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Action Research Project
Cycle One Report
March 25, 2007

Describe the action you took in this cycle.

I implemented a new curriculum in my Computer Applications class at Valley Catholic School. A new semester began January 29, 2007. The class consists of 18 students: 2 seniors, 2 juniors, 2 sophomores, and 12 freshmen. This was a unique cross-section of students for this class - I never had so many freshmen in the class before and the class was smaller than usual. Overall, there are 12 boys and 6 girls.

1. The Career Unit Plan

My first action was to create a Unit plan (**Appendix C**) around the theme of CAREERS. I decided upon my desired results and chose my goals for the Career Unit. I researched the National Educational Technology standards for students and also reviewed standards from Oregon Department of Education. These are the goals I chose for this unit:

Oregon Department of Education career related learning standards:

Students will develop skills to assess personal characteristics, interests, abilities, and strengths.

Students will develop skills in identifying, evaluating, and using a variety of resources for exploring personal, educational, and career choices.

National Educational Technology standards for students:

NETS*S #3: Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.

NETS*S #4: Students use telecommunication to collaborate, publish and interact with peers, experts, and other audiences

NETS*S #5: Students use technology tools to locate, evaluate, and collect information from a variety of resources.

Next, I determined what type of understanding I wanted the students to have from these goals. I wanted students to understand that careers are best suited for individual personalities; information is best learned when it is conveyed in an engaging, effective and efficient manner, and since career information is constantly changing, that students must access current facts and data about careers.

I decided my Essential Questions were: What is the “best” career? Using technology, what is the most effective way to convey career information?

Since I wanted students to review or learn specific technology skills, I determined that my two technology goals would be:

- Microsoft Word has many formatting features (fonts, styles, paragraph formats, tables)
- Microsoft Excel is used to input and analyze data, and to present information in a visual manner.

Specifically, I wanted students to be able to assess personal characteristics to educational career goals, research and analyze career and educational information, select, evaluate and use technology tools to communicate information about career choices, and demonstrate job-seeking skills.

I decided on three performance tasks that I would use to evaluate their learning.

1. Career data collection: Students will access and collect information about various careers and then input the data into a shared Excel spreadsheet in order to analyze and graph the results.
2. “Get a Life” presentation: Small groups (organized by research of personality types – realistic, investigative, artistic, social, enterprising, and conventional) will create a tri-fold presentation board about one plus one interactive project to share with the VCS community.
3. Students will create a personal job-seeking portfolio (resume, optional: job application, interview)

Other evidence that I would gather would be asking students to create a concept map to sort careers by category. I would give two quizzes on technology terms and writing formulas in Excel. I would use a skills rubric for formatting features in Word. The students would also be asked to self-assess the spreadsheet they made and their overall career presentation. The journal module and blog in Moodle was used for metacognition.

2. Planned Learning Activities

The specific sequence of learning activities was as follows:

1. Discussion prompt: What is the “best” career?
2. Students will break into small groups and use Inspiration to make a concept-map detailing the various positive and negative attributes associated with careers.
3. Students will make a career survey to interview a parent/friend about their career. (Skills focus: Word formatting, numbering, indents, styles)
4. School career counselor will lead a discussion with the students about using a survey to match personality types to career. Students will take survey and the results will help determine small group members.
5. Blog prompt: Research how Holden grouped personality types into groups. List the 6 groups and discuss which two areas do you think best fits your own personality and explain why.
6. Students will create a document that discuss the 6 personality groups and explain their characteristics. Skills focus (Word formatting, tables, bullets, auto shapes)
7. Discussion prompt: If we are going to investigate various careers, what information or data do we need to collect about these careers in order to make intelligent choices?
8. The school counselor and teacher will explain the “Get a Life” project: students will research career information and will create a tri-fold presentation board about one plus one interactive project to share with the VCS community.
9. Blog prompt: student’s reaction to “Get a Life” project.
10. Skills check: Word vocabulary quiz
11. Students will set up a spreadsheet to collect career data such as: average salary, college requirements, : (Skills focus: Excel formatting, data entry).

