Special Session - Have You Tried…? The Sequel

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Abstract – This special session is organized to provide a highly interactive forum for a spirited exchange of varied ideas and teaching techniques between presenters and audience. Six presenters have been invited in advance by the session chairs with each presenter limited to 5 minutes and 3 slides followed by 3 minutes of discussion with the audience. Members of the audience are encouraged to bring a 1 paragraph summary for a random selection of up to three additional presenters. A 12 minute, informal exchange between all participants will follow the speakers. Under ideal conditions, the rapid, paced presentations and exchanges with the audience will make it difficult to distinguish between the presenters and the audience.

Index Terms - Classroom techniques, Technology in classroom, Active learning, Alternative presentation methods, Student teaming, Design experiences, Active learning, Laboratory practices, Service learning, Multi-campus collaborations, Classroom management

SESSION GOALS & EXPECTED OUTCOMES

Many sessions take on the form of “6 papers and leave” with very limited time for the audience to interact with the speakers. This session is designed to provide a respite from these usual sessions with lively discussion of many ideas. It is our intention that those engaged in these lively discussions will become so loud and rowdy that the session chairs will be held by authorities for inciting a riotous situation. A 12 minute, interactive exchange at the close of the session will allow presenters to share handouts and business cards, and to engage in discussions with members of the audience. This session is intended to establish many “teachers’ networks” among those in attendance. Furthermore, the session will be video-taped for inclusion on the FIE website.

TOPICS

Classroom techniques, Technology in classroom, Active learning, Alternative presentation methods, Student teaming, Design experiences, Active learning, Laboratory practices, Service learning, Multi-campus collaborations, Classroom management

SESSION AGENDA

The presentations of this special session will NOT be synchronized with the other simultaneous sessions.

- Introduction and Ground Rules by session chairs (2 min)
- Six Invited and three Audience Presentations (72 min)
  - Limited to 5 minutes presentation
  - Limited to 3 slides
  - Audience-presenter exchanges limited to 3 minutes
- Interactive exchanges between presenters and audience (after all presentations completed) (12 min)
- Wrap up by session chairs (3 min)

PRESENTATIONS

…To Life Assignments
Nadia Kellam, Assistant Professor, University of Georgia

As an undergraduate student that began my studies in a liberal arts pre-engineering program I had an “aha” moment when I found the commonalities between the subjects of Dynamics, Calculus III, Physics II and Western Civilization. After this I began seeing the world around me in a different light. Suddenly I was connecting everyday activities such as bowling with principles that I learned in my coursework. I introduced a “…To Life” assignment that encourages students to relate the course to their professional and everyday lives. This assignment consists of four smaller assignments that each encompasses a one page written reflection and a short presentation. The students written reflections, presentations, and informal discussions demonstrate that the assignments are successful in encouraging the students to make connections between technical disciplines and their lives. This presentation will include what worked and what did not work. It will conclude with advice to instructors interested in implementing a similar set of “…To Life” assignments.

Matlab Modeling in Bioengineering: A Lecture-free Format
Thomas Cathcart, Professor, Mississippi State University

This course is based upon the principle that mathematical modeling is best learned actively. Presentation and assignment submission is via Webct. During class, lecture is limited to 10 minutes. Students use laptops for the exercises. Exercises not completed during class become homework. I encourage students to learn from each other and, on a good day, the class is quite noisy.

Use of Matlab has reduced time spent on programming issues and allowed more time for modeling. Use of a web-based format raised questions about attendance. Most students felt that mandatory attendance provided needed structure.
Grading with Class

David Scott, Asst. Professor, Drafting, San Juan College

We all know how important prompt feedback is to students when they submit an assignment. What could be faster than grading papers interactively with the class immediately at the beginning of the class the assignment is due? The class observes the instructor grade the first one or two submittals projected on a screen where deficiencies are noted, markups applied and explained, proper techniques reviewed and strengths of the work are praised. Weaknesses and strengths are tied to previous lessons, providing the students a review.

After a few examples, the students are themselves prepared and usually eager to begin grading. At that time, a paper is projected at the front of the class and students are asked to raise their hand when they spot a deficiency and to explain what is wrong and what mark to apply. When the students are done, the instructor notes any errors not discovered by the students and commends the strengths of the project. The class then votes on a grade for the work.

This technique can work well in all levels but particularly well in an introductory course where it promotes early interaction and familiarization between the instructor and students. It also instills in the students the sense that students and faculty are often collaborators, not adversaries.

Using Charades to Prepare Engineering Students for Professional Presentations

Kelly Agee, Instructor, Mississippi State University

This presentation describes one activity used in a junior-level technical writing course required of all engineering and computer science majors at Mississippi State University to help prepare students for the two collaborative oral presentations delivered in this course as well as future professional presentations in their careers. The activity presented here is an adaptation of the popular game of charades, in which participants must convey ideas to audience members without the use of verbal communication. Students work in groups to brainstorm characteristics of effective oral presentations. Each group then presents one of those characteristics to peers in the class in the charades format. After every group has presented a characteristic, I take the opportunity to engage students in discussion about oral presentations and the positive and negative characteristics associated with them. Students are eager to participate. Students also have stated at the end of this activity that they enjoyed the charades method more than they would have with and ordinary class discussion. In addition, using this method gave me more of a basis for discussion because I had a better idea about my students’ expectations and prior knowledge of professional presentations.

ACKNOWLEDGMENTS

We acknowledge the inspiration offered by the original presentation “Have you Tried…?” bravely and successfully lead by Alisha Waller and John Lindenlaub [1]. We thank the presenters for their willingness to introduce new material in a non-traditional venue and the audience for exchanging ideas with the presenters and other members of the audience.

REFERENCES


Session F1E

Thermal Tug-o-War: A competitive, hands-on approach to learning basic heat exchanger design

Daniel P. Cook, Asst. Professor, Univ. Nevada, Las Vegas

The "Thermal Tug-o-War" is a thermo-fluid design competition in which teams of students are assigned to design and build either heating or cooling heat exchangers. The heating and cooling teams are then pitted against each other to see which of the teams' heat exchanger can have a larger effect on the temperature of a "thermal reservoir". Through this competition, students get practical, hands-on exposure to convection heat transfer, Bernoulli's equation, pumping system design, and materials selection. The project was a huge success as a tool for building excitement and giving the students hands-on experience at the difficulties of fabricating an actual heat exchanging device.

This presentation will give details on how the competition was originally staged and how it has continued to morph to become a more valuable learning experience for the students.

How to Increase Communication in the Classroom

Parvin Shariat, Lecturer, California State Univ. Long Beach

When the school started using Blackboard software I took the opportunity and started a forum on the DISCUSSION BOARD. Students could post their opinion about what was going on in the class anonymously. I believed this will enable students to respond to each other’s comments and talk about the way that each of them sees the same issue. This did not happen!!! So, after each exam I post a SURVEY that they can comment about the exam, how they studied for it and whether they are happy with their performance. This will make them think about their study habits and how it affects their performance in the test. I also ask them about what they like to see changed in the classroom and if they are going to change anything in their own study habits. After they fill the survey, which is done anonymously, I discuss the results. This whole process has brought me much closer to the students and the level of performance and communication in my classes has improved tremendously. I do this in all my classes regardless of the level.