

Survey Says... An Online Approach for Collecting Student Feedback on Middle School Science Projects

[Pamela S. Watson](#)

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Abstract

This article describes the results of an action research on middle school student attitudes about three different science projects. Each project had a technology component and was of varying levels of challenge. An online survey collector was used to gather student feedback on their computer comfort levels, skills, and feelings about each project. The author was able to easily disaggregate the data to see gender differences as well as student engagement and challenges to more effectively evaluate the science projects.

As a 20th Century teacher in a 21st Century seventh grade science classroom, I am trying to integrate all of the technological skills my students will need to become successful science learners. From an instructional viewpoint, every year I integrate more technology skills in my general science classes including making interactive media presentations, using websites to show an animation and video, or using data projectors to display spreadsheets that graph student lab results. I am also increasing the amount of student interactions with technology from day-to-day computer use to long-term, real-world projects.

How would I describe the students I teach? They have been using computers since they began kindergarten. My students love using computers and going to the computer lab. They demonstrate a positive attitude about a lesson in the computer lab even when they have no idea what they will be asked to do. Knowing this I wanted to explore how students' attitudes are affected as they complete science projects of varying levels of difficulty with technology components. In this study, the focus of my questions were:

- Did the students enjoy projects that were relatively easy to complete as well as those that required more thought?
- Did they like projects that required them to learn a new skill?
- How did relying on the contribution of partners or using additional time outside of the classroom to complete their projects affect the students' attitudes?

I also wanted to know if there are gender issues that separate males from females in attitudes and computer comfort levels and skills. To gather student feedback on the projects, I used an online survey collector, SurveyMonkey. Because I was collecting data from 125 students, I wanted a system that would allow me to easily design multiple surveys, collect and tabulate the data, and make it available to me in a spreadsheet format that I could easily analyze. By using an online survey collector, it was simpler for me as the teacher/researcher to evaluate the effectiveness of each project.

Review of Literature

Many of today's teachers did not use computers for learning when they were elementary or secondary pupils. "Digital natives" is a term that has been coined to describe the students of today who have grown up with computers, and thus process and think about information in a way that is different from the majority of their teachers (Prensky, 2001). According to Prensky (2005), if we want to be relevant teachers of 21st Century students, it is imperative that we learn how to engage students with electronic methods. Teachers feel that the advantages resulting from using technology in the classroom are that it (a) improves instruction, (b) is able to meet the needs of the students, (c) can update the science curriculum, and (d) can make science more fun and motivating for the students (Czerniak, Lumpe, Haney, & Beck, 1999).

Researchers have conducted studies that show students of both genders have positive attitudes towards using a computer. As more schools have increased computer access, girls' access to the school's computers is equal to the boys' (Miller, Schweingruber, Brandenburg, 2001). But studies of gender differences in student attitudes towards computers find that even though girls are being encouraged by teachers, boys remain more confident than girls in their computer skills (Young, 2000).

Student confidence and attitudes toward computer use may be linked to the person with whom they are working. Students like to work with their friends, and Prensky (2005) believes that students should be allowed to choose their own learning partners. Science students' self-efficacy and knowledge was enhanced in a technology-rich environment where students were able to collaborate and direct their own learning (Hsieh, Cho, Liu, & Schallert, 2008).

This study was developed to investigate the attitudes of students in their computer comfort and skill levels, to analyze their attitudes toward varying levels of science projects, and to look for any differences between genders.

Method

Participants

Participants in this study were twelve to thirteen year old seventh grader students from a suburban middle school in the southwestern U.S. In the 2008 state ratings, all nine schools in the district were rated as “Exemplary” (the highest rating possible according to state standards) as defined by scores on state-mandated tests. The seventh grade science course is a combination of earth, physical, and life sciences, with an emphasis in life science. A total of 114 students, 49% males and 51% females, in five heterogeneous science classes completed science projects that were of varying difficulty, and all projects included a computer component. Classes consisted of 86% White/Caucasian, 8% Asian/Pacific Islander, and 6% Hispanic students.

After each project was submitted, the students took a survey about their feelings relating to the project using *SurveyMonkey*, an online survey collector (for more information visit <http://www.surveymonkey.com>). Students were emailed an invitation to the survey and were given class time to complete the survey questions. In each survey, students were asked a variety of questions such as (a) How did you enjoy the project? (b) How much time did it take to finish the project? (c) Did you teach someone else a computer skill? The initial survey also included a few questions about personal computer availability and computer comfort levels and skills (see Appendix A).

