

Abstract

In the high school classroom, students are often behind in current technology used in large American businesses every day. This technology can be utilized to aid students in their evaluation and understanding of online information, while, at the same time, teaching them new technology skills which they can use in the future. Online bulletin boards or message boards provide an excellent way for people from many different nations and cultures to discuss topics such as politics, religion, technology, and humor. By integrating an online message board into a high school classroom, students are able to learn evaluation skills of online resources, learn new technology, and ask questions of their peers. In addition, it provides students the opportunity to fully contemplate what they want to say without being “put on the spot” in the classroom environment.

Introduction

The Internet has revolutionized the ways Americans do business, communicate, and educate. Programs are being developed for students to take college level courses over the Internet. Even now, students are discussing their areas of research and interests via email and discussion boards. Topics of all natures exist on the web such as politics, research, literature, and computers. A simple search using Google, Yahoo, Hotbot or other search engine will bring up numerous online discussions already in progress. Although none of the participants may ever actually meet, this type of communication allows persons from different cultures and countries the ability to discuss topics of interest whether political or personal.

This phenomena has been growing at an astounding rate. UMD is presently in its fourth year of using WebX, a software product of Web Crossing (www.webcrossing.com). Bruce Reeves, Learning Technology Coordinator of Information Technology Systems and Services (ITSS) at UMD, stated that he has seen considerable increase over the past three years (Reeves 4/30/2002). These message boards can be live chat or a message board. Message boards are similar to employee bulletin boards but are more informal and carry more topics. At present this type of discussion and communication has made its way into the college arena.

These online discussions are casual and informal. Students are not overly concerned with grammar and spelling but are more interested in establishing their thoughts and opinions as they would in the classroom. The forum provides an environment for students to discuss topics not covered in class, go more in depth in discussions of class materials, and to ask questions of their peers. In addition, it gives students time to think before they make a statement thus allowing students with low-self esteem an opportunity to participate without feeling like they are the center of attention.

Although this technology is changing the way we communicate on a global and educational level, high schools are falling behind the technology curve. Many high school courses continue to be taught using standard materials such as chalkboards, overheads, and whiteboards. More teachers are now beginning to use PowerPoint for presenting the material because it provides a way to easily integrate pictures, music, and video into lecture and instructor-led discussions. However, discussion still remains linked to the classroom environment. Students are only allowed to discuss what the instructor wishes for them to discuss on a certain day. Instructors still determine the direction of discussions while students must follow their lead. In addition, students are typically more shy in their adolescent years and are less likely to respond. An online discussion forum provides students with a medium in which they can communicate in a computer lab or the privacy of their own home. It provides students the opportunity of time to think critically about the subjects being discussed before deciding what to say. This is beneficial to those students who have difficulties thinking spontaneously. The following paper will demonstrate that integrating an online discussion forum into a high school classroom is a valuable tool and provides many benefits to students such as improved Internet technology skills and increased understanding of Literature.

The purpose of this project was to integrate an online discussion forum into a high school classroom. This was done in conjunction with the Arrowhead Preparing Tomorrow's Teachers to use Technology (APT3) program, part of the Federal PT3 Program. Karen Keenan, Co-director of this program, sent me the following quote from the PT3 Program:

Since 1999, PT3 grantees have worked to transform teacher education so that technology is integrated throughout teaching and learning. Their goal has been to ensure that new teachers enter the classroom prepared to effectively use the

computers that await them. Change of this scale is a formidable challenge, but grantees have developed innovative strategies to advance the cause. (Keenan 4/29/2003).

The TWizards Collaboratory, including Dr. John Schwetman, Central High School English Instructor Cathy Klaber-Hartl, and me, UMD Student, believed that an online discussion was worth examining in the high school setting to see if it could be integrated into this system in the future. Through this forum, we wished to provide students access to some form of this technology, allow them to discuss appropriate topics of their choosing with classmates, direct them to think and discuss about William Shakespeare's *Romeo and Juliet* and Harper Lee's *To Kill A Mockingbird*, and integrate the forum into their online content analysis unit in which the students learn how to effectively evaluate web resources and use searching technologies effectively.

