

## **Developing a Consciousness for the International Student both Undergraduate and Graduate**

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The impact of the international student has not been heavily felt at the undergraduate engineering department level in the past. Enrollments in the freshman through senior years have only accounted for approximately 2.5% of the total enrollment for an entire college of engineering. The numbers in the last two years at XXX have shown an increase in the international student population of 25% of the incoming freshman class. Now when considering the number of international students at the graduate level, there has always been a large population of international students, especially at the PhD level. As many as 70% of the students enrolled in engineering graduate programs at XXX are international students. The degree and competence of international students on the technical level is not in question. The ability to communicate at either an undergraduate or graduate level in the English language is, on the other hand, something that has to be taken into consideration at all universities. Students must not become frustrated because their skills in communicating the English language do not equal their technical skills. The realization of this possible inadequacy should make faculty members all the more cognizant of the need to foster communication skill acquisition in their courses. This focus on communication will also bring the students who are being educated in the English language into a greater respect for the language that they use. Ways to approach these language difficulties and possible means to encourage improvements in the communication skills of international engineers will be the aim of this paper. The focus will be to construct a means to help the incoming students, both undergraduate and graduate to function more comfortable in the US schools.

Engineering students need to be told to let text flow from the knowledge that they possess. They need to sit down and brainstorm the information that may or may not be included in their writing. Telling students to make an effort to generate as much text without a concern for order or grammatical correctness produces a wealth of material that a student can then organize into a coherent document. By producing copy with as much information as the student can generate, a clear indication of gaps in necessary material will also be evident. Suggesting that outlines should be produced from this early writing will allow the student to see the direction in which the text will move, a movement that will result in a much more competent production.

A common concern among faculty readers is the level of poor grammatical skills expressed by student writers. But where does one start in a fluid mechanics or in a vibrations course to address these concerns. The unfocused feeling expressed by faculty is probably the same as the students who have no idea where to begin their reports when they have only the blank computer screen in front of them. There needs to be a basic list upon which to focus. After looking at a wide range of technical reports, a common set of errors came to light. These errors were in the use of tense: especially present and past. A simple request to look at the tense usage in text may be enough to correct some of these mistakes. Another area that seems to appear in many pieces of student text is incorrect documenting of sources both in the text and in the way bibliographies

and reference lists are created. A great deal of complaint is raised, but if examples are given in the early days of a class, the problem might simply disappear. The last broad grammatical problem area concerns simple punctuation mistakes: punctuation with equations, both before and internally; where to place commas; the use of the semi-colon; punctuation with lists; and where does the punctuation go in figures and tables. A few grammar rules presented in the context of technical documentation to an engineering course at the beginning of each semester or quarter will, in most cases, eliminate many of these mistakes.

By looking closely at concerns raised by students and faculty alike, a movement to better text production can occur.