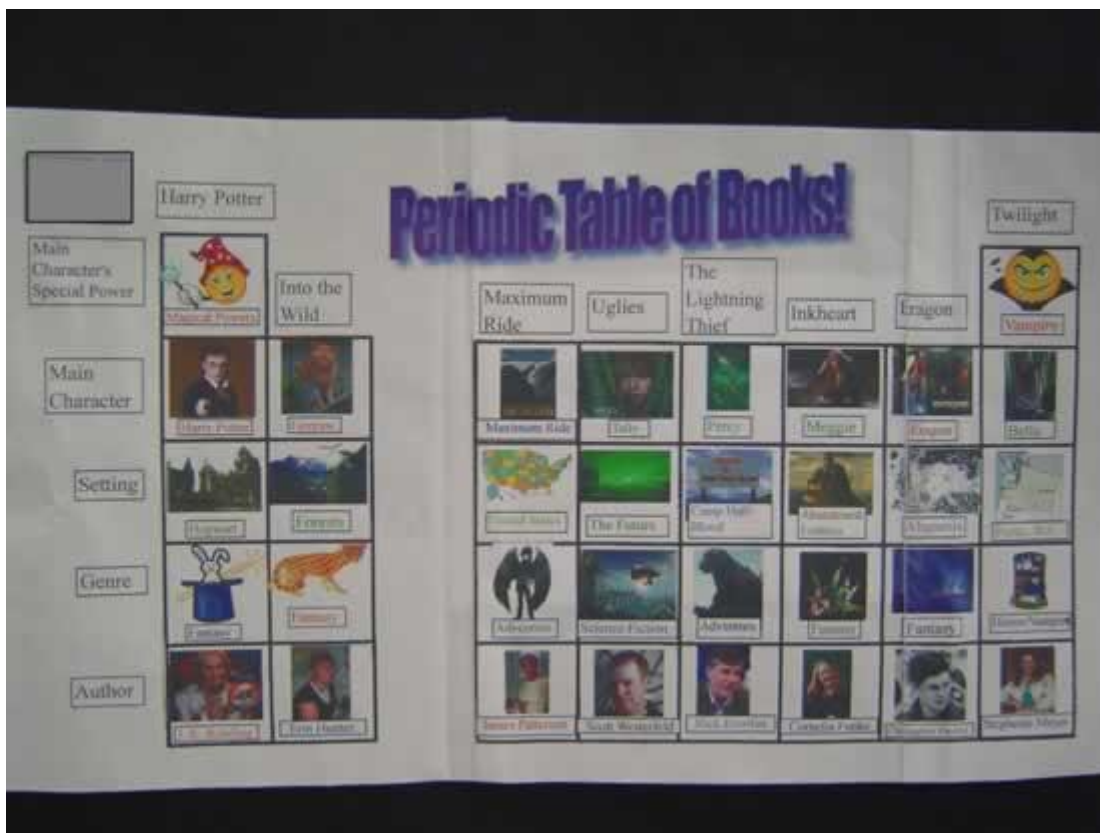
Classroom Projects

The three projects were of varying levels of difficulty in creativity, computer knowledge, and group organization. The first project, Periodic Table (PT), was an individual project. The students used basic computer skills for searching the Internet for images that could be downloaded and resized into a template they were given. In the second project, Animation, the students learned a new technology skill of using animation in Microsoft PowerPoint (PPT) to produce a cartoon-like movie. They also chose whether to do this project by themselves or with a partner of their choice. In the third project, Zoo Design, all students were placed in groups of three to four people. Groups were chosen by the teacher. Students were able to choose one of four tasks to complete for their group. Each task used a different skill such as drawing or writing and/or a computer program such as Microsoft Word, PPT, Microsoft Publisher, or Microsoft Excel, to complete the task.

Periodic Table Project

The first project required students to make a Periodic Table (PT) of common objects, people, books, etc. such as college football teams, earrings, movies, and novel genres. Students used their knowledge of how Dmitri Mendeleev developed his periodic table with groups and periods to design their own table. Student designs demonstrated their understanding of how objects can be grouped according to similar characteristics and periodicity. Students worked independently in class. They were given a grading rubric

and a template of a blank periodic table on an Excel spreadsheet in which to input their images and words. The template was in Excel, but it did not use any spreadsheet features; it was used so the final product could be printed on several pages, cut out and overlapped, to make one large periodic table. Students accessed the rubric and template through the school district's Student Shared Folder or the teacher's website, and saved their final work in their individual student folders on the district's server. Students found images on the Internet to place into the columns and rows of their periodic table. In addition, they had to label pictures and title their project. Students were given two days of class time in a computer lab to work on the project, and it was due several days later. This project involved students in the use of basic computer skills such as accessing different folders, downloading and pasting images onto a document, resizing images, using WordArt, making text boxes, and other basic word-processing skills.

