# WISOD INNOVATION ABSTRACTS

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### IS YOUR POWERPOINT COMMUNICATIVE?

"If we turn the lights off, we can see the slides better," one of my students suggested helpfully. Her classmate had just finished delivering a speech about the dangers of a particular anti-stroke medication, complete with animated PowerPoint slides featuring an alarming visual of a package of rat poison, a highlighted bulleted list zooming in from the margins of the screen, and a picture of compliant patients having their blood drawn.

I sighed inwardly and explained once again that public speaking is an act of communication that takes place between *people*—people who confront one another face-to-face rather than being buffered by a mediated image. Furthermore, public communication is a *transactional* process between speaker and audience, meaning we have to see one another to send and respond to messages and audience feedback; and, incidentally, I as the instructor must be able to see the speaker clearly in order to evaluate delivery. Moreover, I continued, the technology is not the star of the occasion. And, by the way, I concluded, do you not find sitting through slide after slide boring?

Although a few students nodded their heads in agreement, I could see that my explanation was accepted only grudgingly by most of the class. After all, had not they spent hours creating these images? Should not the audience receive the full razzle-dazzle of this remarkable technology? And did not their professors do the same thing in their lectures?

Yale scholar Edward Tufte claims that PowerPoint is a catalyst for stupidity and boredom that destroys speaker credibility and deteriorates the communication process. I recall several years ago, while attending a regional conference, sitting in a packed room of communications instructors listening to a speaker demonstrate the use of PowerPoint. We craned our necks to see over the heads of a standing-room-only crowd to witness the awesome spectacle of computer-generated slides. Since then, college classrooms everywhere have sprouted computer projection systems, and administrators have

demanded that this expensive technology be put to use—although the evidence to support how well it improves learning has yet to be offered.

Many of us have been seduced by PowerPoint. Often, we use it as a substitute for lecture notes; we use it to relieve students of note taking; and we use it just because it is there, without thinking about what it is doing to our audience of would-be learners.

Using PowerPoint for lecture notes has some unfortunate results. What could be more predictable than the next click bringing up yet another item in a bulleted list? Regardless of the meanderings of our minds and those of our students, we are all tied to the predetermined outcome of the next click. Our destination is fixed, and we shall arrive together. Is this how the thinking process ought to be taught in a college classroom?

Furthermore, students expect, even demand, that pages of slides be duplicated for them prior to class meetings. This consumes untold amounts of paper. It also kills the need to take notes. There is ample evidence that note taking is an important skill that helps the notetaker learn and retain information, and that students generally lack that skill. [I might add that the notes I took in my graduate classes have become my most important resource. They contain not only the content I recorded in my courses, but my personal examples and reactions to the material as it was being delivered. I wouldn't trade these notes for reams of PowerPoint printouts.] Moreover, we are inducing laziness in our students when we deprive them of the opportunity to learn how to take notes and develop good note-taking skills in our classes.

Finally, the effect on the audience is stunningly negative. An inept speaker joins the audience in gazing at the screen as she clicks along, reading the material in a detached manner, never making herself aware of audience reaction. Eye contact is nil. The flexibility that is the hallmark of a good speaker is missing. There is no opportunity for it; everyone knows the presentation will plod along to its foregone conclusion. Speaking no longer becomes a transactional process between speaker and audience, but instead is transformed into nothing more than a narration. Why not simply e-mail the slides

to the students and allow them to read the material at their leisure?

PowerPoint *can* be used well. It is an effective way for a speaker to share photographs and graphed data. But when it becomes a mere backdrop, or when it is cluttered with meaningless "string bean" figures hopping up and down, or when it is merely an outline, it loses its power to help the speaker communicate and becomes mere gimmickry that does more harm to the process of communication than it does good. Each and every image we incorporate must have a reason for being. We need to use PowerPoint mindfully or not use it at all.

#### Gretchen Aggertt Weber, Professor, Speech

For further information, contact the author at Horry-Georgetown Technical College, 2050 Highway 501 East, Conway, SC 29526. e-mail: Gretchen.Weber@hgtc.edu

## PROGRAM FOR CONTINUOUS IMPROVEMENT: ENCOURAGING TEAM LEARNING

To encourage students to form study groups as a means of improving their learning and test scores in my general chemistry courses, I developed the Program for Continuous Improvement. This teaching method was modeled after industrial programs designed to improve products. The product in this case was each student's performance on exams. In this program, student teams set individual exam score goals and receive rewards or penalties for exceeding, meeting, or falling short of the goals they set.

#### **Setting Goals**

Students are divided into teams of four or five and remain in these teams throughout the semester. Attainment of the learning goals is measured by calculating the mean of the exam scores achieved by the individual team members. Several weeks before each exam, students are asked to meet in their teams to set a goal for their mean exam score. For the first exam, I require that no team set a mean goal lower than 70%. For subsequent exams, I require that teams set goals that are at least three points higher than the mean attained on the previous exam.

#### Rewards

Teams are rewarded for achieving or surpassing their mean exam score goals by adding points to the exam

scores of all the members of the team. When a team's mean exam score is equal to its goal, two points are added to the exam scores of all the team members. When a team's mean exam score is one to four points higher than its goal, three points are added to the exam scores of the team members. When the team's mean exam score is five or more points higher than its goal, five points are added to the exam scores of the team members.

#### **Penalties**

Teams are penalized for not achieving their mean exam score goals. When a team's mean exam score is one to four points lower than its goal, no points are added or subtracted from the exam scores of the team members. When a team's mean exam score is five or more points lower than its goal, two points are deducted from each individual's exam scores.

#### **Posting**

Mean exam score goals and mean achieved exam scores are posted in the classroom. Exam scores of individual team members are not posted nor revealed to class members.

#### **Conclusions**

A minimum mean goal is set to prevent teams from setting their goals too low. Continuous improvement is encouraged by requiring teams to set higher goals for each performance period. To achieve the team's goal, the more capable students may need to instruct and encourage team members who are underperforming, thus having additional opportunities to improve their own performance. The points added to or subtracted from an individual student's exam scores have very little effect on his or her overall grade, but they continue to be sufficient to stimulate excitement over the prospect of receiving bonus points.

**John Hoppe**, Associate Professor, Division of Sciences and Mathematics

For further information, contact the author at Hazard Community and Technical College, One Community College Drive, Hazard, KY 41701. e-mail: john.hoppe@kctcs.edu