communication skills of the newly hired engineers who are not adequately competent in the areas of "specification writing and Report writing. The findings suggest that the students are graduated without having learned to write well within their disciplines. One of the possible reasons for this competency gap is reported in 1996, in a college teachers of English for science and technology (EST) report entitled "*Designing English Writing Instruction for Students in the Sciences and Technologies; Research, results and Applications*". In this report Robert Orr states that "unless both students and teachers have sufficient knowledge of the unique purposes and characteristics of English as it is used in a student's target field of study, writing instruction will be no different from that in general English course, and thus, less effective in enabling students to successfully carry out profession related tasks"

Another study on writing was conducted at AUC (Arrigoni, 1998). Professors from all the departments were surveyed about the writing of their students and writing tasks in their courses. The results revealed that the students in the department of science and technology had to deal with a number a variety of writing tasks including essay tests, analytical papers, abstracts of readings, documented papers, essays/themes, journals, laboratory reports, case reports and technical reports. The professors across the disciplines generalized the problems saying lack of organization and critical thinking is the major problems with the student writing

Gonobcsik-Williams (2006) conducted a survey of faculty across multiple universities in the U.K focusing on academic writing in various disciplines including engineering. 98% of the faculty indicated that they expected students to show a substantial improvement in writing by the time they graduated. Among the features of writing that are expected to improve were ability to form arguments, write appropriately for specific audience and use language and argumentative structures appropriate to disciplinary conventions.

Zhu (2004) interviewed professors from the fields of engineering and business regarding the importance of student writing in their respective disciplines. Faculty from both the disciplines affirmed that writing was important in their areas, particularly at professional level.

Pineli's study (1995) examined the communication skills of aerospace engineering students in the view of practicing professionals in the industry. The results strongly supported the need for strong language and written communication skills in transition from academics to industry

In Nesi and Gardner's (2006) study in the U.K, the faculty across the disciplines expressed their view that writing at undergraduate level should progress towards in the research academic genres. Adjustment of students to the expectations of their lecturers is very crucial to success at university. This adjustment is especially important in relation to writing skills, as writing is the most common medium used to assess students' grasp of the content of their courses (Bickmore-Brand 1998).

Writing is frequently identified as a particularly difficult skill by ESL/EFL students. Evan's & Morrison's (2010) extensive survey of EFL undergraduate students indicated that writing was seen as the most difficult skill, a result corroborated in the interviews with students. Lack of experience with the genres and appropriate referencing, Integrating sources, difficulty in understanding the assignments and using an appropriate writing style are the problems identified by the learners.

In Huang's (2010) questionnaire of Canadian professors and ESL students, 35 out of 45 skills are listed as needing improvement in their undergraduate studies, out of which 10 are related to writing. The three skills needing improvement from the professors perspective are : Producing writing that effectively summarizes and paraphrases the works and words of others, organizing writing in order to convey major and supporting ideas, and demonstrate a command of standard written English, including grammar, phrasing, effective sentences, spelling and punctuation.

Conclusion: Student writing is at the centre of

teaching and learning in higher education, fulfilling a range of purposes according to various contexts in which it occurs. It is most often an invisible dimension of the curriculum; that is the rules or conventions governing what counts as academic writing are often assumed to be part of the 'commonsense' knowledge students have and are not thus explicitly taught within disciplinary courses. Lack of student's familiarity with the academic writing conventions cannot be justified with general assumption that they will pick them up in the process of learning their subject knowledge.

Academic writing has been an integral part of the engineering academic world. Learning how to write in a second language is one of the most challenging aspects of second language learning. Perhaps this is not surprising in view of the fact that even for those who speak English as first language, the ability to write effectively is something that requires intensive and specialized instruction and which has consequently spawned a vast freshman composition in colleges and universities around the world.

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