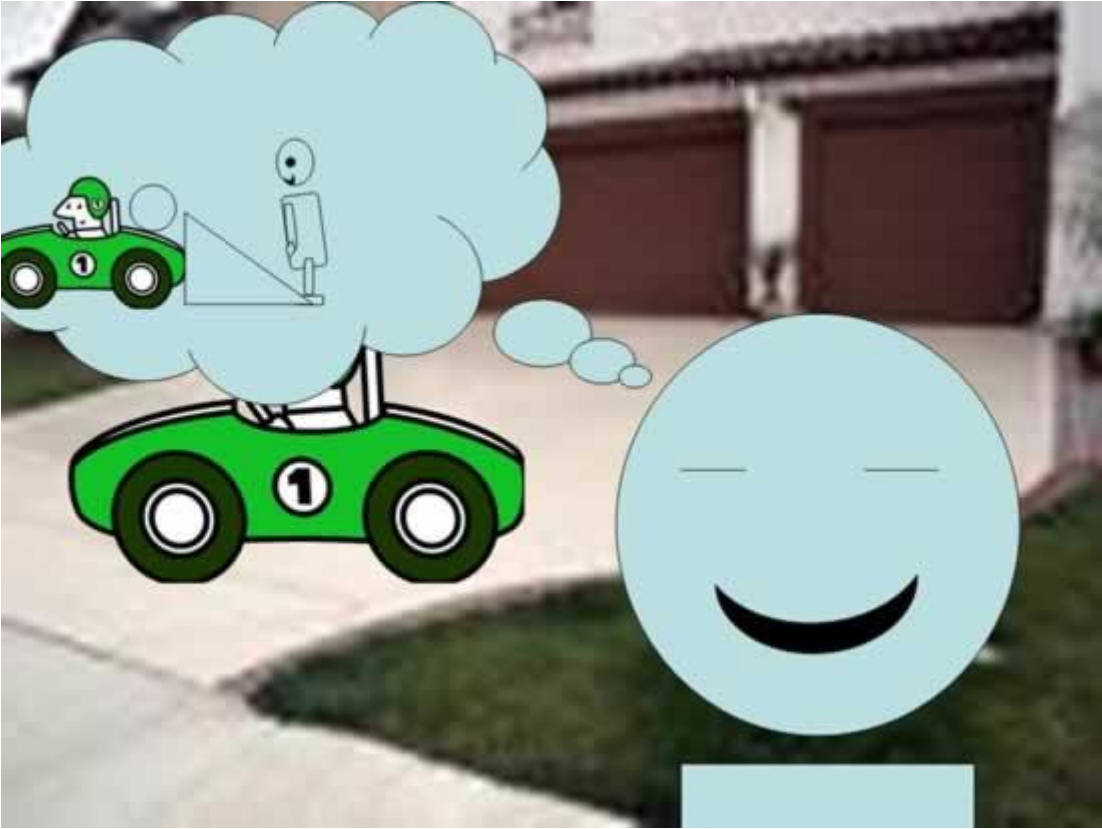




Animation Project

The second project was an Animation project using PowerPoint. The students were originally given the task to make an animation of soil formation or weathering. As the students became engaged in the work, they asked if they could expand the project's topics that they could animate to include other areas they had previously studied that semester including simple machines and force and motion. Therefore, the students had many more choices that they could animate. The animations demonstrated the students' understanding of a process or action in science that had movement as an integral part of the concept. A demonstration of how to make an animation using PowerPoint was given, as well as a project requirement sheet and grading rubric, examples, and online tutorial sites including ones that demonstrated special motion techniques. Students had three class days in a computer lab to work on the project. Projects were saved to student's individual folders. Students were given the option to work individually or in pairs in which the students selected their own partner. Those that worked with a partner had to have twice the time minimum on their animation as those working individually. This project used basic computer skills such as using drawing tools and importing graphics while using a familiar program, PPT. Even though they were using a program most were comfortable with, they were doing something with the program that was new and different to the students. The new skill they learned was how to make small

changes from one slide to another so that when the final product was presented, the PPT looked like a cartoon movie with figures moving, tumbling, blowing up, etc.