12. The school Librarian will demonstrate how to find career data from various electronic and print resources. Students will use Del.icio.us to tag web resources.
13. In small groups, students will select careers from one personality type to collect data and then add the information to a class shared spreadsheet. (Google groups).
14. Direct instruction: Students will learn how to write formulas in Excel in order to analyze their data. (Skills focus: Using Insert Function with Sum, Average, Min, Max, and Count Formulas).
15. Online survey: Students will self-assess their participation, data collection and their ability to write Excel formulas.
16. Skills check: Excel formula quiz.
17. Discussion prompt: Beside our electronic and print resources, where else can we find information that would assist in the collection of career information?
18. Student will use concept-mapping software to plan further investigation into careers by answering the question: What else do you want to know about your career area?
19. Discussion prompt: How can we best convey this information to the VCS community? Besides the poster board session, how can we engage students during our presentations so that they come away with pertinent information?
20. Blog prompt: What technology tools could you use to engage students in your selected area? What skills or information do you need to know in order to make this happen?
21. Career wiki: Small groups will begin planning the interactive component of their career project. Plans should include: ideas, job responsibilities, resource list, needs)
22. Direct instruction: Students will learn how to write advanced formulas in Excel in order to analyze their data. (Skills focus: Using the IF and COUNTIF functions).
23. Students will post a written plan of the interactive presentation on their wiki.
24. Direct instruction: Students will make graphs from the collect data to best represent the information in a visual way. (Skills focus: 4 steps of chart wizard, formatting Excel charts)
25. Students will make a tri-fold poster to display the information learned about their career area. The poster should include: title, data, graphs, explanations, photos, resource list).
26. Online survey: Students will self-assess their participation and the overall formatting of their documents on their poster board.
27. In small groups, students will create an interactive project for the career presentation. Possible ideas: brochures, newsletters, podcasts, video interviews, interactive PowerPoint, and student ideas).
28. Blog prompt: With so much career information available, how do you choose which information will be included in the presentation?
29. “Get a Life” presentation day. VCS students and community members are invited to tour the “Get a Life” presentation.
30. Online survey: students will self-assess their participation and the overall “Get a Life” presentation.
31. Discussion prompt: Did participating in the presentation get you thinking about a specific career that you are interested in?
32. Blog prompt: What skills or information do you need in order to make your career dreams a reality?
33. Students will view samples of resumes and discuss the advantages and disadvantages of each. Students will then create their own personal resume. (Skills focus: desktop publishing features: drop cap, tab, paragraph format, line spacing, font effects, and line style). Evaluated with a Word Skill Check Rubric.
34. Optional extension: Students are encouraged to go to an establishment and ask for an application and turn it in a copy of it with their resume.

35. Small groups will open the original concept-map that was made about positive and negative aspects of careers and discuss if their original information was correct or not.
36. Blog prompt: Impression of the overall project. Were you surprised by what you learned? Did you change any initial impressions?

3. Actual Learning Activities

I followed the planned learning activities and only made a few modifications. Since the make up of the class was pretty unique, I felt that I needed to spend some extra time at the beginning developing camaraderie among the students. They were a bit hesitant with each other at first and it took a while for them to warm up to each other – especially the freshmen to the upper classmen.

The students enjoyed taking the personality test to determine how their personalities matched up with certain careers. I grouped the students together by these personality traits so they were working with students who were similar to themselves.

The initial research about careers took longer than I expected. Some of the students found information right away about the careers they researched – others had a harder time focusing and determining which information was most important. Our school Librarian provided us with an excellent pathfinder with all kinds of links to online resources.

I used their collected data to introduce the students to data analysis in Excel. Students then graphed one aspect of their research to display it in a visual manner. Some of the students had never used Excel before. I did try to teach a basic Excel lesson before they were expected to use formulas in their projects, but that information did not transfer well and several students had difficulty with writing formulas. I ended up changing the assignment and keeping it simpler and decided to use this lesson as an introductory lesson to Excel and to re-teach some of the skills towards the end of the unit.

Once the students began working with their groups on producing documents, graphs, and pictures for their displayed boards, the level of student engagement increased. Students were observed interacting with each other, asking questions, getting clarification, and helping each other make documents for the display or interactive presentation. There was a high level of energy in the classroom and every student was engaged in some type of activity.