Implementation

General Information

This project took place at Central High School in Duluth, Minnesota. Through conversations with Mrs. Klaber-Hartl and Gavin Bopp, the technology resource person at Central, I learned that chat services are blocked by the school's firewall in order to "protect" students. Because this is a high school a firewall is in place to prevent students from viewing potentially dangerous sites of violence, pornography, and extremists groups. Klaber-Hartl informed me that anything involving chatting was also blocked to prevent the possibilities of a student meeting a pedophile. According to Gavin Bopp:

"The firewall blocks sites and lets sites in based on key words that it finds. It is updated frequently and can be modified at any time. If there is a site that is in

question, we have a committee that reviews the site and based on certain criteria determines if it is appropriate or not. The committee is made up of employees in the district.” (Bopp 4/29/2003)

As a student on the University level where nothing is filtered or blocked, I found this upsetting. I understood the arguments for such a firewall, but I believed that it did more harm than good. During this project, when students were searching for web links for *Romeo and Juliet*, several students were denied access to a handful of web sites related to this topic, most likely because they had to deal with Romeo and Juliet’s consummation, i.e., they used the word *sex*. As a result of this limitation, I would be unable to use a web-based discussion forum such as one found at Yahoo. Many forums would be blocked according to Mr. Bopp because they would be considered chat under the current firewall. As a result, we chose the Web Crossing software used by UMD for this experiment because the UMD website IS NOT blocked via Central’s firewall. After discussion with Bruce Reeves, Learning Technology Coordinator from Information Technology Systems and Services (ITSS) at UMD, I determined that my participants could use this software for my research (Reeves 10/8/2002).

At the University of Minnesota Duluth, classes taught by Dr. Steve Adams and Dr. John Schwetman, members of the UMD English Department Faculty, both require students to utilize these new technologies via the WebX Student Crossing Forum which was implemented by ITSS. Dr. Adams requires a quality post per week if a student wishes to receive a grade higher than a B+ if all of their other work meets the requirements for an A. Dr. Schwetman requires his students to make one post per semester and make two comments on another student’s post. This software is provided to UMD faculty and students for discussions in the classroom. As a student, I have used this software in courses taught by Dr. Steve Adams. It allows students to extend

discussion beyond the classroom and finish conversations not completed when the class was ended. According to Reeves, UMD has been using this software for the past three years. UMD currently uses version 4.x although they plan to move to version 5 sometime in the future. Reeves writes, “This semester we moved Web Crossing onto a secure server to encrypt the data during transmission. Its use continues to grow, and has moved beyond just a discussion forum” (Reeves 4/29/2003). This software and its use continue to grow on this campus with more faculty using it in their courses.

Designing the Forum

Originally the TWizards Collaboratory had decided that it wished that the students would remain anonymous to “protect” them in the digital arena. After much discussion with Mrs. Klaber-Hartl and Dr. Schwetman, I decided that it would be more feasible and a better experience for the students if they knew who it was they were communicating with in the forum. This would allow better discussions to transpire. I set up the primary key and access list for this forum and, upon Klaber-Hartl’s suggestion, created the same logins for the students as the ones they already used on the computers at Central High School. This made it easier for the students as they would not be required to memorize another login and password. For Klaber-Hartl, it made grading posts easier in the *To Kill a Mockingbird* and Spring Reading units. For the purposes of maintaining student anonymity, all of the students in this paper will be referred to by their login identification number. The forum was protected in such a manner that students could only view the message board that their class was a part of, e.g., sixth hour students could not view third hour’s forum, and only those involved with the project could access these forums. This prevented non-students or members of the public from viewing the forum and creating a potential safety issue.

Communicating with the Students

Originally this project called for student feedback to only one of the classes involved. As the project progressed past the early stages, Schwetman, Klaber-Hartl, and I realized that it would be more beneficial from an educational perspective if students from both classes received feedback. A Student Teacher from UMD, Jaime Tintor, was working with both of these classes, and would be designing the *To Kill a Mockingbird* unit. It was decided that he would provide feedback to the students. I posted many of the discussion folders and moderated the forum for inappropriate comments. I informed these students about the forum via email and when I visited the classroom for labs and to present my student surveys.

Student Surveys

I gave two surveys to the students. The first survey focused on students' experience with technology and with online technologies specifically. The actual preliminary survey and student responses can be found in Appendix A. The final survey the students received took place just after the *To Kill a Mockingbird* unit. I asked for their observations of their technology skills to compare if these had improved from when the initial survey was taken. In addition, their experiences with this project and the *To Kill a Mockingbird* unit were also evaluated.

Lab #1

I came in and gave them the preliminary survey. Afterwards, we went to the student computer lab and I taught them the skills they needed to use the forum. In this lab students learned how to log in and use the WebX discussion forum. I explained how to navigate within this system and how to post. Students also verified that all of their student information was correct in the preference tab such as name, email address, etc. In addition, I made it very clear what settings they were not allowed to change in the preferences tab. Students answered the

question, “How have your technology (computer) skills changed this past semester and what do you think you still need to learn?” Their responses can be found in Appendix C and D.

Romeo and Juliet Unit

In this second exercise, students were told to find a web site about a particular or interesting aspect of *Romeo and Juliet*, e.g., clothing of the time, Mercutio, staging, etc., and post a hyperlink that their fellow students could click on to see the web site. After finding the site and posting the link, students were required to evaluate the site that they chose and its effectiveness as a research tool in 100-200 words. In the third lab later that week, students were required to read other students’ *Romeo and Juliet* posts and then check out the link for themselves. They were then required to write a response to the student agreeing or disagreeing with their evaluation of the link and what they thought of the particular site. Some students did more than they were required to, e.g., replying to more than one student, although many students only met the requirements that they were given. Students had a strong tendency to only do what was needed for obtaining their grade.