Zoo Design Project

The third project was a Zoo Design Project which required the use various computer software programs (Word, PPT, Publisher, Excel). All students began the project by doing Internet research on animals and zoos. Each student filled in a template about information on three different zoo animals they selected to investigate. In addition, they went to the websites of both small and large zoos to find out unique features of the zoo, including animals found at the zoo, conservation efforts, and maps of the zoos. Groups of four students were purposely assigned by the teacher so that a mix of gender, ability, and personality was included. Students were allowed to pick his or her own job within the group. The jobs included the Zoo Designer who made a map of the zoo, the Zoo Keeper who made a spreadsheet of the zoo animals with their characteristics and needs, the Zoo Publicist who made a logo for the zoo as well as a brochure to publicize the zoo, and the Zoo Conservationist who made a PPT or brochure to explain the zoo's conservation efforts. Those groups where more than one student wanted the same job had to come up with a fair way to decide who got the job. "Rock—paper—scissors" was the usual method students employed. Within each group, students had to share their collected information and collaborate on overall issues about their zoo such as (a) which animals to include, (b) what conservation effort they would pursue, and (c) what unique features they would incorporate into their zoo. They then worked individually on their specific piece of the project. The students had five days in the computer lab to work on this project. Finally, the students had to present their group's zoo design to the entire class using a data projector. Depending on the job the students chose, they either used

an unfamiliar computer program and had to learn how to use the software or they worked with a program they were already comfortable using.



Analysis

After students completed each of the projects in this study, they were emailed an invitation to take an online survey (see [Appendix A](#), [Appendix B](#), and [Appendix C](#)). Students were given class time to complete the online survey instrument, thus there was a high completion rate. The initial survey, in addition to questions about the specific project, also had several questions about the student's basic computer skills and access to computers. The majority of the questions on the three surveys were five-point Likert-scaled questions relating to the specific project. The survey website tabulated the results, and the results were downloaded into a spreadsheet format for quantitative analysis. In addition, the Animation and Zoo projects contained one open-ended question: If you spent more time outside of class to finish the project, what were the major reasons that caused you to need that extra time? The responses were reviewed qualitatively and coded by a group of three graduate students and one university professor. The student responses were analyzed for common themes. As these emerged, the themes were color coded on the data sheet. In addition, each color code was assigned a number in the spreadsheet to aid in tabulation of the male and female responses. To increase validity, three of the four coders had to agree on where a

response should be placed within a particular code. Twelve themes emerged which included perfectionism, time management, partner issues, home computer problems, and those students who had no difficulties in finishing the project in class.

Findings

Survey results were separated by project and by gender. The initial survey also gathered data about computer comfort levels as well as computer skill levels and computer availability. All surveys asked how much additional time was needed to complete the project outside of class as well as where the project was completed such as at home or during advisory. Each project had a variety of questions relating to specifics about the project such as (a) Was it a challenging project? (b) Was it easy or hard to find information? (c) Did you teach a computer skill to someone else? Responses were separated by gender for comparison.

Gender Differences in Computer Access, Comfort Levels, and Skills

On the initial survey, students were posed several questions about computer usage. A very high percentage of both males (96%) and females (95%) had Internet access at home. Eighty-five percent of females agreed or strongly agreed that they were comfortable using computers and eighty-seven percent of males marked the same two categories. A very small percentage of females (2%) and males (5%) disagreed or strongly disagreed that they are comfortable using computers. In addition, students were asked to check which computer programs and skills they were comfortable using. Males and females showed similar comfort levels with most programs and skills except in two areas. Girls had higher comfort levels using PPT and Publisher. It was surprising that the males did not rate PPT as one they were comfortable using because PPT is used often in classes at this school. Most of the seventh graders have used Publisher and Excel but not as often as Word or PPT. The students have had limited exposure to Movie Maker, Photoshop, and databases which correlate to the minimal number of teachers in the school using those programs. Ninety percent or more of both males and females rated themselves as comfortable in downloading images and resizing images and at least 84% felt secure in their ability to attach something to an email. Home computer availability as well as the fact that these students have used computers throughout their school career led to high technology comfort levels among students.