The actual creation of the tri-folds was fun. Students did nice work and the finished products were colorful and interesting to read. Each group's display was unique and every student in each group helped create the board.

The students displayed their information to the VCS community at a lunch time mini-career fair. Weeks before the fair, signs were placed around the school inviting the students to attend. Announcements about the career fair were read over the loudspeaker a few days before the event. On the day of the event, each group set up their display board in the school lobby. Many groups created an interactive PowerPoint to engage students in their project. We offered a raffle ticket incentive for any student who visited one of the kiosks. We held the fair during lunch and most of the student body had to at least walk by the kiosks to go to the cafeteria. The students did a good job of encouraging their classmates to visit the kiosks. I observed students explaining the personality test, the careers that matched the personality, the outlook for those careers, and specific

information they researched, such as salary or education requirements. Students seemed genuinely interested in learning the information. The “Artistic” group brought musical instruments to attract attention to their area. The “Social” group had a fun PowerPoint presentation that helped students determine which careers were best suited for them.

I asked the students to blog about the experience after the event. Here are some of their comments:

- *At first the only thing the students wanted was the candy but as time passed they actually started to listen to what we have to say.*
- *It was pretty cool getting to talk to my friends about different jobs they could pursue. It went well for my group. We had fun making the poster and exploring different jobs.*
- *Researching for the careers was interesting and I learned a lot. It felt good to share what I learned with the other people at the school so that they could learn something in their career search.*
- *The fair was interesting; a lot more people came and were interested in it than I thought there would. Our PowerPoint went well, and so did our presentation. Overall, for my group it went great.*
- *I thought that this project was fun and taught a lot of people about the different careers that are out there.*
- *It was pretty cool doing the projects. People listened and some people you had to make listen because they wanted candy so bad. You had to say a lot of the same things over again and again.*
- *The Presentations at the career fair was a good experience. It was a little nerve racking at first but after my group and I got to the program we took over the show and pretty much destroyed the other groups... With Sam Took and Batty Thomas at my side we owned at the career fair!*
- *Today the "Social" group's presentation (aka: mine, Zach's, and Nate's) dominated because we were very persuasive in that we had plenty of candy for those who listened to our presentation. It went pretty well overall and provided good opportunities for school interaction and us to share our knowledge of careers with the rest of the school.*

The final activity of the Career unit was designed to make the unit as personal as possible by having students design and create their own personal resume. Initially the students looked at resume samples on the Internet to determine their purpose. Student then designed their own resume. We spent one class period editing the content in groups and the next day using the “track changes” in Word to make suggestions. The final resumes were printed on parchment-type paper to take home.

Describe the data that you collected that is relevant to this cycle.

1. Qualitative data

Weekly, I blogged my observations about what happened in my classroom during the Career Unit. This blog is located at <http://ccassinelli.blogspot.com/> and copies of the posts are in **Appendix A** (“before” snap-shot) and **Appendix B** (Career Unit). **Appendix C** is the actual project plan used by the teacher.

During my Action Research I utilized several assessment modules in Moodle. This included a student blog, journal entries that were submitted directly to the teacher and surveys.

Below are highlights from observations from my blog entries:

- Since the make up of this group is pretty unique, I feel that I need to spend some extra time developing camaraderie among the students. 1/31/07
- The overall reaction was positive to the site (Moodle). Accessing the forums and blog areas wasn't difficult for anyone and all students were actively engaged in the activity. 2/5/07
- All students were actively engaged in the research of personality traits. 2/6/07
- Today I found myself going back to my old ways and conducting a lesson on "the 5 different types of indents". Why was I doing this? Was there a need to learn indents or did one of the activities require the students to learn what the indent markers on the Word screen??? NO! It was me and my controlling behavior that showed up instead. 2/8/07
- I am struggling with assessment a little in my implementation. I keep going back to my goals and asking myself "What does this look like and how do I know the students are meeting these goals?" Right now I am not sure if my assessments up to this point are accurately answering that question. 2/8/07
- The initial research class periods went well and except for one group - everyone has already researched at least 6 careers - we are off to a good start. 2/14/07
- I spent most of the period demonstrating how to write a formula in Excel as the students followed along and practiced on their own computers. Most students did a good job of following the directions and I only had to stop one or twice for clarification or demonstration. Students liked learning about some of the time-saving features, like AutoSum and the copy fill handle. 2/16/07
- Making Excel spreadsheets: Groups realized they did not have all the information they needed and I observed several going back to their sources to find facts. Many asked for clarification of how I wanted them to set up the spreadsheet - and I turned it around and told them to decide as a group. 2/20/07
- Friday was the first class period where I truly felt all of the students were engaged in the career unit. Some of my observations: Each student was working the entire period on one aspect of their project. Some were planning PowerPoint's, some were making brochures, several were designing the look of the kiosk, several were looking for photos or video clips from unitedstreaming.com for their projects. There were a lot of questions and interactions among group members. At the end of the period, one freshman remarked, "Wow, I got a lot done today. This is fun". 2/24/07
- As the students finish up their tri-fold displays this week, the thing that I see missing from their presentations is some interactions with real people in real careers. 3/7/07
- Today my Computer Applications students hosted a mini-career fair in the lobby of our school at lunch. It was fun, hectic and full of energy - basically - organized chaos. 3/13/07

