THE WILDERNESS INSTRUCTOR

Evaluating and improving your classes

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In previous columns, I have written about how to plan, organize, prepare for, and teach classes in wilderness emergency care. But how do you know whether your class design and teaching are effective? Most instructors use some kind of participant evaluation form that gives them an idea of whether or not the students liked the class. Well-designed evaluation forms can yield far more information than that, and there are many other types of feedback that can help you assess and improve your classes. Remember that student performance, as well as student opinion, is feedback on your class design and teaching. If a class that everybody liked, with an instructor that they thought was wonderful, had students graduate that didn't know and couldn't do anything, it would not be considered a successful class. I have seen such classes. You need to collate opinion and performance feedback to evaluate and improve your classes.

What to evaluate?

Most of us feel good if we read in evaluations that students liked the course and our teaching, but does that tell us the whole story or give us any information that will help us improve the course? In order to elicit useful information, an evaluation form needs to be specific. You should give students an opportunity to reflect on and evaluate each component of the course, both materials and activities, as well as the:

- course design;
- textbooks;
- supplementary readings (if any);
- videos and slides (if any);
- lecture and discussion;
- skills practice sessions;
- scenarios and practical exams;
- quizzes and written exams;
- instructors.

This way you will know what you need to change if you get consistently poor evaluations for some components. Otherwise, you will not know whether the prob-

lems were with the course materials, the course and lesson design, the teaching methods, or the instructors.

During the course, you can get an informal evaluation of the various components by perceiving class reactions to them. If students fall asleep during a lecture, spend skills practice sessions in horseplay, or do not complete the assigned reading, then their behavior is an evaluation of those course components. Even if students do the reading, pay attention in lectures, and practice the skills conscientiously, you will not know whether these components helped them meet their objectives until you see them perform on the written and practical exams. We think of exams as tools for evaluating student performance, but their performance is also an evaluation of our teaching.

Testing the test

If most of the students do poorly on a quiz, then there is a problem with either the questions or the lesson on the quiz topics. I will be discussing how to design effective written tests and how to write good questions in a future column. But you can use a simple analysis of students' answers to find out what you did and did not teach effectively.

First, correlate test scores with attendance. If the quiz was on altitude illness, and the 3 students who flunked it missed that class, then their performance was obviously not related to your teaching, and you can disregard those quizzes. However, a test item analysis of the remaining quizzes is next.

Test item analysis correlates the number of students who missed a given question with test scores. If most students missed a specific question, then you probably didn't teach them to answer it. But item analysis exposes subtler patterns as well. Suppose you gave a quiz that was all multiple-choice questions. Add up the number of students who answered each question incorrectly, then average the quiz scores for those students. If a large number of students got question number 4 wrong, but their average score was 90% and the average quiz score for the whole class was 75%, then either the question

was poorly written or you didn't do a good job of teaching the answer.

By using this kind of simple analysis, the results of written tests become an ongoing evaluation of your course design and teaching. You can avoid downgrading students because of instructor error and improve your lessons and test questions for the next class.

Who is evaluating whom?

Similarly, in skills tests, if students are doing poorly, you can usually make an educated guess at the cause if you do a little analysis. First, there is the obvious step of correlating performance with attendance. Students who were not there when you taught a skill will probably not be able to do it on the test. Next, ask yourself whether the design and conventions of the test are misleading or if the evaluators were inconsistent.

If students are going through skills stations, for example, some evaluators may be failing them because of nitpicky details that would not make a difference in patient outcome. They could also be expecting students to perform a skill differently than how it was taught. For example, you may have taught students to do patient assessment realistically by speaking only to the patient, whereas the evaluators may be expecting them to verbalize everything. Another common cause of inconsistent test results is when an examiner communicates negative expectations with their body language and attitude—the faceless inquisitor with mirror shades and a clipboard who sets up students to fail. When problems like these arise in a skills test, you will need to do some quick retraining of the evaluators, and you may need to adjust some test scores.

Once you have ruled out problems with the testing conventions and evaluators, you should correlate a student's performance on the skills test with their course grades to date. If you know your class well, you won't have to get out your calculator to do this, for you will know who your strongest students are. If they are having trouble, you could be seeing the phenomenon of students who are so good and articulate that some evaluators feel threatened by them and assert their authority by marking down the students for insubordination. If most of the class is doing poorly, then you need to find out which skills and which steps they are missing and take another look at the lesson in which you taught those skills. Did you really prepare them adequately to meet the performance standard you are requiring on the test?

Years ago, for example, I was an evaluator for the final practical exam of an 80-hour, outdoor-oriented, emergency medical technician (EMT) level course. Only 2 students of about 25 could do the basic skills such as

patient assessment, bandaging, and splinting without extensive coaching. Yet almost all of the students were clearly intelligent and highly motivated. In this case, it was obvious to me and the other evaluators that the instructor, not the students, had failed the final exam, which we were forced to turn into a skills workshop.