Work Environments

In all projects, a majority of both males and females completed the projects at their own homes rather than at school or other sites. This correlates to the fact that almost all students had access to a computer at their home. The PT project had a much higher home completion percentage while the Animation project had a higher percentage of students staying at school to complete the work. On the Animation project, many students worked with a partner and the school was a convenient meeting place because computers were available for student use. Another contributing factor to finishing the animations at school was the availability of PPT on the school's computers. Some

		Class	hour	hours	hours	hours	+
PT	Male	0	38	38	11	7	5
	Female	0	36	32	19	5	5
Animation	Male	24	36	27	7	6	0
	Female	12	39	25	14	5	5
Zoo	Male	20	40	20	11	2	7
Design	Female	12	42	25	12	4	4

Gender Responses to Animation Project

In the Animation project, results for males and females were similar to those for the PT project. Fifty-seven percent of the males, however, thought this was an easy project with only 22% of males reporting that it was challenging. Thirty-five percent of the females rated the project as easy, and 42% felt it was challenging. A much higher percentage of females (70%) looked over the grading rubric than the males (51%). When asked if they would like to do a similar project, 85% of the males strongly agreed/agreed but only 60% of the females had the same response. Eighty-five percent of the females responded positively to enjoying using the computer on the project.

Gender Responses for Zoo Design Project

In the Zoo Design project, 31% of males were neutral on whether this was an example of their best effort and best work. They were more decisive on their enjoyment of using the computer (76%) on this project. There was almost a three-way split on if this was an easy project; 33% strongly agreed/agreed, 31% neutral, and 31% strongly disagreed/disagreed. Sixty-seven percent of males did not want to be graded as a group.

In the Zoo Design project, 84% of the females felt that what they turned in was their best effort and 71% thought it was an example of their best work. Like the males, there was almost a three-way split on if this was an easy project; 32% strongly agreed/agreed, 32% neutral, and 35% strongly disagreed/disagreed. Females had positive feelings about working by themselves (70%) and about working in a group (72%).

Between the three projects, computer enjoyment and learning a new technology skill were much higher in the Animation project for both males and females. In the Animation project, males showed a 28 percentage point increase in teaching someone a computer skill over the PT project. Males showed the highest percentage (85%) in their desire to do a similar project to the Animation one over the other two projects. Females (53%) rated the PT project the easiest while males (57%) thought that the Animation project

was the easiest. Both males and females rated the Zoo Design project highest for both individual and group work enjoyment.

Overall, at least 85% of both males and females enjoyed the Animation project over the other two projects. Males thought the Animation project was the easiest while over half of the females thought the PT project was the easiest. A majority of both males and females said they not only learned a new skill in the Animation project but also taught a new skill. Males rated the Zoo Design project as the most challenging while at least 40 % of the females said that all projects were equally challenging (see Table 3).

Table 3.

Strongly agree/agree responses

	PT		Animation		Zoo Design	
	Male	Female	Male	Female	Male	Female
	%	%	%	%	%	%
Challenging project	35	40	22	42	40	40
Computer enjoyment	76	73	86	85	66	68
Enjoyed working by myself	50	37	29	18	59	70
Enjoyed working with group			56	70	63	74
Easy project	42	53	57	35	33	32
Like to do similar projects	56	44	85	60	56	65
Learned new technology skill	33	26	68	78	27	50
Taught a technology skill	27	51	55	48	31	37

Student Open-ended Responses

Students were given one open response question in the second and third surveys. The prompt for the open response items was, “If you spent more time outside of class to finish the (project), what were the major reasons that caused you to need that extra time?” A much smaller percentage of females (23%) than males (47%) were able to complete the Animation project in class. Even though females rated themselves in the initial survey as being comfortable using PPT (93%), learning a new set of skills in a familiar program was a challenge.

The results of the open response item for the Zoo Design project indicate that 14% percent of females rated partner issues and design issues as the biggest obstacles to completing the project on time. Both males (11%) and females (9%) had absences as a

reason for needing extra time. After absences, males listed time management, low understanding of directions, and product length, all at 9%, as reasons for needing more time. About a third of both males and females were able to finish the project during class.

Males and females had similar responses on the Animation survey regarding their work with a partner. However, nine percent of females felt their ideas were not valued by their partner; whereas, there were no males that had that same feeling. A higher percentage of females than males indicated they wanted a partner but didn't request one or wished that the teacher was involved in the selection of partners. Both males and females had similar percentages in the categories of having less work with a partner, sharing equally in the project, incorporating ideas, picking their partner, and sometimes messing up their group's work.

There were several differences between males and females in the Zoo Design project. Forty percent of the females thought they had less work to do as a group member while only 24% of males thought the same. Twenty-seven percent of the males thought they had done something to mess up their group while only 7% of the females felt they had messed up. Both males (65%) and females (77%) wished they had been able to pick their own group members.