Below are observations from the student blogs or journals:

Career Research 2/13/07:

- If we are going to investigate various careers, what information or data do we need to collect in order to educate our classmates about career choices? Some ideas I think we need to find out: Average salary in Oregon (some places in US pay more because it costs more to live there), what type of education you need, and we might also want to find out if certain careers have a good outlook for the future.
- We need to look for: The amount of schooling necessary for the career, how many people actually have the job in the career field, and how many hours and whether or not they are flexible.

Are You Learning? 3/7/07:

- I have learned to make tables in word. My typing has improved. It is because I work on it during class. I would like to learn how to format documents in Word even though the rest of the class seems to know how to do it.
- I'm not so much learning tons of new skills because I feel that I am already pretty skilled in the several Microsoft Office 2003 programs, but I am sharpening my skills. I already knew just about how to accomplish all the tasks we have previously been assigned but I did learn how to do them much more efficiently and much more quickly. In light of this, there's not much more I feel I specifically want to learn but just feel that my computer skills can always be sharpened to even higher levels.
- I've had a hard time keeping up with this class's assignments because I've been busy fending off all da ladies. I have, however, been involved in my group project, and am excited to see the results of the presentations next week. I'm having a hard time learning in this format. I'm having a good time in the class, but because of my ADD mind it is difficult for me to be able to gather information from various exercises and apply it. This is a skill I'm working on.

The Career Fair 3/13/07:

- The Presentations at the career fair was a good experience. It was a little nerve racking at first but after my group and i got to the program we took over the show and pretty much destroyed the other groups... With Sam Took and Batty Thomas at my side we owned at the career fair!
- It was pretty cool doing the projects. People listened and some people you had to make listen because they wanted candy so bad. You had to say a lot of the same things over again and again
- The fair was interesting; a lot more people came and were interested in it than I thought there would. Our PowerPoint's went well, and so did our presentation. Overall, for my group it went great.

Team evaluations 3/15/07:

- Our team worked well together. We divided works so that each one of us can participate and actually get something done. I made brochure. Max made a PowerPoint and Tim designed and worked on the poster board. We got together to give advices to each other and see how we were doing. Lot of it was our own, individual work but everyone did what they suppose to do. We were able to finish

everything done by the due date and had a very successful presentation! it was a great experience to do research as a group and work as a group.

- I researched two careers, worked on the design of the board, and answered some of the questions people had. I could have answered more questions and done more in the presentation. Julie research for her careers and so did Dalton. Dalton spent a lot of time on the power point, and Julie worked on the overall list of careers and a definition. I would work with the two of them again because they can be trusted.
- I worked with Nate and Zach and it all worked out pretty well with them. I was gone a lot for sports and being sick but we all divided the work up well enough and they continued progress while I was gone so it worked well. Zach designed the brochures and helped Nate design the backboard and they finished that one of the days I was absent so I was impressed with that. So overall they did well and there wasn't much else that we could have improved on because we finished everything early, had candy, etc so we're awesome.

