

## **Getting students to talk in class...Using K-12 Interaction to reinforce instruction in Constructive Feedback**

**Laura Lucas**

**Indiana University-Purdue University at Indianapolis (IUPUI)**

### Abstract

The issue of getting college students to actively participate in team situations has become a more pressing concern as team projects are increasingly added to courses to fulfill the most current ABET criteria. But the problem is that students are not prepared to successfully participate in teams, being that they are seldom taught how to express their ideas or how to effectively discuss someone else's ideas... two basic needs for successful teamwork. With the increasing role of group work in student learning, faculty have an increased responsibility to teach students how to collaborate successfully on group projects... in essence, 'how to develop a whole that is better than the sum of the parts'. The focus of this paper is on one aspect of team collaboration... the teaching and use of constructive feedback to discuss and evaluate each others ideas and/or projects as incorporated in the course ART 155 Residential Construction as part of a School Faculty Development Grant beginning during the 1999 school year, and continuing to the following semesters.

Furthermore, to truly reinforce in class instruction in constructive feedback, I also take my college students outside the classroom in an outreach program to local High School drafting classes. Students and professors from Residential Construction - ART 155 volunteer as jurors or possible clients for high school residential design projects, thus practicing their lessons in the constructive exchange of ideas by discussing the work of the K-12 students. I have found my students especially motivated to 'know their material', and particularly eager to be on the 'giving side' of the discussions, to, in effect, take on the role of teacher to the high school students. By practicing in an 'out of class setting', we expect to 'set in' the learning objectives, toward the ultimate goal of being a better team member, with better team results.

The benefit to the students is twofold, involving both the process and the product of team collaborations... not only will they enjoy teams more, but they will also get better results. Too many students are not prepared for the give and take of the professor's (or other team member's) comments, taking the suggestions negatively or too personally, instead of as 'constructive feedback.' By teaching the process and rationale behind critiques and having them participate in both giving and receiving comments, they will be better able to evaluate and incorporate the comments and ideas of others in both their professional and personal lives.

## School Faculty Development Grant description

These ideas were formalized into a internal grant which was awarded for the School year of 1999. With the support of this grant I could take my college students outside the classroom as an outreach program to local High School drafting classes. This was achieved by providing students and professors from Residential Construction course ART 155 to act as jurors or possibly clients for high school residential design projects. My thought is that participating in critiques of residential projects, both the giving and taking of comments, is the best way to learn the concepts taught in the classroom, both how to design residential structures and how to give and take constructive criticism. The students will be motivated to “know their material” since they will be leading the discussions, in effect being the teacher to the high school students. This program is to support adding the concept of teaching “constructive criticism” and community activity to the class curriculum and to encourage high schools to participate in this activity.

Itemized budget and purposes of expenses where as follows:

Faculty stipend .....\$3,800  
to develop of a Brochure to explain the Outreach Program to High School Teachers: refine Teaching Materials and Curriculum to add the Constructive Criticism Components to the Course: and develop a Guideline of Ground Rules of Constructive Criticism

High school jury support expenses..... \$ 600  
This will consist of funding allocated to the participating high school class to offset the expenses associated with having a competition or juried event. It would be used for reproduction expenses, printing supplies, as well as participation incentives and awards. Figured at \$150 x 4 juries

Supply needs .....\$ 600  
Phone, Fax and Mail Expenses for distribution to contacts within the H.S. Community Printing and copying Expenses; Specialized Equipment Travel expenses to and from the High Schools

Total amount of grant.....\$5,000

### Project Objectives:

This teaching strategy would reach potential college students, by taking this formalized, well taught and practiced methodology for constructive criticism to local high schools to jury their work. I have found that many high school drafting classes engage in projects and in their quest to make these projects “Real Life” need impartial and yet appropriately trained ‘clients’ and jury members to critique and/or judge their projects. The increasing popularity of the AIA’s local High School Design Competition ( over 60 entries last year) and the use of in house competitions to prepare for the AIA’s event indicates an increasing need for jury members.

By collaborating with faculty at the high schools, we will be more aware of the context in which our potential students are learning drafting, thus leading to better recruitment and retention of these college bound students. This informal exposure to our students will provide mentoring and career guidance to the H.S. Students that they may have no other access to. Exposure to the high school situations that our college students are coming from will make us better prepared to teach

those students, and the better they know what we at the School of Engineering and Technology have to offer... the better prepared they will be to make informed college and career choices.

