

Mediated Learning

A Newsletter by and for the Instructors of The University of Montana



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Soliciting Student Feedback

*Betsy Bach
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The assessment of classroom teaching is often viewed negatively, with good reason. Teaching evaluations are typically done at the end of the semester, when it is too late to correct any problems that surface during the evaluation process. Moreover, the evaluation of teaching is often perceived as a popularity contest. Professors lament that colleagues who receive high marks on their end-of-semester evaluations are easy graders, or have no academic standards. In short, student evaluations are often seen as a popularity contest with little or no value.

However, there is good reason to solicit student feedback. I knew that students would make both positive and negative comments, I looked forward to reading what they had to say. I found most of the feedback valuable and insightful, and would incorporate suggestions as best as I could the following semester. I often wished that I could talk directly with students providing the feedback to provide me with more information about my teaching.

Soliciting student feedback mid-semester allows instructors to obtain information about their teaching and to make changes and adjustments immediately. Questions about course organization, student learning, presentation, course material, pace of the course, etc. can be asked and answered. Student feedback can be obtained in a very systematic way using a process called the Small Group Instructional Diagnosis (SGID). The SGID process uses class interviews with students to provide suggestions and to

strengthen the course, increase communication between the students and the instructor, and generally improve instruction. This process identifies not only problem areas but also ways to address those areas. I have used the SGID process for 15 years and find it very helpful.

SGID Process

The SGID process requires a peer (who acts as an outside consultant) to work directly with an instructor and the students in the class. The process is initiated when the consultant and the instructor meet to discuss the course and determine how the class interview process can best be used to provide feedback for instructional improvement. Then, on the given day, the consultant meets with students in the class, in the absence of the instructor, to obtain the data. The consultant directs students in the class to form small groups, appoint a chair/recorder, and come to consensus on answers to three questions. Although the questions may take a variety of forms, they always focus on strengths in the class, areas for change/improvement, and ways of making suggested changes or improvements. The following are typical of the questions asked during the process:

1. What helps you learn in this class?
2. What changes could be made to assist you in learning?
3. How would you recommend that these suggested changes be made?

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Teaching Profile: Garon Smith, Department of Chemistry



Professor Garon Smith

*Brian Ehlert
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Missoula, Montana has been known across the state for its concerns about environmental issues. Specifically air quality. One man that has been working hard on this issue locally for the past eleven years is Professor Garon Smith. Smith started off his college career as a pre-med student at the University of Colorado. After gaining an interest in outdoor sports, Smith decided on switching his major to something dealing with the environment. This led him to Environmental Biology. Once he had his Environmental Biology requirements under his belt, he studied two years of music with an emphasis in music theory and composition. Following the completion of his undergraduate degree, Smith went on to teach high school at the Colorado Academy. He then went back to school at the Colorado School of Mines to receive a Ph.D. in Applied/Analytical Chemistry. Smith then taught at Colorado College for two years before moving to New York to teach at State University of NY-Fredonia. Six years later he found his way to Missoula to teach freshman general chemistry as well as analytical and environmental courses for graduates and undergraduates. Along with teaching at UM Smith does research on local environmental issues, such as the Smurfitt-Stone pulp plant. Smith is also very active in his community. Since 1992 he has served on the county commissioners Missoula City-County Board of Health, the Air Pollution Control Board and the Missoula Valley Water Quality District Board. In December Smith was the featured speaker for the Provost's Distinguished Faculty Series: Fall 2002 Lecture.

During his December lecture entitled, "Patterns in Air and Water: Better Living in Missoula Through Chemistry," Smith presented much of the techniques he and his graduate students have used in their research. Smith's talk mainly focused on air quality here in Missoula, and the improvements that have been made. He discussed topics such as the levels of hydrogen sulfide in the air, things that the pulp mill has done to clean up the air, and also the role that our own vehicles play on the

environment. One technique that Smith uses in his research is to take thousands of numbers collected from monitors and turns them into contour maps. By doing this he can look at the "maps" and see where the peaks and trends are in the data. By doing this with data he and his students collected at the pulp mill, they found that there was a "morning puff" and an "evening puff" of hydrogen sulfide during certain months of the year. This surprised them and therefore encouraged them to look into it more closely. They found that these phenomena might be caused by the sunrise and sunset in the day along with the temperature of the air and reservoirs by the plant.