2. Quantitative data

Pre-ARP Survey: 1/9/07

Before the new semester began, I surveyed last semester's Computer Applications students about their opinions of the curriculum and class activities. For complete results, look at **Appendix A**. The following is a summary of the survey:

- Most students felt like the keyboarding practice this term was helpful: Yes (70%) and somewhat (23.5%).
- The Word assignments that the students found most beneficial were: Mail merge thank you letters (64.7%), the group newspaper (41.2%), and the outlines (35.3%).
- Students generally thought the assignments from the textbook were fine since they gave complete step-by-step instructions (68.7%). Others found them to be tedious and boring (25%).
- Most students liked working in groups for projects (87.5%), but some were concerned that a few students did too much of the work (12.5%). Others felt liked they learned a lot from their classmates.
- The Excel skills that students found most beneficial were: Advanced functions (29.4%), charts (23.5%) and basic functions (17.6%).
- Students rated the teacher highest in areas of knowledge of curriculum (75%), being prepared for class (75%) and ability to teach new skills (75%). Average ratings were given for feedback (31%) and availability for help (38%).
- Suggestions students had for the types of lessons in the future included: skip some of the easier stuff (35.7%), continue to do more projects (28.5%), or make no changes (28.5%).
- Recommendations for how the teacher could teach this class differently included: nothing (46.6%), increase interaction with students (21.4%) and let students have choice (2%).
- Almost all of the students would recommend this class to another student (93.7%).

Word Skill – Tables – 2/8/07

I used the “CHOICE” module in Moodle to document specific technology skills. Before I started a lesson on Tables, I asked students to log into Moodle and answer a one question survey about their

previous knowledge of how to use tables. This information allowed me to customize my instruction when teaching about tables in Word. The results were:

- I have never used tables before - 2 students
- I've used tables before but don't know how to create or modify them - 4 students
- I could figure out how to use tables with help - 3 students
- I know how to create and modify tables - 8 students

Excel Skill Evaluation – 3/2/07

After our first assignment in Excel when the students analyzed their ability in Excel, the students rated themselves as:

1. Excel is still very confusing to me - I don't understand it at all. – 0 responses
2. I needed help for adding both data and writing formulas. – 0 responses
3. I was able to add information on my spreadsheet, but still need assistance with writing formulas – 5 responses
4. I can analyze my data with formulas - but just know basic ones. – 10 responses
5. I'm feeling pretty confident in my Excel skills at this point. – 3 responses

Resume Evaluation – 3/13 & 3/16

I had the students evaluate their first draft of their resume. The results were:

March 13th Pre-Assessment Question: What do you think of your resume at this point?

1. I didn't make a resume - 0 responses
2. It's OK - but still needs a lot of work - 4 responses
3. It's pretty good - maybe one or two adjustments - 11 responses
4. It's awesome - I don't need any revisions - 1 response

17 responses / one student absent

March 16th Post-Assessment Question: What do you think of your resume at this point?

1. I didn't make a resume - 0 responses
2. It's OK - but still needs a lot of work - 0 responses
3. It's pretty good - maybe one or two adjustments - 5 responses
4. It's awesome - I don't need any revisions – 6 response

11 responses /data will be updated on Monday when students return from school activity

Computer Applications – MidPoint Evaluation 3/19/07

1. What year are you?
 - a. Freshmen – 9
 - b. Sophomore – 3

- c. Junior – 2
 - d. Senior – 2
2. Do you think the keyboarding practice this term has been helpful?
- a. Yes – 9
 - b. Somewhat – 6
 - c. No – 1
3. Which skill in Microsoft Word was the most beneficial to learn this term? (multiple answers are allowed)
- a. Font formatting – 0
 - b. Tables – 12
 - c. Borders – 7
 - d. Styles – 4
 - e. Indents – 7
 - f. Numbering – 4
 - g. Format Painter – 9
 - h. Paragraph spacing – 1
 - i. Other: Track Changes – 2
4. Which statement(s) best describe your opinion about conducting research for the career project (multiple answers allowed).
- a. I learned a lot about career choices through my research – 11
 - b. I did not enjoy the career research – 1
 - c. The career research was easy – 5
 - d. Researching the career information was too difficult and the information was hard to understand – 0
 - e. I like using the pathfinders provided by the Librarian – 10
 - f. I would prefer to do my own research on careers and not use the pathfinders. – 2
 - g. I shared the information I researched during the Career Fair – 13
 - h. I did not share the information I researched during the Career Fair.
 - i. Other – 4:
 - i. Learned some what about our careers
 - ii. Didn't help my decision in finding a job
 - iii. It made me think about what I want to do with my careers in my future.
 - iv. The career research wasn't too hard, or too easy
5. Evaluation how well your group worked together on the career project