Lab #4

In Lab #4, I asked students for their opinions on the forum thus far and what they wanted to see done differently:

“Answer the following with 300-500 words using complete sentences and paragraphs: What are your impressions of the online forum so far? What do you like or dislike about this forum? If you could change something about the forum, what would it be? What would you especially like to discuss in this forum? How would you change the forum in the future?”

Their responses shaped the forum's design for the Miscellaneous Discussions Folder and the *To Kill a Mockingbird* unit. This lab was an open question survey that would help Dr. Schwetman and I design this project in its next phase. In addition, it would give me an idea of how to design a forum in the future for high school students. The variation in student responses was surprising. Students loved, hated, and were indifferent towards the forum in various ways. In addition, many students complained about being given a word limit and being told what to write about. As a result, I gave the students more freedom by creating the Miscellaneous Discussions Folder.

Miscellaneous Discussions Folder

This folder was created as a result of the student responses to Lab #4. Students wanted to discuss topics not related to course materials, be released of a word limit, and given the freedom to ask their peers questions about course materials. Students were informed via email that they could post anything that was appropriate in this folder. I attempted to get this folder started by providing several prompts for the students such as local issues in Duluth and favorite books. Several students embraced this opportunity to express their views in writing online and have made many posts. Unfortunately, very few felt this way. This reduced the number of people conversing and responding in these discussions.

To Kill a Mockingbird Unit

As this was Tintor's teaching requirement for his student teaching, I worked closely with him on this portion of the experiment. We spent much time discussing how we would use the forum to give students another outlet to discuss Harper Lee's powerful novel of race relations in the south. After much discussion and examination of what students thought would be more appropriate, we agreed to the following: students would be given approximately ten discussion

prompts which Tintor would post. In addition, students will have to post in 100 or more words to five of these as an assignment. Tintor and I would both be regulating the posts for appropriate content. Two of the posts that the students made had to be in response to two separate discussion prompts, two posts had to be responses to other students, and the final required post was left to the student to decide. For this preliminary project, students were evaluated on the number of quality posts that they made.

Final Survey

In this survey, students were again asked their experience regarding the Internet. The first five survey questions from the preliminary survey were again asked. By doing so, it would allow me to compare what the students thought of their Internet/online experience before and after this project. I hoped that the data would show, which in fact it did, that the students Internet/online experience would grow. In addition, students were asked numerous questions about the *To Kill a Mockingbird* unit and given the opportunity to respond with written responses. These results ranged greatly from really enjoying the experience to absolutely hating it.

Results and Discussion

Class Dynamics

The students in each class have very different dynamics. Third Period transpires before lunch and Sixth Period is after lunch. Third Period is more apt to get their work done on time whereas Sixth Period is easily distracted. I noticed this while working with the students in the lab. Students from Sixth Period were more likely to ask for repeated directions as compared to Third Period which could be left to figure things out on their own. The time of day may have been a factor in this, although I did I test this variable. Mrs. Klaber-Hartl agreed with me that

there were many differences between the two classes. She had some interesting things to say about the two classes:

Third hour has more students, but is quieter than sixth hour. Third hour can stay on task for longer. Third hour has a higher GPA. Third hour is more willing to be teacher directed. Sixth hour takes any excuse to be off task. They are gregarious, friendly, SMART.... sometimes lazy. They have some great thinkers. They love life. They're FUN!!! AND FUNNY!!! I basically do NOT follow the same methods for the two hours. Sixth hour likes to be active and having to be quiet is a struggle. Third hour likes to be passive and getting them to be active is a struggle. Whereas both classes are bright and creative, they show these strengths in diversely different ways. Which class is easier to work with? It really doesn't matter. Easy meaning which class does what I say? Third hour. Sixth hour needs more "reminders" to stay on task. (Klaber-Hartl 5/1/2003)

I noticed that Third Period is more work-orientated than Sixth Period. More posts came out of Third Period than Sixth Period. Also, I had to repeat directions numerous times to students in Sixth Period and help them more with the project. In addition, two students who strongly disliked doing this project were in Sixth Period. They may have had an effect on their peers.