Between the two projects that had partner or group work (Animation and Zoo Design), there was little difference between the genders with a few exceptions. Forty percent of the females thought they had less individual work when they had three or four people in their group even though each member of the group had their own final activity to complete. A majority of students were glad they picked their own partner for the Animation project. Students also wished they could have picked their entire group in the Zoo Design project but over 90% liked at least someone in their teacher-chosen group (see Table 4).

Table 4.				
<i>Responses to Partner/Group Work</i>				
	Animation		Zoo Design	
	Male %	Female %	Male %	Female %
Less work with partner/group	20	21	24	40
More work with partner/group	13	19	20	18
A partner/group member messed me up	7	14	29	40
I messed up someone in my group	22	21	27	7

Glad I didn't pick group members			16	16
Glad I picked my partner	65	74		
Wish I had picked group			65	77
Wish teacher had picked partners	0	4		
Wanted partner but didn't ask anyone	4	11		
Wanted partner but only if teacher chose	0	5		
Liked working with all group members			33	42
Liked working with most group members			58	56
Did not like working with any group members			4	2

Results and Discussion

As the teacher-researcher, I initially wanted to see how increasingly challenging projects that included a computer component affected the students' achievement and attitude. In addition, I was curious to see how males and females differed in their perceptions of how competent and comfortable they were in using computers. Recognizing that today's students are considered to be "digital natives" (Prensky, 2001), I wanted to see if that moniker really applied to the students I teach. I expected that most of my students would have computer access at home, and that was verified.

Student Attitudes

As students completed the three projects, they had the greatest enjoyment in the Animation project where students learned a new computer skill within a familiar program, PPT. More students said they not only learned a new skill but taught someone else a new skill in the Animation project. Students rated the Zoo Design project as the easiest even though students had to do individual research and create a product. The Zoo Design project had students work with groups of three to four students. In the Zoo Design Project, both males and females were evenly split on the difficulty. In this project, students within a group had different tasks to complete and needed different computer skills to complete each task. The variation in student assignments or tasks led to a broader range of attitude in whether the project was easy or not. One of the strongest feelings expressed was that students were glad that their grade on the Zoo Design project was only on their individual work and not a grade that combined the effort of all group members. All students completed the project by the due date; which was not the norm for these students. Rarely do all students turn in homework on the date due and often times one to two students per class will have incomplete assignments. Students were eager to present their animations to the class and were proud of their work.

Gender Differences

It was somewhat surprising that the percentages between males and females were so close in a majority of the survey questions. While males are stereotyped as being much more tech savvy than females, these findings did not support that assumption. Both genders expressed positive feelings when learning a new skill in the Animation project. For the females, almost a fifth indicated they were perfectionists on the Animation project; they wanted to spend extra time so they could have a final product that was above the norm. Even though many females enjoyed the project, there were still those that felt they had deficient knowledge but most were willing to use their personal time to work on the project.

Many of the students were glad that they were able to work with a partner and that they were able to choose their own partner in the Animation project. There were a higher percentage of females than males who wanted a partner but did not ask someone to be their partner in that project. In the future, I can give shy students a way to acquire a partner if they want one. In the Zoo Design project, students liked working in a group but wanted to pick their own group members. I need to design a method in which kids have more of a voice in picking groups while, at the same time, making sure shy or last-chosen kids are placed within a group in which they can be successful.

Online Survey Collector

As the teacher-researcher, the most unexpected and valuable finding for me was the power of using online surveys to get feedback from students. Previously, I rarely asked detailed questions from my students about their feelings on projects since designing and tabulating survey results can be time intensive for a teacher. Instead, I used grades or anecdotal student comments to assess effectiveness of an assignment. While conducting this research project, I discovered that the online surveys were easy to create and administer. The data was tabulated and in a form that could easily be disaggregated for more detailed study. In addition, the students felt empowered that their opinion was sought and their voice was heard. As a teacher, I saw how much extra time was spent outside of class, which enabled me to judge if that was an appropriate amount of homework or if I needed to add additional class time to the project schedule. I could see what stumbling blocks the students encountered in completing the project, and now I have a true gauge of how enjoyable it was from the students' perspectives.