This statement is ...	False	Partly true	True
Everyone contributed to the research	0	2	14
Everyone contributed to the poster board or interactive project	2	0	14
Everyone contributed during the presentation at the Career Fair	2	5	9

6. Please rate your understanding of the following Excel Skills

	I still have difficulty with this skill	I need some help with this skill	I am comfortable with this skill	I could teach another student this skill
Formatting the spreadsheet	0	2	10	4
Writing a formula	0	1	10	5
Creating a graph	0	2	7	7

7. On a scale of 1-5 rate your teacher on the following items:

	1 Poor	2 Just Ok	3 Good	4 Very Good	5 Excellent
Knowledge of technical skills	0	0	2	4	10
Availability for help	0	0	3	6	7
Feedback given to you about your progress	0	2	1	10	3
Ability to teach new skills	0	1	1	4	10
Friendliness	0	0	2	4	10
Motivates me to learn	0	0	5	6	5
TOTAL	0	3	14	34	45

8. What suggestions do you have for how this entire career project could be improved in the future?

- a. Nothing
- b. More time to do research and maybe more to the point topics... The topics assigned for this recent project were broad
- c. The presentation seemed chaotic during lunch
- d. I think that more sites should be available on the library thing
- e. I think that it was done really well, but it could be better if we could choose somewhat what careers we wanted to research.
- f. This could be improved by giving time for more research. if you have more information, then there would be more to put on the project and the presentation.
- g. Maybe more interactive. Find other things for different groups to do.
- h. No presentation to school. Most people didn't really care. Instead, present to classmates.
- i. Research more careers than two. Get different information about each career. That's about it. It was good.
- j. Maybe have the groups have a little bit more time to actually put together the poster board. like you could have a "poster board day"
- k. I think that we could have the same thing happen, basically, but spend more time on the report, the speech/ presenting part.

- l. I thought it all worked out fairly well. Its not gonna be perfect as that's impossible for any ideas in school but you basically did it the best way we could and we all worked together and learned plenty of things and then were able to share those with the school (while giving out candy as well).
 - m. I think that maybe next year or whenever it is done again, that more research should be done on the different jobs. The that my group provided was not very exhaustive
 - n. It was pretty good.
 - o. It could be improved if the students gave more creative ideas. Everybody else are almost same; doing PowerPoint, poster board. But, there were some creative ones, like playing guitar, bring cookie, and tickets.
9. What recommendation do you have the teacher of how she could tech this unit differently in the future?
- a. No, none what so ever
 - b. For me i did not need the Microsoft office help but maybe for some people, we could have touched on word, excel, and power point a little bit more.
 - c. Focus more on teaching the skills rather than so much emphasis on the project.
 - d. more progress reports
 - e. I don't really have any recommendations. The teacher did well.
 - f. This would be better if we had time to practice the presentation before and make a script or something so that we know what we should say to people who come to look at our project
 - g. You're doing great, lots of vocal energy. Maybe a few field trips (educational) to learn about computers.
 - h. No detailed research on a couple specific topics, but instead, several more general topics, so we can discover more jobs without having to research a job we find out we don't like.
 - i. I think it was very well taught.
 - j. i don't have really any recommendations for you.
 - k. I think she taught it well, but could explain the project more accurately in the beginning.
 - l. About the same answer as #8. It wasn't "perfect" but I can't really think of another way it could have been done so good job!
 - m. Stress that more research should be done on the specific careers that a group chooses to cover.
 - n. I would like to learn the skills in a more linear format.
 - o. I think project was a good one. Maybe doing other project in the future will be good.
10. If students had the CHOICE to help the teacher choose a topic for future projects in Computer Applications, which of the following topics interests you the most? (multiple answers and suggestions encouraged)
- a. Teen Issues (drinking, smoking, dating, etc.) - 12
 - b. Athletic topics (team stats, steroid use, sports promotions) - 7
 - c. Discovering new technologies (podcasting, video, blogs, Web 2.0 tools, IM, Free software, Lego Programming) - 4
 - d. Famous People (historical, political, music, etc..) - 4
 - e. Pop Culture of the 50's, 60's, 70's and 80's - 4
 - f. The History of ... (music topic: Rock-n-Roll, historical event: famous war, Invention: TV, etc) - 8
 - g. Everyone gets to choose their own topics - 11

