

## Improving Retention and Satisfaction by Connecting to Students

**Barbara Christe, Ken Reid**  
**Indiana University Purdue University Indianapolis**

### Abstract

This paper will explore methods to promote student satisfaction in ways which are aside from effective teaching tips. The focus of the paper will be on activities which supplement instruction; that is, techniques and suggestions to connect to students. The paper will present ideas which can change attitudes and viewpoints of traditional engineering educators, empowering them in the pursuit of student success. The underlying premise of the paper is that most students come to a particular university because of the overall educational experience, not because of one specific instructor. The result of this student motivation is that individual professors do not have an intrinsic value to the students. Yet, it is this intrinsic value that professors use as the foundation for their educational presentations. That is, students should want to hear what a professor has to say in the classroom - because the professor at their chosen university is saying it.

As engineering educators seek to promote student satisfaction and improve retention, the use of technology to meet student expectations will also be explored. Faculty will work to meet student technology needs when it is seen as beneficial and perceived as easy to use. This paper will explore the use of technology and how traditional engineering faculty can use it to connect to students.

### Introduction

A student is the most important person in the school — on the phone, in person or by mail.  
A student is not dependent on us — we are dependent on them.  
A student is not an interruption of our work — it is the purpose of it.  
A student is not an outsider to our business — they are our business.  
A student is not someone to argue or match wits with, they must be treated with kindness.  
A student is a person and not a statistic.  
A student should become our best possible graduate.

Faculty may not agree with or appreciate the value in the suggestions contained within this paper. Many of the ideas are opposite to the experiences the faculty member may have had as an undergraduate. In addition, faculty may feel that these tips will have a counter beneficial effect — resulting in students who cannot be successful in other classes or in the workplace. However, it is the authors' contention the perpetuation of the “traditional” engineering instruction (I talk, you listen) may not be a model which will reach the most students and encourage a wider range of student success.

### *Acknowledge Student Frustrations*

Sometimes the materials seems so basic, so straightforward, it is amazing to a professor that a student cannot grasp the content. However, faculty should validate a student's feelings of confusion and frustration. This will allow the student to better communicate and address their difficulties. Answering questions with extreme patience and clarity, without negativity can have a very positive outcome for the student.

Include actions like: Explain a topic several different ways, engage teaching assistants, former students and group activities to approach material in ways that can help struggling students. Provide supplemental problems and worksheets for reinforcement and repetition.

### *Identify the Long-term Benefits*

"Will we ever use this again?" is such a common student question in the academic environment. When faculty reinforce the application of content to the future, students can see purpose in their hard work. Sometimes content is foundational. Problems students solve will not be related to future employment activities. Faculty need to emphasize the skill building and conditioning activities in early courses. Analogies to athletics are helpful – describing physical conditioning activities such as sit-ups, which build tone but are unrelated to a specific sport.

Include actions like: If a topic is purely foundational, acknowledge that the material will build problem solving and analytical skills. Use brief, simplified real world examples and case studies to support course content. Connect the theory to the real world situations.

### *Responding to Non-Verbal Cues and Actions*

Faculty who are aware of the actions of students can tailor activities to motivate desired behaviors. For example, if students are not attending review sessions held by the teaching assistant, do not dismiss this as "their loss." Rather, seek out techniques which would encourage their attendance (bonus points, practice tests or even food incentives). In addition, faculty who respond to extreme student stress, for example, with a kind word, ("Why don't you take a break for a moment") can demonstrate humanity and kindness, eliminating student anonymity and promotes positive faculty/student relationships.

### *"In This Together" Attitude*

Faculty who are detached from student success cannot promote student learning. Connection between the student and the instructor is vital. For example, does the instructor value class attendance (translation: "Will anyone notice if I am absent?")? Is there accountability for student assignments? In the older model of "I talk-you listen," there is little need for encouraging student responsibility – it is intrinsic within the student since they inherently know the value of attendance and homework. However, when the self-motivation is missing, faculty can foster it, sharing their expectations to cultivate student inspiration.

Include actions like: take attendance, learn the names of the students, keep posted office hours and encourage students to visit, during laboratory sessions move among students and ask how the lab is progressing. Do not completely rely on lab assistants and teaching assistants to make the student connections.

### *Stake in Student Success*

School administration can encourage faculty interest in student success with incentives for faculty to support student learning. When a list of the top 10 classes with WDF grades is created, administrators can encourage faculty to NOT have their class on the list. Administration can promote the concept that the encouragement of student learning and success does not diminish the quality of instruction. In addition, administration can encourage faculty to look for support ideas which do not increase their workload. Administrative determination of high WDF courses for a school or department can identify which courses need additional support.

Include actions like: provide incentives for instructors who establish student mentors and tutors for high WDF classes, create a climate which facilitates and encourages faculty accountability for office hours and email responsiveness.

### *Ability Versus Attitude*

Some students are quite capable of learning course material but may be completely unable to maintain a good attitude to do so. Faculty must acknowledge that some students who could become excellent engineers may fall on either side of the spectrum of ideal classroom behavior. For example, some students cannot communicate well with other students in group work but have good academic abilities. Providing additional encouragement and guidance to these students might promote success. Conversely, some students may depend too heavily on group work and other students efforts. Again, individual guidance and reinforcement may prompt students to acknowledge deficiencies and work to remedy the situation.

Include actions like: have the teaching assistant facilitate group activities to be sure all students are engaged, allow the laboratory assistant to use assessment tools like rubrics to evaluate group activities.

### *Responding to Student Requests to Use Technology*

No one will argue that many students are highly technically capable. They use instant messaging and email to communicate throughout the day and night. With this in mind, instructors need to address these unspoken technical expectations of students, facilitating faculty-student interactions. Faculty do not need to be available at the whim of the students but they need to explore the use of technology to connect with students. However, the use of technology to support a traditional classroom may be a hurdle for some faculty. Willingness to explore new technologies is a critical feature of faculty excellence. Use of student/faculty email should be required regardless of individual willingness. Additional course support (tutorial web sites, for example) may be campus specific. However, there are many web resources which already have been created (see MERLOT, for example) which can supplement a course without individual faculty effort.

Include actions like: Clearly articulate electronic availability such as email response time, provide support such as web site design, consider video or audio streaming of lectures, use electronic gradebooks. Consider facilitating electronic communication among students. Explore web-available tutorials which already exist and can supplement instructor's presentations.

## Conclusion

There is mounting evidence that traditional engineering teaching methods will not promote student success and produce the number of graduates needed by society. Changing attitudes of engineering faculty is not an easy or simple process. However, understanding fundamental and basic changes that can be introduced slowly to the teaching environment can profoundly influence student satisfaction, retention and success.

## Bibliography

### Biography

BARBARA CHRISTE is an associate professor of electrical engineering technology and program director of biomedical engineering technology. She has taught mainly freshman and sophomores for 20 years and is dedicated to the promotion of student success through effective teaching.

KEN REID