When I conducted the first survey, it had many "holes" or absent data where students failed to answer a question. Even though I thought the survey was user friendly, some students were not as adept at moving from one page to another or answering all questions. In subsequent surveys, these gaps did not exist. With future classes, I would conduct a practice survey so the students would have a better grasp of what the survey looks like and how to move from one page to another. I would also encourage students not to leave blank answers but to carefully fill in each question on the survey. As a teacher, using the surveys gave me greater insight into the value of the projects rather than just looking at student grades to gauge success. Moreover, I had a better

understanding of what was troublesome for the students such as saving their work and home computer issues. In upcoming projects, I can improve my efforts to reduce these types of problems. I also got feedback about how they really liked or disliked the projects. I found out that the majority of students like to do group work but want to be graded on only their own input. Using surveys to help teachers refine curriculum is an effective and easy way for educators to produce assignments and lessons that are meaningful and instructive.

Conclusion and Recommendations

This study was conducted in order to look at students' attitudes and gender differences in science projects of increasing difficulty. I found that students will invest time in a more challenging project especially if it includes learning a new computer skill and/or involves partnerships. When I taught a new computer skill to students, I often considered it a more challenging assignment while most students just thought it was fun. Most students preferred to work with a partner or group and wanted to be able to pick partners themselves which correlates to the findings of Prensky (2005). This research showed the differences between males and females in computer skill level and enjoyment of projects that involve computers were very slight.

The results from my action-research may not be generalizable to every other classroom as I have a unique population of students with access to computers on a daily basis. What can be used by all teachers is the practice of using surveys, even simple pencil/paper ones, to gather information from their students to help improve and refine their curriculum. Using an online survey collector makes that information gathering and analyzing process even easier. Websites like SurveyMonkey allow up to ten questions and 100 respondents on one survey for no cost. Other numbers of questions and respondents are available at various price levels. A search of the Internet will show other free or nominal fee survey sites.

I will continue to use online surveys to assess and evaluate projects that my students complete. Using an online survey instrument gave me results that were compiled into a statistical format that was easy to disaggregate and evaluate. Students found it easy to complete the surveys and felt that their opinion about the activity was valued by their teacher. I, the teacher, now have statistical data that clearly shows me what to remove, change, or leave the same in my curriculum which makes the projects I do in my science classroom student-centered and challenging.

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Author



Pamela S. Watson is a seventh grade science teacher at Hill Country Middle School in Austin, Texas. She is a May 2009 Master's Degree candidate in Secondary Education from Texas State University — San Marcos. She has taught middle school for 26 years and also taught high school Biology. Pam enjoys baking, reading, and learning new things on the computer that she can share with her students.

pwatson@eanesisd.net

Appendix A

Survey One- Periodic Table Project

Demographics:

1. I am a

Boy Girl

2. After two periods in the computer lab, I did most of the work finishing the project

During Advisory

At school –before 1st period

At school- after 8th period

At home

At a friend's house

Other

3. After two periods in the computer lab at school, I estimate that I took this much more time to finish this project

1 hour

2 hours

3 hours

4 hours

5 hours or more

4. I feel comfortable using a computer

SA A CD D SD NA

(Note: SA=Strongly Agree; A=Agree; CD= Can't Decide; D=Disagree; SD= Strongly Disagree; NA=Not Applicable)

5. I have a computer I can use at home

Yes No

6. I have Internet access at home

Yes No

7. I feel comfortable using the following computer programs (check all that apply):

Word

PowerPoint

Movie Maker

Photoshop

Publisher

Spreadsheets (Excel)

Databases

8. I can do the following actions (check all that apply):

Download images from the Internet

Resize images

Send an attachment with an email

Periodic Table Project:

Check the circle next to each statement that most closely represents your feeling about the project

1. This was a challenging project

SA A CD D SD NA

2. I enjoyed using the computer to complete this project

SA A CD D SD NA

3. It was easy to find the information I needed on the Internet

SA A CD D SD NA

4. I thoroughly looked over the grading rubric and the instructions before turning in my project

SA A CD D SD NA

5. The instructions for the project were confusing

SA A CD D SD NA

6. I did NOT enjoy doing this project

SA A CD D SD NA

7. I enjoyed working by myself

SA A CD D SD NA

8. This was an easy project

SA A CD D SD NA

9. The instructions for the project were easy to follow

SA A CD D SD NA

10. I would like to do more projects like this one

SA A CD D SD NA

11. I learned something new about technology/computers during this project

SA A CD D SD NA

12. I had a hard time finding accurate information on the Internet

SA A CD D SD NA

13. I taught someone else a technology skill(s)

SA A CD D SD NA

Appendix B

Survey Two - PPT Animation Project

Demographics:

1. I am a

Boy Girl

2. After three periods in the computer lab, I did most of the work finishing the project

During Advisory

At school –before 1st period

At school- after 8th period

At home

At my partner's house

Other

3. After three periods in the computer lab at school, I estimate that I took this much more time to finish this project

0 hours - I finished in class

1 hour

2 hours

3 hours

4 hours

5 hours or more

4. If you spent more time outside of class to finish the animation, what were the major reasons that caused you to need that extra time?