What it means--give an analysis of your data

Curriculum

The data collected shows a change in how the curriculum is presented. The “before” description of how the curriculum was presented showed a technology program that is skills based and is grouped together by software program (Word, Excel, and PowerPoint). The teacher used mainly direct instruction to teach these skills from the textbook with some individual projects.

Entries from the blog described a technology curriculum (see **Appendix C** for project plan) that is focused on a theme and technology skills are used to investigate the theme. Several specific skills were taught to students (Word tables, Excel graphs, Word “track changes”) but only because the theme presented the opportunity to use the skill – not because that skill is the next one taught in the textbook.

The entire curriculum has been developed by the instructor using the Understanding by Design methodology (see **Appendix C**).

Skill Development

The scope and sequence of computer skills are now embedded into the themes instead of a linear format.

Students were surveyed several times during the semester. The first time was an opportunity for students to give the instructor an idea of their ability in using tables in Word before any direct instruction. 2/3 of the students were fairly comfortable with tables before instruction. This information gave me valuable information that allowed me to customize skill instruction for this particular class.

Students were asked to evaluate their Excel skills two times during the first cycle. The first survey showed only three students feeling fairly comfortable with their general Excel skills. At the end of Cycle One, the students reported improvements: 4 students thought they could teach another student about the formatting of spreadsheets, 5 about writing formulas, and 7 about creating graphs.

When students were asked to answer the question, “Are you learning?” one student commented, “I have learned to make tables in word. My typing has improved. It has because I work on it during class.” Another student commented, “I have ... been involved in my group project, and am excited to see the results of the presentations next week. I'm having a hard time learning in this format. I'm having a good time in the class, but because of my ADD mind it is difficult for me to be able to gather information from various exercises and apply it. This is a skill I'm working on”. I later interviewed this student about his comment and asked him if he thought learning from the textbook would be easier for him. His response was, “maybe, but I like doing projects. They are more fun and I get to be creative”. These comments show me that all students learn in different ways and that I need to plan that skill lessons are taught using a variety of instructional strategies.

Eleven students commented that they learned a lot about career choices through their research. Thirteen students reported that they shared information that they research to the students who

visited the Career Fair. This data showed that other information besides technology skills were learned in the career unit.

Since skills were just introduced during this first cycle and not expected to be mastered yet, evaluation of the skills were comprised of student reflections and teacher evaluation. Mastery of skills needs to be included in Cycle two.

Student Engagement & Attitudes

Several times during the unit, I observed students engaged in the class activities: during research, making the poster boards, working on the interactive projects and during the presentations of the career fair. Students also reported that almost everyone (14 out of 18) contributed to the research, poster board, or the interactive project. There were a few times when students were not engaged in the activities or did not have something to work on for their group presentation.

Student's attitudes about the entire career unit were generally positive. One student commented, "The fair was interesting; a lot more people came and were interested in it than I thought there would. Our PowerPoint's went well, and so did our presentation. Overall, for my group it went great." When asked what suggestions do they have for this unit in the future, students commented: nothing, give more time for research, allow the students to choose career groups, or present to classmates only.

Teacher Attitude

Overall, I am very pleased with the Career unit. I felt like I made major changes to the curriculum that was positive. The students were generally interested in the career topic. I felt like the students were engaged during most parts of the instruction and I believe that using authentic data and real topics for instruction made the overall projects more interesting and that the students were more engaged in the learning.

In my blog there were several times I wrote that I was frustrated with how instruction was going and I wondered if the students were actually learning anything. I think this is due to the uneasiness that most teachers feel when they are trying something new in their teaching. There were a few times I found myself drifting back to a "sage on the stage" style of teaching and teaching skills just for the sake of teaching the skill.

