Reflective Teaching Diary, Week 8, Number 2

Student's Name: Keith Alcock		
Activity title: Brainstorming ideas about computer integration		
Number of students in the group: 7-14	**Activity duration:** 15 minutes on each of 5 days	**Age group:** 14-17
General description of the activity: [From the lesson plan…] Students brainstorm and research ways in which Information Technology relates to the subjects they are studying in school. They itemize the relationships, and then for a selected portion they plan documentation or demonstration of the relationship. For example, computers can be used to draw complicated geometric figures (CAD/CAM), they can provide information on famous geometers (see Wikipedia under geometer), and they can calculate coordinates of points that have been reflected across axes. These could be documented by showing pictures of the geometric figures, linking to web pages reporting on the geometers, or writing a program to perform the reflections. For each subject, students pick at least one interesting and feasible documentation or demonstration method, identify the Visual Basic controls that are required for implementation, and collect needed resources (URLs, pictures).		
Why did you select this activity for this group of students? [Again from the lesson plan…] Computers are related to almost everything nowadays and every computer program we've worked on has been related to something out in the real world, if only the myriad other versions of the same program. However, students may not have had significant contact with computers in the very classes that they are currently studying on a daily basis. For example, students do not regularly use a computer in English or history class, I am told. The need to know the connections is evidenced in state-issued technology standards, the demand for information technologists with domain expertise, and I suspect grades of students who can use technology to their advantage in their school work. I want to impress upon students that although they may not become career computer programmers, the more they can get out of a computer, the better off they will be no matter what they study or work on.		

Instructional Objectives	**Bloom's Taxonomy** **Please circle one per objective.**
At the conclusion of this lesson students will be able to: find ways that Information Technology relates to each of their courses at school.	**knowledge; comprehension; application; <u>analysis</u>; synthesis; evaluation**
At the conclusion of this lesson students will be able to: explain how they can document or demonstrate the relationships.	**knowledge; comprehension; application; analysis; <u>synthesis</u>; evaluation**
At the conclusion of this lesson students will be able to: identify the particular kinds of Visual Basic controls that would make the documentation or demonstration possible.	**knowledge; comprehension; <u>application</u>; analysis; synthesis; evaluation**

Reflective Teaching Diary Entry
Create a one-page diary entry in Microsoft Word or a similar program. The entry should cover general activities, your perceptions of those activities, any questions or concerns, changes you would make in the future, and how you will apply your learning to future teaching experiences.

Diary Entry

This diary entry contains my thoughts about the four guided brainstorming sessions we conducted to date in three different classes about computer integration into the subjects we are learning in school. Some of the sessions went fairly well; others, not so well. On the positive side there are several very good discussants in class who really help things along and students' general willingness to cooperate is exemplary. It's unfortunate thay I have no reward system in place for them. On the negative side, students have had little opportunity for this kind of activity in class and haven't received any training or practice that would promote any more success at it than what we get by chance and perhaps less success than possible if everyone worked apart. That is not good enough. I don't think either the quantity or quality of their learning was satisfactory.

As is usual, this activity feels overly constrained. It is attempting to satisfy too many requirements. There's the end of quarter constraint, the integrated unit constraint, the no homework constraint, the planned in advance constraint, the everybody is a different age and yet has to have the same assignment constraint, the everyone has different classes and shouldn't be burdened with having to deal with other classes constraint, and so on. As is also usual, I have exaggerated these constraints in my mind and added some that don't really exist. I think that in finding an activity that stays within all the boundaries, it was much less effective than it could have been. If I would have (effectively) violated the homework constraint, for example, then the students could have come to class with a list of ideas with which to jumpstart the discussion. While I did tell them to try to come up with things on their own, it was not with conviction. Even now I observe writing "try to come up with" rather than "students are required to provide." In this case I may be guilty of low expectations. It of course would have helped had students previously had homework in computer class, just as they have had in all other classes. Indeed, if it had been my policy, they would have had regular homework along with a weekly vocabulary test and quarterly examination. Then this activity would not have been so unusual and I probably would not have had a job the following year because students would have told their younger peers how much work was involved and not signed up for the course.

Another possibility, which seems promising just now, is to have conducted much the same activity divided into smaller doses. Each Friday, for example, we could have thought up some ideas together, possibly as part of a weekly department-like meeting which we should have been practicing anyway. (Membership in a group like SkillsUSA is in the works.) That meeting could have been led by a different person each week and that person's assignment could have been to lead students in such a brainstorming exercise. If students know they will soon have to be leader, they might participate more. Also, classes are large enough to have multiple departments so that there could be some kind of competition or a positive feedback loop between them. One department is provided with the findings of another which they use in order to create a third set, etc. I could also have provided a computer application, not unlike one they might be able to build, which collects their ideas. Under tabs for each of their departments, they enter their names, period, particular class, and idea. The computer keeps a count of their contributions and prints a report at the end. Students could be required to make a small number of contributions per week at the beginning of the year and ramping up as they approach the implementation phase of the project. Both of these ideas are starting to sound good. They just violate multiple of the constraints for this particular integrated unit and I never could have prepared the software for contributing ideas in the time available so that the idea was infeasible.

So, leaving out lots of details, the teacher learned a lot with this project, but thinks it will have to be much improved before the students learn significantly from it. I would rather have an integrated ten days than an integrated two weeks