Preliminary Survey

For the preliminary survey, I asked eight questions on a five point scale. The first five questions all directly related to a students' Internet, web, chat, online discussion experience. This only demonstrated what students thought of their actual online skills. I did not actually measure their skills. A far more intense survey or test would be needed to calculate each students' actual skill level. I calculated the averages for Third Period, Sixth Period, and both

classes combined. This data can be viewed in Appendix E. Fifty-three students total took this survey with 31 students in Third Period and 22 students in Sixth Period. Because all of the data was numerical for this portion of the survey, students who circled two numbers, e.g., three and four, were given the average of those two numbers for that particular item, e.g., 3.5. Students were asked five questions:

Question #1: What is your current level of expertise with navigating the Internet
(searching and getting around from page to page)?

Question #2: What is your current level of expertise using online web forums
such as www.slashdot.org, www.anandtech.com, www.fatwallet.com, or
forums related to music, video games, television shows, or other topics?

Question #3: What is your current level of expertise with email?

Question #4: What is your current level of expertise with chat rooms?

Question #5: What is your current level of expertise with instant messaging
(services such as MSN, AOL Instant Messenger, ICQ, Yahoo, etc.)?

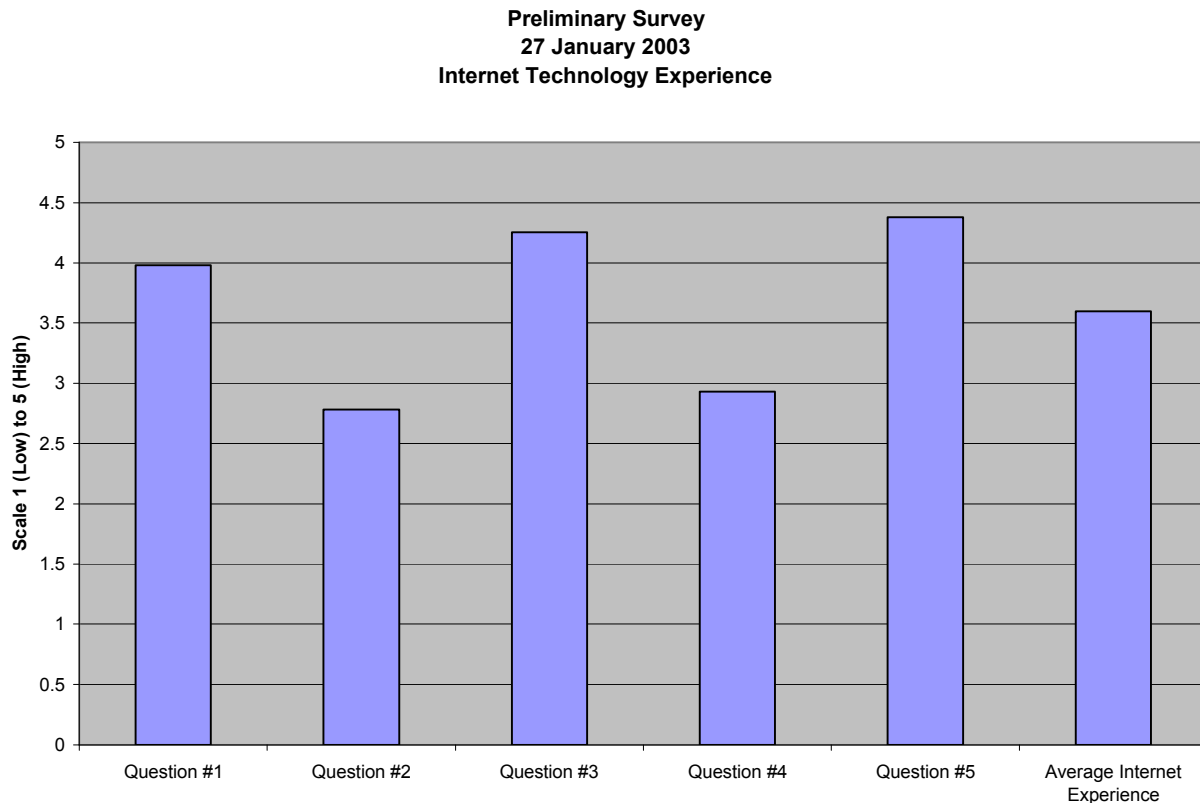


Figure 1: Preliminary Survey Internet Technology Experience

Figure 1 demonstrates the average score for all 53 participants for each of the five questions. Each number on the X-axis refers to the question asked except for number six. Number six in this chart represents the average score of questions #1 through #5. See Appendix E for the spreadsheets of this data. Students had an average technology rating of 3.60 on a 5.0 scale (1 = very poor, 2 = poor, 3 = fair, 4 = good, 5 = excellent). The two classes varied little in this statistic.

In addition to their Internet experience, I wished to know each student's basic computer experience with software such as: Microsoft Windows, Microsoft Office, and Apple Operating Systems. See Figure 2.

