Teaching Philosophy: Kevin Bierre

After spending a year as a member of a Faculty Learning Community at RIT, I have come to appreciate the role that a teaching philosophy has in providing me with guidelines to consider whenever I teach a course. This document covers my teaching philosophy by attempting to answer four questions about my teaching.

What are the goals?

I have two major goals in mind whenever I teach a course. First I would like to help the students develop critical thinking skills. In their career in the information technology field, students will encounter problems on a daily basis. The ability to examine a problem, collect any necessary information to develop a solution, and the ability to plan out the solution are all required skills for an I.T. professional. Our courses should provide the students with the techniques for effective problem solving, as well as providing the opportunities to practice those skills.

In addition to creating solutions, they will often have to evaluate competing solutions. The ability to define criteria that can then be applied to the potential solutions is also a necessary component of their professional abilities.

The second major goal is to provide the skills and motivation needed to become a life long learner. While I worked in industry, I saw too many coworkers who never kept up with a rapidly changing field. This ability is required in I.T., where the technology is changing so quickly that much of your current knowledge will be obsolete in five years. If a student gains an appreciation for life long learning, they will be better suited for a long term career in the field. This skill could also improve their quality of life by providing access to other fields of study that they may not have encountered normally.

Means to the goals?

One of the major tenants of my teaching philosophy is that lecturing students just does not support effective learning. Because students have different learning styles, a lecture is not always appropriate. While lecturing is recognized as one of the more efficient ways to get knowledge out in front of the students, this does not guarantee that they will receive the information a lecturer is producing.

Avoiding a lecture format means using an alternate format like active learning. I have been introduced to this approach through the Faculty Learning Community and have seen it successfully used in the introductory programming sequence. Fortunately, there is a good amount of literature on application of this approach in various types of classes.

Students need to be challenged to work on actual problems. The typical problem seen in the introductory programming courses are generally not very interesting. They are either trivial or not very realistic. What is really needed is a set of problems that catch the student’s interest. This is an area that can be researched

further. There have been several books out with projects, but many of these focus on specific areas like business. There really are not a set of generic IT specific projects.

A “games first” approach has also been proposed with in the IT and CS departments. My experience with the use of M.U.P.P.E.T.S. in the final programming course has shown that this approach gets the student’s attention and is sufficiently challenging to let them learn a good deal of programming.

Measuring effectiveness?

There are several ways to measure how effective I am at reaching the stated goals:

Assessment questions

With the increasing emphasis on assessment within the department, questions and problems are being selected within courses to evaluate how successful the students are at reaching a course’s objectives. These can be used to evaluate my effectiveness over the long term. For those courses that do not have assessment objectives, such as seminars or new courses, I can determine some criteria for long term assessment.

Course Evaluations

The standard course evaluations can also serve as way to measure effectiveness. While the questions do not really help much, the comments provided by students can be quite insightful.

Clipboard Surveys

While I think students are getting a bit tired of taking surveys, I feel a properly constructed short surveys can be used to determine what topics a class is not understanding. Giving a short survey every couple of weeks allows me to gauge my teaching effectiveness and the student’s command of the material. In a similar manner, quizzes that do not count as part of their grade would also provide similar information.

Classroom Assessment Techniques

Other types of classroom assessment techniques like “think, pair, share” will provide feedback through the student responses.

Long Term Assessment

One of the best measures of teaching effectiveness would be to measure how much the students retain in later courses. For example, a course like Fundamentals of Database Client/Server Connectivity would provide a good measure of the amount of material retained in both the programming and database areas. This would be a good location to assess the student’s skills in both areas through quizzes, labs, in-class exercises, or selected questions on an

exam. Other courses would also lend themselves to this type of evaluation. Unfortunately, this is the most difficult type of assessment to perform, because it requires the assistance of other instructors in the advanced courses.

Why teach?

So, this all leads up to the question of why I teach. There are several reasons for my selection of teaching as a career later in my life. Some of them are mundane, but others are touch on some of my central values.

One of the first reasons I teach is because I'm good at it and I find it fulfilling. I taught for a number of years as an adjunct instructor prior to making the transition to fulltime. I enjoy doing a job well and always for look for ways to improve my teaching skills. Improvement involves being involved in activities like the Faculty Learning Community or by attending conferences on teaching. It also means keeping up on current literature on teaching in my subject area.

Another reason for teaching is to provide the benefits of my experience in industry. Prior to coming to RIT, I spent 23 years in various industries as a software developer. This means that I brought that experience with differing methodologies, languages, and policies with me and can use that to illustrate points while I'm teaching my courses. This provides the students with examples of real world applications using the principles I'm teaching in class.

I enjoy seeing students learn. I try to keep the courses interesting, but still allow them to challenge the students. Seeing the light dawn on a student as they realize how to apply the material to a problem is very fulfilling.

As part of the Faculty Learning Community we had to develop a metaphor for our teaching. Many picked coaching metaphors or tour guides. I felt something more fundamental was needed. I view myself as a mason.

A mason has a very important role on a construction site. They are often the people who create the foundation that a house will stand over. As a result, their work is critical, because an unstable foundation will show up later in the construction process. A solidly constructed foundation will lead to a stable, long lasting house.

In a similar way, a teacher who does introductory courses is laying the foundation that students will use through out their careers. A well taught course that challenges students and provides them with the necessary experience will serve them well in later courses. For many of them, this will first become apparent when they go out on co-op.

The other thing that a mason does is to create other parts of the house such as the fireplace. Once again, well thought out and solidly constructed work will stand the test of time. In a similar way, I can check my work in later courses when I

teach the more advanced programming or database courses. The students who have the solid foundation can concentrate on the new material. Students with a weaker foundation need to shore that up through review and practice before they can move on to the new material.

Final Note:

The structure of this teaching philosophy was suggested in an article found at http://www.celt.iastate.edu/teaching/philosophy.html .