



EVALUATING YOUR OWN TEACHING IN ENGINEERING

Courses need to be continuously monitored, reviewed and renewed to ensure that the teaching (including the teaching and learning activities and the assessment) and course (objectives, learning outcomes and contents) quality are up-to-standards and up-to-date. This is the core duty of any teacher regardless of being a new or an experienced staff.

Evaluating teachers' own teaching is a way to identify the strong aspects of their practice, as well as their weaknesses which may need to be changed and improved. Teachers should take the initiative and responsibility to evaluate their teaching and make improvements over time. It is important to understand that evaluating your teaching does not mean you are a bad teacher, in fact, it means quite the opposite.

A GOOD TEACHER TEACHES AND LEARNS.

You could be the best teacher with the best course materials, course activities, learning outcomes and assessments. But as time changes, teachers need to revise their courses to suit the needs of the society, the employers and the diversity of students. A good teacher will take in criticism, initiate evaluation and learn from their students.

METHODS FOR EVALUATING YOUR TEACHING

1. **Self-monitoring:** Teachers should monitor their own performance as they teach. After each teaching session, teachers should ask themselves (or complete a brief self-evaluation form/checklist) on whether they have met their determined goals and objectives, and evaluate the good and the to-be-improved aspects of the session. Teachers can keep a log (i.e. a teaching portfolio, or video log as described in the next section) to track their own progress and improvement over time.

Self-monitoring is a meaningful method for evaluating ones' teaching. Teachers should take special notice of (and record) those information which are particularly important to them, like a customized profile.

However, self-monitoring involves self-judgment. It is often difficult to be totally fair and objective. Personal biases and misinterpretations of students' reaction by the teachers themselves may interfere with the effectiveness of the evaluation.

2. **Audio and video recording:** Teachers can audio- or video-tape their teaching sessions, which allows them to keep record of their actual teaching performance in details. Teachers can review the records with other colleagues to discuss areas for improvements.

Audio and video recording provide teachers with objective information that reflects the situation in class. It is always easy for people to monitor others and notice

their weaknesses, but it is rather difficult for teachers to monitor themselves, especially during teaching when they devote most of their attention in instructing and explaining to students.

Recording reflects the actual teaching performance, but it is meaningless by itself. For example, it does not tell teachers whether speaking at a particular pace is good or bad. Teachers have to discuss with their fellow peers for opinions in order to identify their strengths and weaknesses in teaching, as well as possible room for improvement.

It is a good idea to arrange several recording sessions throughout the semester (e.g. one at the beginning, one in the middle and one at the end of the semester) to check with the progress and improvement of specifically targeted areas. But it is important to obtain the consent from students and the faculty before doing the recording.

Furthermore, keeping a log of class video records can help teachers track their own progress, and it is also a useful reference material for new teaching staff to learn.

3. **Students' feedback on teaching:** Students' perception of learning experience in class is sometimes the most direct way to weigh how effective a teacher delivers his/her teaching. After all, the goal of education is to make students learn and understand. Therefore, what students perceive and experience in class would directly determine how effective they are learning. Collecting students' perception and experience of learning should be carried out several times in the semester (at least once at mid-term and once at the end of the term), to provide opportunities for teachers to adjust their curriculum and practices based on the students' abilities rather than leaving them till the end of the course. Two common methods to collect information on students' perception towards teaching are questionnaires (quantitative) and interviews (qualitative). Often, the quantitative method provides us information on the "what", while the qualitative method investigates the "why" and "how".

One general limitation of assessing teaching quality based on students' feedback is that their opinions can be very biased to their own perspectives. Many students may not know exactly what they should know and learn from the course. Also, students usually do not possess enough knowledge about how the course should be taught, including the possible pedagogies and course contents.

Students would question the usefulness of collecting their opinions if teachers do not let them know that their opinions are heard. So, it is also very important for teachers to tell the students that they are interested in and are aware of the opinions given. After receiving students' feedback, teachers should describe the changes made in response to their opinions, and also explain the reasons why they choose not to change the other practices as requested by the students.