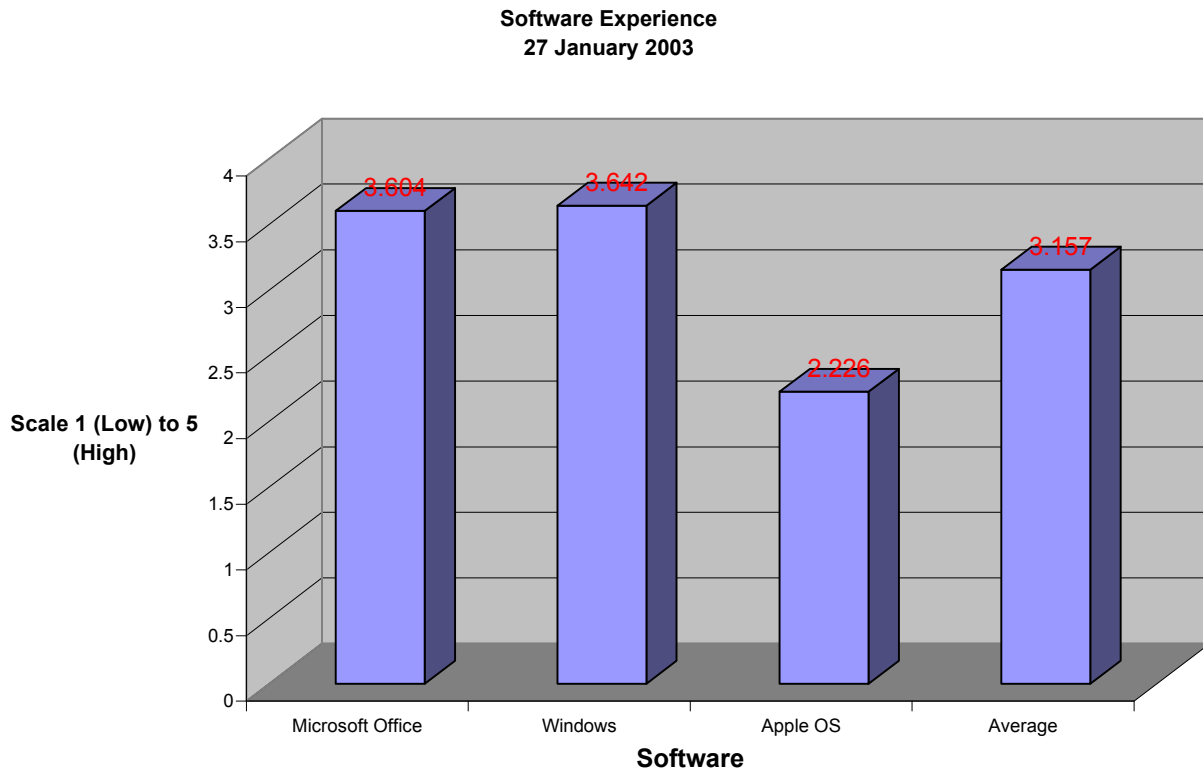


Figure 2: Students Software Experience 27 January 2002

Question #6, “What is your current level of expertise with Microsoft Office applications such as Word, Excel, PowerPoint, etc?,” yielded a student average of 3.60 on a 5.0 scale out of the 53 participants. Given the software available to students at Central High School, I thought that this average would have been closer to 4.0. At Central, students have access to Microsoft Office and use Word often for their written work. Question #7, “What is your current level of expertise with Microsoft Windows?,” yielded a student average of 3.64 on a 5.0 scale out of the 53 participants. Again, I would have thought that this score would have been closer to 4.0 as all of the computers that students use at Central High School run a version of the Windows Operating System. In addition, many students have access to Microsoft Windows computers at home. Question #8, “What is your current level of expertise with Apple Operating Systems?,” yielded a student average of 2.23 on a 5.0 scale out of the 53 participants. I expected an average score this

low after learning about the computer systems at Central High School in the fall of 2002. At present, there is only one Apple computer at Central and it is approximately four years old. Students do not use this computer, especially because it is NOT connected to the Local Area Network or have Internet access. In fact, only one student out of every student who participated in the forum even mentioned using computers made by Apple (See Appendix C Lab #1). This is a public school and I was quite surprised by the lack of Apple computers given Apple's reputation for educational pricing and software that is available to students. According to the results of the survey, the average student in Mrs. Klaber-Hartl's Ninth Grade English Honors course believes that he/she has a better than fair understanding of how to use the software that is made available to them, e.g, Microsoft Windows and Office. Having this background computer experience would make the discussion forum easier for the students to use and grasp given the intuitive quality of computers and software.

Students' general Internet technology experience was quite promising. It meant that students had a better than fair understanding of how to navigate and search the Internet. These skills would be helpful in learning how to effectively use the online discussion forum that was created using the Web Crossing software. Because students used this software and learned how to navigate the web via search engines while probing for web sites that are useful and of academic value, we would expect that their Internet skills would improve by the end of this project. This expected outcome was a reality.