Smith also addressed issues about transportation in Missoula. He looked at data on particulate matter in the air during the summer 2000 fires and found that the winter months are actually worse. It turns out that our cars put more toxic particulates (tiny particles that contribute to air pollution) and carbon monoxide than the fires did. He pointed out that the major air pollutants in Missoula are vehicles. Smith explained that our cars give off very high levels of carbon monoxide and carbon dioxide everyday. In fact approximately 0.9 million pounds of carbon dioxide are released per day in the Missoula valley. Smith then went on to say that, since 1982, the carbon monoxide levels have been dropping at Malfunction Junction, and since 1992, when oxyfuels were introduced to Missoula, the carbon monoxide levels have dropped even more. According to the standards, Missoula is actually well within the acceptable levels. Smith then explained some things that each of us could do to help improve our environment even more. He says to work on reducing the vehicle miles traveled, promote biodiesel, such as in the ASUM BioBus, encourage vapor recovery systems at gas pumps, consider building more grassy swale parking lots, such as the old Wal-Mart on the south end of town, and "don't be part of the throw-away mindset." Use recycling bins.

*"Don't be part of the
throw-away mindset.
Use recycling bins."*

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Smith

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The final solution he gave to us was to support the improvement of companies by rewarding them in some way when they make improvements.

Smith's passion and dedication for Missoula air quality goes beyond his research and community service. He works hard incorporating his research into the classroom. He shows pictures of the pulp plant and uses examples from the research done with the plant. Smith has also recently switched to using Power Point in his classroom to organize example problems better. Now he can put a problem up with real life photographs, and then show the equation used to solve the problem. Smith then illustrates through the use of arrows which numbers go where in the

equation. This allows him to link the question to the equation better. After all of the numbers are in the equation he is able to solve the equation one step at a time. This minimizes the amount of changes the students see, and cuts down on the confusion that comes about from flipping around a million equations. It also goes quickly for him because he doesn't have to rewrite the equation all the time. Smith will also post his presentations on electronic reserve for students to download. To keep the students from falling asleep in class, Smith tries to have fun by showing demonstrations, and being energetic. This is what his students like about his class. The amount of energy he has is what keeps them interested and keeps them coming back.

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Feedback

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Following 20-25 minutes of discussion, the consultant asks the chair of each group to report to the entire class. The consultant asks for someone from the class to record the feedback provided from each group. What is important is to collect and summarize the group feedback and to clarify until group members are satisfied that the consultant clearly understands the information being reported. The instructor and the consultant then meet to discuss the data (and develop a teaching improvement process, if desired). I generally asked either a teaching assistant or a fellow professor to act as a consultant. I have also acted as a consultant for professors in other departments.

After the instructor and consultant meet to discuss the data, the instructor informs the class about the changes that can be made, and the changes that can't be made. What typically follows is a discussion with the class about how the changes can be made, and why certain changes can't occur.

Benefits to Students and Instructors

Student and instructor response to the method has been outstanding. Students appreciate the mid-semester timing, which provides opportunity for changes to affect them, along

with the heightened teacher awareness of student concerns. Instructors appreciate the personal interaction and supportive interpretation by a peer consultant, as well as the content of the data in a form which facilitates its use by the instructor in making changes. I have engaged in this process as both an instructor and consultant and have found the experience a rewarding one.

If you are interested in either conducting a small group instructional diagnosis in your class, or being trained as a SGID consultant, please contact the Center for Teaching Excellence at 243-4556.

References

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The Center for Teaching Excellence at The University of Montana was established in July, 1999 when it received approval from the Board of Regents. The Center is administered out of Academic Affairs.

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