If you use role-playing scenarios as exams, there are some possible pitfalls. The most demoralizing can be the patient who prevents the student from accomplishing anything by acting out severe psychological problems or dies no matter what the student does. At the other extreme, there is the patient who does not act out the symptoms realistically, or they forget the script. If you didn't witness the scene, you may need to reconstruct it by questioning both the patient and the student and then make some adjustments. More importantly, taking note of which skills the students have problems with will help you plan to teach them more effectively in your next class; and you can also plan to coach the people playing patient roles more effectively, so their performances will be more realistic.

Start with the objective

When you plan a lesson, you always start with the objectives—what should the students be able to do at the end of the lesson? Similarly, when you design a participant evaluation form, start with a question about the students' objectives: Why did they take the course? Was it a job requirement, and if so, for what job? Was it for a volunteer position, such as trip leader? Was it a prerequisite for another course, and if so, which one? Or was it just to prepare for possible emergencies in their outdoor activities?

Student responses to these questions may color their evaluations of the course design and components. Having this information will help you to interpret their responses to other questions. For example, a student who is taking a wilderness-oriented first-responder course solely as a prerequisite for an urban-oriented EMT course may not be interested in the wilderness content. However, a student who is taking the course to qualify as a wilderness guide, or to make wilderness recreation safer, will find the wilderness content to be the most important part of the course. These priorities may affect how students rate different course components.

After these questions, the logical follow-up is to ask how well the course content met their objectives. You can then use the responses to these questions to check your assessment of your market. Are you getting the kinds of students for whom you designed the course? Is it meeting their objectives? If the answers to either of

those questions are negative or mixed, you may have to change your course objectives and design.

Watch your language

It is a good idea to make your questions about the course components multiple-choice rather than open-ended. Then you can easily compare and tabulate the responses. However, the words you use for the choices can strongly influence the responses. For example, suppose you ask about the lectures and give the following choices: great, very good, good, and fair. Your list of choices will have a very positive bias. Whereas some students may compensate for the hyperbole by picking a lower rating than they otherwise would have done, the overall result is likely to be an inflation of your course evaluations. This might make you feel good and look good if you quote the responses without giving the full list of choices (eg, 13 of 20 students said that the lectures were “Great!”), but it may not give you the most honest evaluations or elicit the most useful information for improving your course.

Now let’s ask the same question in a different way, with a different choice of words—adverbs instead of adjectives—and a more balanced list. Lectures were done: very effectively, effectively, adequately, and ineffectively. These words focus the attention on how the lectures worked and what they did for the student, which is much more useful information than the degree of remembered euphoria they may have induced, especially if you direct students to write any comments they have next to their answers.

Similarly, when asking about course materials, words like “great” and “good” elicit less useful responses and comments than very helpful, helpful, adequate, and unhelpful. The latter words focus students’ attention on how they actually used the materials and how the materials did or did not help them reach their objectives. That, in turn, helps you to decide which course materials, such as a textbook or video, are pulling their weight, and which ones need to be replaced.

Form and content

Asking students to comment specifically on course materials, activities, and instructors helps them to separate the content of the course from their consideration of how well each part of it worked. That, in turn, helps you determine what you need to improve. This type of evaluation design works well for a long course that mixes hands-on skills practice with lecture and discussion. But for a short lecture series, especially if you have several different speakers for different topics, you can ask par-

ticipants to rate each presentation for both content and speaker. Then you will get a sense of what topics your audience wants, as well as which speakers the audience liked. Unless you have the opportunity to test participants, however, or you have some way of following up to track their wilderness experiences, you can only guess how effective your speakers were at improving a participant’s ability to prevent or cope with wilderness emergencies.

The good, the bad, and the ugly

Two open-ended questions to ask near the end of the evaluation form are:

- What was the most valuable part of the course for you?
- What was the least valuable part of the course for you?

Responses to these questions are sometimes, though not always, influenced by a student’s reasons for taking the course. For example, a student who was taking the course solely as a prerequisite for an urban-oriented EMT course might list cardiopulmonary resuscitation (CPR) or patient assessment as the most valuable part and wilderness topics, such as altitude illness or biological hazards, as the least valuable. A wilderness-oriented student would be more likely to reverse these responses.

But these responses can also be influenced by how well a student thought you taught various parts of the course, such as lectures or skills practice. For example, lectures might seem most valuable in retrospect to a student who thought they were done very effectively. The same student might have rated skills practice sessions most valuable, however, if they had been done more effectively.

When you tabulate all of the student responses to these questions, they should give you a clear picture of what parts of the course are helping students to reach their objectives and what parts are not. If a part of the course gets a lot of negative reviews, you need to ask yourself whether the problem is with content or teaching. Should you omit the topic or reduce the time you spend on it? Or do you just need to teach it more effectively? Studying the responses to the questions about course components will help you to answer these questions.