The last set of questions we asked students were open-ended to provide me with more information as to how these students have experienced the Internet environment in their current grade. Students were asked three open-ended questions: 1. "How have you used technology and the Internet this year of high school?," 2. "What do you like about using the Internet in high

school? Why?,” and 3. “What do you dislike about using the Internet in high school? Why?”

The purpose of these responses was to help me shape and design the forum and the final survey.

According to one student, “In English class we made PowerPoints and we made I-Search papers that needed a lot of Internet services. We use email a lot and I made a PowerPoint in science.”

Another student wrote in response to question two, “It’s very easy to access, rather than try to find time in our busy schedules to go to the library.” Finally, a student in question three

answered, “Sometimes, papers you send home come out in a bad format because school has different words [word processing software] than I do at home.” The individual results of these open-ended questions can all be read in Appendix A.

Lab #1

In this lab, students were asked, “How have your technology (computer) skills changed this past semester and what do you think you still need to learn?” The primary purpose of this lab was to introduce students to the Web Crossing software making them more familiar with the concept of an online discussion. These students learned quickly what they needed to do and how to use the Web Crossing software. Although this lab was more of a training session than actual data collection, students provided some very interesting responses. These responses were used in addition with the preliminary survey to shape the *To Kill a Mockingbird* unit.

The following are some general comments about the student posts:

- Many of the students have experience with Microsoft PowerPoint and Word.
- Some had web experience such as web page development.
- All seemed to be familiar with navigating the Internet.
- Several of the students commented that they cannot type.
- Many disliked being given a word limit. They had trouble reaching 150-200 words. Some just wrote filler such as “I really hate having to hit 150 words” just to reach 150 words.
- Several students have, in the last year, learned virtually everything they know so far when it comes to the Internet and email

One student had something really interesting to say that related to the entire class:

41276

I have mainly learned about Power point this semester. After being required to create Power point presentations in both English and science, I have advanced a whole lot. I knew about Power point prior to this year, but I never really knew how to use it and work with it.

There is really no limit to what we could learn with technology. We can keep progressing until the end of the year. I doubt we'd get far enough to learn designing web pages or servicing a motherboard, so until then, we can start off simple and work toward harder material. Even learning to use WebX adds to our knowledge of technology.

It's hard to advance as an entire class when it comes to learning and understanding technology. This is because everyone is different. Everyone will pick up at different rates. It's easy for the people who are "computer nerds" to get it, but by observing others, I can see that it's frustrating when people don't understand it.

41276 recognized that students learn at different paces. I think that this is something that many students at this age have difficulty recognizing. In addition, many students also discussed using Turnitin.com, a plagiarism site for running papers through various filters to see if anything matches up with the database. Central High School currently uses this service to reduce the amount of plagiarism taking place. Another student also commented on how technology is a negative tool. Student 41175 provided an interesting remark about the negative features of technology.

41175

i am not a smart girl when it comes down to technology. If i had my way i would shut down alot of the computer buisnesses along with all computer games. Too many kids my age are spending all their time inside with their eyes glued to the computer screen playing some pointless game when instead they could be outside plaing soccer or swimming. Computers equal lazy.

The following is an excerpt of student 74313's reply:

74313

Overall the Internet helped me more than school. I think the Internet was made for stupid people. People see computer nerds as geniuses they aren't I am a computer nerd.

These examples display some of the various views that students held about Internet. We used the thoughts and opinions of these students when this project was later reshaped.

Labs #2 & 3 – Romeo and Juliet Web Links

The purpose of these labs was to improve skills development of evaluating web content. The students in these courses were then reading William Shakespeare's *Romeo and Juliet*. Klaber-Hartl had begun instruction in the evaluation of web sources in the classroom environment. In Lab #2, students were told, "In this exercise, you will be searching the Internet for interesting web sites that relate to Romeo and Juliet. Once you find an interesting site, you are to post the hyperlink, e.g., <http://www.d.umn.edu>, and then give a brief description of the site, 100-200 words." Students were told to use different search engines and search for specific sites and examples. These students came up with many different topics and sites for discussion such as play productions, plot summary and character information, themes of *Romeo and Juliet*, study guides, fashion/costumes, how to speak Elizabethan English, Elizabethan food and drink, songs of the time, the recent film version of *Romeo and Juliet* starring Leonardo DiCaprio, information on the Globe theater, promptbooks, essays, spark notes, alternate endings, women in the Elizabethan period, and one student posted a link to a forum dedicated to *Romeo and Juliet*. Again, some students commented on how they really disliked being given a word limit as they found it drudgery. One student wrote:

41087

<http://www.library.utoronto.ca/crrs/Romart.html>

Well, a bunch of useless information can be interesting sometimes, maybe on the weekends. I'm into the exciting material myself. No just kidding. It was a very unique choice. I have never before looked into Shakespeare that much, and these promptbooks things are pretty different. This Jill Levenson seems to have a lot of time on her hands, because I personally do not like Shakespeare, in fact, I think he's a fake! Yes, I fake I tell you. I have to finish this stinking assignment! Just to let you guys know, I am Intergalactic Dreadnought,-- make sure you know that sport. What's the point of writing about something you may not wish to write about? I hate fences and boundaries, I like to have no rules when I write, such as word count,

outline, or type of writing. It really makes me angry. DAAAHH! You know? You know what I'm saying? You know what I'm talking about? EH?