PPT Animation Project:

Check the circle next to each statement that most closely represents your feeling about the project

1. This was a challenging project

SA A CD D SD NA

2. I enjoyed using the computer to complete this project

SA A CD D SD NA

3. It was easy to find the information I needed on the Internet

SA A CD D SD NA

4. I thoroughly looked over the grading rubric and the instructions before turning in my project

SA A CD D SD NA

5. The instructions for the project were confusing

SA A CD D SD NA

6. I did NOT enjoy doing this project

SA A CD D SD NA

7. I enjoyed working by myself

SA A CD D SD NA

8. I enjoyed working with a partner on this project

SA A CD D SD NA

9. This was an easy project

SA A CD D SD NA

10. The instructions for the project were easy to follow

SA A CD D SD NA

11. I would like to do more projects like this one

SA A CD D SD NA

12. I learned something new about technology/computers during this project

SA A CD D SD NA

13. I had a hard time finding accurate information on the Internet

SA A CD D SD NA

14. I taught someone else a technology skill(s)

SA A CD D SD NA

15. Whether you worked with a partner or not, check any or as many of the following that are true for you.

I didn't have as much work since I had a partner

I had to do more work since I had a partner

My partner and I shared equally in the amount of work done

My partner let me incorporate my ideas into the animation

My partner didn't save the file correctly or messed up in other ways which made us have to redo things on the animation

I sometimes messed up which made my partner and I have to redo things on the animation

I am glad I got to pick my own partner

I wish the teacher had picked my partner for me

I would like to have had a partner but I didn't ask anyone

I would like to have worked with a partner but only if the teacher had chosen everyone's partner

Appendix C

Survey Three - Zoo Design Project

Demographics:

1. I am a

Boy Girl

2. After six periods in the computer lab/classroom, I did most of the work finishing the project

During Advisory

At school –before 1st period

At school- after 8th period

At home

At my partner's house

Other

3. After six periods in the computer lab/classroom at school, I estimate that I took this much more time to finish this project

0 hours - I finished in class

1 hour

2 hours

3 hours

4 hours

5 hours or more

4. If you spent more time outside of class to finish the zoo project, what were the major reasons that caused you to need that extra time?

Zoo Design Project:

1. This was a challenging project

SA A CD D SD NA

2. I enjoyed using the computer to complete this project

SA A CD D SD NA

3. It was easy to find the information I needed on the Internet

SA A CD D SD NA

4. I thoroughly looked over the grading rubric and the instructions before turning in my project

SA A CD D SD NA

5. The instructions for the project were confusing

SA A CD D SD NA

6. I did NOT enjoy doing this project

SA A CD D SD NA

7. I enjoyed working on my own job (Designer, Public Relations Manager, etc.) of the project by myself

SA A CD D SD NA

8. I enjoyed working with a group on this project

SA A CD D SD NA

9. This was an easy project

SA A CD D SD NA

10. The instructions for the project were easy to follow

SA A CD D SD NA

11. I would like to do more projects like this one

SA A CD D SD NA

12. I learned something new about technology/computers during this project

SA A CD D SD NA

13. I had a hard time finding accurate information on the Internet

SA A CD D SD NA

14. I taught someone else a technology skill(s)

SA A CD D SD NA

15. I enjoyed presenting my Zoo Design project to the class.

SA A CD D SD NA

16. I feel that my Zoo Design project was an example of my very best effort.

SA A CD D SD NA

17. I feel that my Zoo Design project was an example of my very best work.

SA A CD D SD NA

18. I am glad that my grade on the Zoo Design Project was only on my work and not the work of others in my group.

SA A CD D SD NA

19. I wish my grade on the Zoo Design project was based on the work of the entire group so that everyone in the group would receive the same grade.

SA A CD D SD NA

20. Check any or as many of the following that are true for you.

I didn't have as much work since I was part of a group

I had to do more work since I was part of a group

Someone in my group messed up which made it harder for me to complete my part

I sometimes messed up which made my group or someone in my group have to redo things

I am glad I did not have to pick the members of my group

I wish I could have picked the other members of my group

I liked working with all of my group members

I liked working with most of my group members

I did not like working with any of my group members