Another objective of this activity will be to create a learning environment that will motivate our students in a new way. They will be motivated to learn the concepts of good criticism, because they will be “on show “so to speak, themselves when they go out to these high schools as the ‘expert’, also being there as mentor or role models and perhaps providing career guidance back to this community of high school students.

### Significance

The Expected Benefits of integrating this outreach to High Schools is to better teach the objective of discussing and presenting your ideas. To, in effect, ‘set in’ the teaching, by practicing it in an out of class setting. I think that learning and practicing among your classmates and with the professor is not well rounded enough, that having to be the jury to others, especially to a younger version of yourself (high school students of art or drafting), would be the ultimate test of what was taught, retained and best put to use. Too many students are not prepared for the give and take of the professors comments, taking the suggestions negatively instead of as ‘constructive criticism.’ By teaching the process and rationale behind critiques and making the students participate in giving and receiving comments comprehension should increase.

The Improvement in student learning is that they can practice what they have learned inside the normal classroom, but with real people and in real situations outside the classroom, thus furthering the departmental goals of supplementing in class learning with hands-on experiences. Specifically students in ART 155 would be learning the communication and interpersonal skills necessary to appropriately and constructively express both positive and negative feedback in a professional, non-threatening way. These kinds of feedback skills will be useful in their personal lives, and in future community and/or political involvement. Being on both sides of the jury process can only increase acceptance of and capacity for giving constructive criticism.

In terms of the IUPUI Principle of Undergraduate Learning Five-c, (operate with civility in a complex social world) , this experience has the student experiencing the fulfillment of being an influence in the lives of others, but most importantly, they learn to give and take criticism an aspect of Conflict Resolution, which will be of value their entire life.

Implementation situation : Art 155 Residential Construction

The major goal of this course is to introduce the student to the process of designing and drawing residential buildings, but now the aspects of constructive feedback have been added. Included in the structure of the course, as a replication of real life scenarios, the students must explain their design concepts and room layouts to other students and the professor, who critique their designs. Successful designs and careers in residential construction are a collaboration between the user and the designer, thus the designer must develop the skills of listening , relating to and incorporating the ideas and comments of others (usually their boss but also the client).

The teaching and practicing of the “art of constructive criticism” in a formal way has been added

to the class curriculum. The current learning objectives of this class include communicating design ideas both orally and graphically, especially by means of two way feedback, how to effectively give and take feedback is becoming a more substantial part of the course.

Students must learn how to incorporate ideas and suggestions from both clients and supervisors, as they will be doing once they enter the working world. In class we do this by giving presentations to classmates and the professor who give feedback and criticisms (we call these class critiques). It is important for their professional development to be able to listen, relate to comments and reflect those comments in the development of the designs or drawings. In most courses like this, though, students learn to give and take this criticism in an informal way, learning as they go, often giving and taking it in a personal and often inappropriate way. But with the added emphasis on this aspect of learning and by widening the scope to giving criticism (to the high school students) has enhanced and improved their learning.

Assessment of their feedback activities, as a way to show the students how much they have learned from the process and the experience involved a survey about the content and usefulness of this part of the course. Eventually this will be broadened into a series of essays beginning with an essay of how it feels to be juried, and then proceeding into a set of expectations as to how they would like to be treated while being juried. Then, after the student has been taught how to give and receive constructive criticism, they will do a final essay to compare being on both side of the jury. During the first semester of this grant, I had two sections of the course and one visited a High school and the other didn't, so I could thus compare their survey answers. Survey results indicated both a better retention of construction feedback concepts as well as better acceptance and willingness to use it both in class and in their personal lives for those who visited the high school. Additionally, those who went reported enjoying the experience.

#### Future impact – Wider application

The most important future impact of this program beyond the students taking the class will be with the high school students who have had a special exposure to IUPUI and the Construction Technology Program. With this Outreach program the degree programs here at IUPUI will be better known to High School students and hopefully with that increased knowledge will come an increased enrollment of high school students in the Purdue School of Engineering and Technology and CNT.

#### LAURA LUCAS

Visiting Lecturer of Architectural Technology of Purdue School of Engineering & Technology at IUPUI. B.S. of Architecture, Ball State University, M.B.A. – Management, Indiana University. She has over 20 years of industrial experience in design, construction and engineering and technology education. Member of ASEE, and is a registered Architect in Indiana. Prof. Lucas was named a Faculty Fellow for the Frontiers in Education Conference in 1999.