In Lab #3, students were told to respond to a fellow classmates *Romeo and Juliet* web posts and evaluate the quality of the web site they found. I hoped that students would go above and beyond this requirement and begin to see the usefulness of an online discussion forum, especially for discussing web content. The purpose of these labs were to make the students more comfortable with the software and provide an online environment in which students would be able to discuss web links that coincided with the web evaluation unit done by Klaber-Hartl in Ninth Grade English Honors. An example of this is as follows:

Original Post:

41066

this is a good sight:

<http://www.shakespeareincostume.com/romeojulietcostumes.htm> the reason for this is because it give you an idea of what the cast would have worn for costumes. however the down side is that it only gives you pieces of them. stuff like hats and caplets. it's all good though. there's nothing wrong with hats. it gives the character a more real look to it. maybe not. i guess i'm just rambling on and on. i like it.

First Response:

41106

I like the website too. It is interesting to see what Romeo would have won compared to the prince. The prince's clothes were much more elaborate than Romeo's or Juliet's. I would have liked it more if they had all of the clothes individually and then have a model show them as a whole. I thought it was kind of weird that they only had the top of the outfit or just the hat... what else were they supposed to wear? Nothing? If you were someone who was looking for costumes for a play, you wouldn't know what to put as the bottoms to an outfit. I don't know. I liked the website because it showed who had more money or were higher up in ranking.

Second Response:

41120

I liked this website along with Tara. I thought it was cool to see what the costumes looked like from each play, and you could see the costumes from every play, and not just R & J. That was cool for me, because I really know nothing about any other Shakespeare plays. In the site you could buy costume pieces for the plays, and they had the prices and what each piece was. That was interesting. I really like this website, and I almost posted it myself. Wait, maybe I did. I can't remember.

Some of these posts had one or more responses while some received none. I attempted to get every student a response by having students respond to an assigned post and then work at their leisure. After this assignment, I began preparing for Lab #4.

Lab #4

I designed this lab as an open-ended survey question to help myself, Dr. Schwetman, Mrs. Klaber-Hartl, and Mr. Tintor structure the *To Kill a Mockingbird* unit so that it would be as effective as possible. They were asked, “Answer the following with 300-500 words using complete sentences and paragraphs: What are your impressions of the online forum so far? What do you like or dislike about this forum? If you could change something about the forum, what would it be? What would you especially like to discuss in this forum? How would you change the forum in the future?” This produced a wide assortment of responses. To read individual responses, see Appendix C, Lab #4. The following is a general breakdown of what students liked, what they disliked, and what changes they wanted to see made.

Students liked:

- the fact that they could think about what they were going to discuss before they said anything
- how it allowed the quiet students in the class an opportunity to speak their thoughts without having to be put on the spot in the classroom
- the ability to express their views without being teased
- that this forum is just a tool to help the students understand and discuss material
- thought it was a good learning experience
- thought it was easier to talk in the forum
- liked how it could be done at home
- ability to write essays and comment on what other students have to say
- how it is teaching them new technology skills

Students disliked:

- how the forum was organized
- how the work was so molded for them
- sometimes they had to wait for long periods of time to get into the forum
- one student disliked the font
- having to post their pictures
- how the focus was entirely on technology, websites, and literature.

- the spell-check provided by WebX
- poor verbal explanation of what was going on by Mr. Grosshuesch
- typing a lot – being told how much to type
- the box you type in – many thought it was too small
- word limit – they did not like being forced to have to write so much
- too many essay questions

The final question students were asked in this lab was “What would you especially like to discuss in this forum? How would you change the forum in the future?” Again, I received a wide variety of responses. Students wanted to discuss books and movies and other items not in their coursework. They also wanted to discuss more material they were reading in class. In addition, students did not like being given an assignment and having to fit a mold because it stifled their creativity. Many students greatly disliked the required number of words for postings. One student suggested that a chat room be added next year so that students could chat in real-time as well. I noticed particularly in this lab that students had a strong tendency to babble to reach the word count. I never thought that there would be such issues with word count. The following post demonstrates this babble. For more detailed information about student posts in Lab #4, see Appendix C.