- **Questionnaires:** This is a common method to collect students' opinion about teaching, and it has been widely used across universities as a standard practice. Standardized questions on the questionnaires collect information about students' background, general opinions about the course (e.g. the topics are interesting, course materials are difficult, too many assignments, comments given on assignments are helpful etc.), and an overall evaluation on the effectiveness of the course and the teacher, using predefined scales of quantitative scores (e.g. 1 – Strongly Agree, ..., 5 – Strongly Disagree). Some general open-ended questions such as “What do you think can be improved in this course?” and “What do you like most about this course?” are usually included in the questionnaires. Of course, teachers can put down some specific topical questions in which they particularly would like to know about.
 - » Questionnaires can collect responses from a large number of students simultaneously, which provide a comprehensive picture that reflect the opinions of the whole class, and can be efficiently administered in terms of time and resources. Students are more willing to freely express what they actually think and perceive about the course as responses in questionnaires are given anonymously.
 - » However, the limitation of the questionnaire lies in its standardized organization of questions. Questions on the questionnaires are fixed, and therefore the teachers cannot be further probe for information of their interests immediately based on the responses as in interviews.
 - » Also, questionnaire survey is better to be administered by someone who is not responsible for grading, so that students would feel more comfortable to express themselves.
 - » Questionnaire survey must be carefully designed to avoid confusion and misunderstanding from the students (e.g. students may think that this is a way to test how much they have learnt).
 - **Interviews:** Focus-group interviews with students can be conducted by the teachers themselves (if trust has been built among the teacher and students) or an outside person (if greater level of objectivity is required). Teachers can set the questions which they are interested in with their faculty's colleague and consultants in advance, and probe for more detailed information and clarifications from students during the interview. It is obviously a more flexible option compared to large class questionnaire surveys.
 - » Directly interviewing students can usually reveal students' thoughts on some unanticipated aspects, which can generate lots of useful information.
 - » But usually, interviews can only be conducted with a small portion of students in the class, which may not necessarily reflect on the thoughts of the entire class. Thus, the sample needs to be random.
4. **Student Assessment:** Other than the above methods, teachers can also deduce how well the students are learning and acquiring knowledge from the class by looking at their assignments and test results. Provided that the assignments and tests are well-designed and have high validity in measuring students' learning achievements, they can be good indicators of how effective the goal of helping students to learn is achieved by way of teaching. However, teachers cannot infer from assignments and test results about what is good or bad about their teaching, and what causes students to learn better or worse.
 5. **Feedback from observation by other colleagues and experts:** Teachers can invite other colleagues or experts to sit in their classes and directly observe how the teaching is conducted (including teaching style, contents, pace etc.), to give feedback and constructive criticisms. Similar to video recording, observation by other people allows teachers to become aware of many things that they are too busy to notice while teaching. Teachers can negotiate with the observers before the class observation regarding the areas of focus, and discuss the important points in a debriefing meeting afterwards.
 - **Peer-observation:** Junior teachers can invite other junior peers to observe and give feedback to their teaching. This would be free from any political risk and peers would be willing to exchange and share their ideas freely and honestly.
 - **Observation by senior colleagues:** Teachers can also invite experienced senior teachers to be their observers. Senior teachers who have experiences in teaching can often provide useful opinions for new teachers to get started smoothly. Nevertheless, political risks can be a concern since some teachers behave differently when being observed by seniors who make decisions about their promotion and tenure.
 - **Observation by professionals from an outside party:** Teachers may consult their university's teaching support center or similar organizations to arrange a teaching consultant to observe their classes. These consultants do not necessarily need to possess adequate knowledge about the subject being taught, but they can provide objective comments to teachers on general presentation skills, facilitation skills, and ideas for active and interesting learning approaches.
 6. **Student Reactions:** Although not an objective method of evaluating teaching, it is often the most direct and simple way to evaluate one's own teaching.

Web Reference and Resources

- Fink, D. L. (1995). Evaluating your own teaching. In P. Seldin (Ed.), *Improving college teaching* (pp. 191-203). Bolton, MA: Anker Publishing Company Inc.
- University of Texas Libraries. (2011). Evaluating your teaching: How did I do? Retrieved from http://lib.utexas.edu/services/instruction/tips/eval/eval_teach.html
- Eberly Center for Teaching Excellence, Carnegie Mellon University. (n.d.). Assessing your teaching practice. Retrieved from <http://www.cmu.edu/teaching//assessment/howto/assessteaching/index.html>
- Center for Instructional Technology, Duke University. (n.d.). Assessing your teaching, Retrieved from <http://cit.duke.edu/get-ideas/assessment/assessing-your-teaching/>