Students as course designers

A good question to ask at the end is: What is the most important thing we can do to improve this course? Many students will say that they want more of their favorite

part of the course: skills practice, scenarios, discussion of wilderness topics. But many will also have valuable suggestions on how to teach specific lessons more effectively or how to add new learning tools. Students who take wilderness emergency care courses may bring to the class a lot of wilderness, medical, or even professional teaching experience. Their evaluations of the course and suggestions for improving it may be quite sophisticated, and if you are teaching as a volunteer, the logical follow-up to good suggestions is a recruiting pitch. Give them the opportunity to put their suggestions into effect by helping to teach the next class.

Comments on instructors

If there was >1 instructor in the course, you should have a place on the evaluation form for students to comment on each instructor. Along with the instructor's name, you should list what he or she did in the course (eg, taught certain topics, helped with skills practice, set up and ran scenarios, graded tests). This will stimulate students' memories and help avoid mixing up the contributions of different instructors. When you tabulate and print the results of the evaluations, the instructors should see only the comments about themselves and about the course, not comments about other instructors.

Confidentiality

Evaluations should be anonymous and collected in a way that ensures anonymity. Otherwise, students may be intimidated and unlikely to give you their honest opinions of the course or the instructors. The best way to preserve the appearance as well as the fact of anonymity is to have a student volunteer collect the evaluations in an envelope that you will not open until the class is over and the students have gone home with their certifications.

Evaluation form design

There are many ways to lay out an evaluation form, but good designs have certain features in common:

- they have clear instructions on how to fill them out (eg, circle just 1 answer for each multiple-choice question about the course and write any comments next to it);
- they have course identifying information printed at the top, including the dates, so that you need not depend on the students to fill that in correctly, and you will never confuse evaluations from different courses;
- they have space to the right of each list of multiple-

choice answers for the students to comment about that response;

- all of the questions about the course fit on 1 page so that nobody can forget to fill out page 2. You might use the flip side of the page to invite comments about individual instructors.

Tabulating the results

Leafing through a stack of evaluations will give you and other instructors a general impression of student reactions, but to get any real use out of the evaluations, you need to tabulate them on your computer. Copies of your tabulations can then be printed for all instructors and administrators involved with the course. If you have good computer skills, you can use a database program to analyze the information and generate reports. I will describe a very simple way to record the information in a word processing program.

Use a blank copy of your evaluation forms to add up the responses to the multiple-choice questions. As you go through each completed form, put a mark on your master copy next to the response chosen for each question. Add them all up and enter the numbers in a computer document. Then, with your master copy of the evaluation on the computer screen, go through the completed evaluations again and type each comment and answer to open-ended questions, after the question. Quote the comments and answers word for word, including punctuation, and use a bulleted list to separate the comments of each student. You want to preserve not just the substance but also the flavor of the comments. When you finish, your document may look like this (I show only the first question):

Wilderness First Responder, October 3 to December 7, 2000

Twenty evaluations were returned.

WHAT WAS YOUR MAIN REASON FOR TAKING THIS COURSE?

• Requirement for a job (please describe)	3
• Volunteer leadership position (please describe)	7
• Wilderness activity (which?)	10
• Prerequisite for another course (which?)	2
• Other (please describe)	1

COMMENTS

- requirement for Inner-city Outings trip leader;
- prerequisite for WEMT course;

- encountered a serious injury on my last backpacking trip and wanted to be better prepared next time.

Using the tabulations

The process that I described puts all the information from the evaluations into a short, readable document. You should then send copies of the document to all instructors and administrators involved with the course. If they have e-mail, you can send it as an attachment saving a Rich Text Format (RTF) version for those whose word processing programs may not be compatible with yours. Be sure to explain in your cover note that you have quoted all comments and answers exactly and you have not added or omitted anything.

Keep comments about individual instructors separate; each instructor should see only the comments about him or herself. Only the course administrator should see all of the instructor-related comments.

You can use these tabulations for many purposes. First, they will give you and the other members involved

in your program a sound basis for evaluating and improving the course. Second, they will make it easy for you to monitor your progress by comparing the evaluations from different classes. Third, they will give each instructor honest and confidential feedback on his or her teaching. Fourth, you will have very impressive documentation to show those administrators and organizations whose support you solicit for your program. Finally, you can easily select anonymous comments for publicity.

Conclusion

You need good evaluation techniques to find out if your classes are effective and to develop ways to improve them. These techniques include reading student responses to class activities and analyzing student performance on written and practical exams to check the effectiveness of your lessons. A good evaluation form is essential, however. By tabulating the data from the forms, you will create a cumulative record that will enable you to document, study, improve, and publicize your program.