I asked the students to evaluate my performance during this past unit and the area that I was graded lowest on was "feedback given to you about your progress". I agree with the students. My intention was to respond to more of the journal entries and blogs and I never got around to it. I also did not send progress reports to the parents on a regular basis. I had difficulty trying to represent in a grade book the progress I was evaluating.

The final Career fair was fun and exciting. The students created a "buzz" at the school and several teachers commented to me that they thought the displays were attractive and interesting. Having a real audience created a real purpose for making the display boards and presentations.

If I do this Career unit again next semester, here are some of the things that I would change:

1. Invite guest speakers to class to have more authenticity to our research.
2. Wait and have the students conduct the interview with someone in their field after they have chosen their topic.
3. Show some of the unitedstreaming.com videos earlier in the unit so students can use a variety of resources for their presentations.
4. Have them use the "Best Jobs of the 21st Century" book for data for Excel project because some of the research took too long.
5. Walk them through the first Excel assignment and check for understanding as we go along.
6. I would wait and do this unit at the end of the semester when the students have more technology skills available to them. This might make the interactive projects more interesting.

Describe what you will do in the next cycle.

Once again during the next cycle I will use authentic data to teach technology skills in Word and Excel. The unit plan is called: What's For Lunch?

Nutrition and school lunches have been in the news lately and the students in my Computer Applications class are going to collect data and photos of student lunches that were purchased at school and brought from home for one week. This information will be entered into a shared spreadsheet and students will work with partners to analyze the nutritional content (calories, fat and carbohydrates), the cost of the lunch and evaluate the waste that is thrown away. Students will determine how to calculate the information in Excel and then individually make graphs that represent the data in a visual manner. Excel skills that will be reviewed are: spreadsheet formatting, basic functions (SUM, AVERAGE, MIN, MAX, COUNT), Advanced functions (IF, COUNTIF, SUMIF), and creating and design graphs. Students will be evaluated for mastery of the basic functions, Excel vocabulary terms and formatting of the spreadsheet.

Next each student will design a one page poster related to the topic of nutrition, cost or waste. There will be specific formatting requirement for this project, but students can select the message and design. Students will be required to include several desktop publishing skills: borders, word art, text boxes, images, fill effects, font effects, etc...

Finally, students will choose one of two projects to share with the community. They have the choice to do these projects by themselves or with one partner. The first one is to write a letter to the editors of three newspapers explaining their opinion on one of the topics: nutrition, cost or waste. Students who choose this project will use "track changes" for peer evaluation and learn how to set up a mail merge for their letters.

The second option is to create a simple podcast voicing their opinion on one of the three topics: nutrition, cost or waste. The podcasts will be posted to the school Intranet website. Students who choose this project will use "track changes" for peer evaluation of their script and learn how to edit an audio recording with Audacity.

Students will continue to blog about their progress and write private journal entries to the teacher.

What will be different between this cycle and the next cycle?

This next unit will not be as long as the first unit. I felt like the research component of the career unit took too long and the research skill practice was too repetitive of the type of research the students do in other classes.

The research that we will do for the Lunch unit will be collaborative and the information will be shared with everyone on a shared spreadsheet. This way the students will have more authentic data to work with in Excel and it won't take too long to gather the information.

Another thing that I am going to do is layout the whole project ahead of time for the students. They have the choice to work on some of the project by themselves or with one partner. Having all of the instructions up front will give students the opportunity to work ahead, customized a project with their own ideas and know the due dates. We will utilize Moodle for this organization.

I am going to hold mini skills workshops and anyone who is interested in that topic can attend. For example, I will teach a lesson on how to use Audacity and even students who aren't doing the podcasting assignment can still attend the workshop if they choose.

I will continue to use our class wiki for vocabulary information related to Word and Excel, but during this next unit there will be more specific quizzes and assessments to check for skill understanding of this information.

A few teaching areas that I hope to improve on is to give the students more written and verbal feedback on their progress and their skill development. I will respond to (at least) one blog entry and one journal entry for each student during cycle two. I also hope to limit my direct skill instruction to only when it is necessary for success in the project. I hope to develop student mentors in Word and Excel content areas, create some skill tutorials to place in Moodle, and provide more references for skill development in textbooks and online resources.