41119

I really dont have any idea why we are doing this. I have thought Iabout it and i cant come up with a reason why we are doing this. I think this is pretty dum. We could do this in class and not have all the confusion of geting this thing set up .I guess i could live with it if we didn't have to write 300 words on one question. What is up with that? It is a waste of time in my opionto spend a whole hour on one question that we all have to really struggle with to get 300 words on one doum question. Right now we could be doing other stuff like sleeping and it would be more exciting that typing 300 words on one dum question. Couldn't we do this in class and just go around and talk about this thing that we are doing?I think that wold be a lot better becuase our class is very good at talking so a discusion format would be a lot better and we all would get a lot more out of it that sitting hear writting 300 words on on question right now. We all or pretty much all of us are just hating this task that you assinged to us.I am geting more upset that we have to do this asingment with every letter i type so i would quit writting but i am way short of the 300 words that we are suppose to have so i guess i have to bable on some more with this dum webx thing.

I really dont have any more to say so no matter how many words i have i am going to quit writing right now

This post was actually 290 words and demonstrates a little bit of rebellion against the system I was creating.

Miscellaneous Discussions

The Miscellaneous Discussions folder was created as a result of students' opinions in Lab #4. I wished to provide them with an online environment where they could, on their own time, discuss topics of their personal interests such as books, movies, local politics, etc without being restricted or hindered by a word limit. I provided several prompts to get them started such as opinions on the Duluth Aquarium, the Spirit Mountain Golf Course, Opinions on *Romeo and Juliet*, and Favorite Books. These posts are included in Appendixes C and D.

I was disheartened to see the lack of posts that took place in this section. Approximately 15 students wanted an area like this to discuss topics of personal interest, yet they did not use it when it was given to them. Several students were highly interested in this, which we can see from their multiple postings in this section and in general. Because their peers failed to read their posts and respond, many of these discussions lay stagnant and were ignored. Several students began to discuss their favorite books and some other interesting topics were posted as well such as opinions on social groups, soccer, and Calvinball (See Appendix C, Sixth Hour, Miscellaneous Discussions Folder for more information), but these students were in the minority. One discussion that began with strong power, but died rapidly was the Favorite Books prompt in Third Period:

41266 - 09:39am Feb 14, 2003

I have always had a hard time finding books that really interest me. So I was wondering if anyone had any suggestions. I love reading but I hate books with tons of description. I never know what I'm getting into when i start reading books. My favorite book that i have read latly is " A Time for Dancing". So that would be my

suggestion. So yeah...thanks!

40890 - 02:58pm Feb 15, 2003

Rachel~ I wish I could help you with the finding of new books to read, but all of the ones that I know of are extremely descriptive. I think they're really good, but I love description and the only reason I read is to see how the author words different things. I've always found the words to be fun and interesting when they're more challenging. I'm still going to say a name of a book just for the fun of suggesting one though. I really liked Watership Down, though that one's kinda strange. Also, I hear mists of avolon is really good, along with (if you like religious books) The Left Behind Series. Other than that, if anyone has read anything good lately, I could add a couple more to my long list of books to read. Thanks!

41255 - 07:17pm Feb 19, 2003

what kind of genre do you like?

41472 - 08:09pm Mar 10, 2003

Hey there Jess babe! Rachel likes lotza different kindza bookz, but I'm not her, so I can't say.. I like mystery-ish bookz (that wasn't supposed to be mysterious).. I need something to pressure me to keep reading, or I have no interest in continuing on.. Do you know what I mean? Yeah, well, thatz just me though.. so if you're ever going to buy me a book.. just get me something suspenseful that makes you want to bite someone because you can't get to whatz happening fast enough.. thatz all I ask for.. Signing out!

These posts demonstrate the liveliness of the students, albeit I had hoped for more posts in this area by now.

I was displeased by the amount of posts that students produced in the Miscellaneous Discussions Folder. I gave them what they most desired – absolute freedom in the forum. Perhaps it is because students have less written work required of them in the high school environment than in the college environment. Writing is often seen as a chore, not an exciting and powerful way to express one's thoughts and opinions. As a University student, I have jumped online and posted something in the middle of writing a paper because it came to me or I wanted a break. Perhaps it is because of their Internet connection not being fast, poor time management skills, or maybe technology literacy. I can only make conjectures. This is something that could be further studied with additional research.

Calculation of Data from Final Survey

Fifty students took the final survey. When I was going through the data for this survey, I noticed that some students circled two numbers or gave a range, e.g., 6-7, when asked how many posts they made. As a result, I took the average of the two numbers; for example, a student who circled the three and the four for likelihood of participating in a future forum was given a score of 3.5. This survey was administered on 13 March 2003.

Computer Experience Growth

Students demonstrated signs of technology growth, specifically growth in their Internet technology experience.

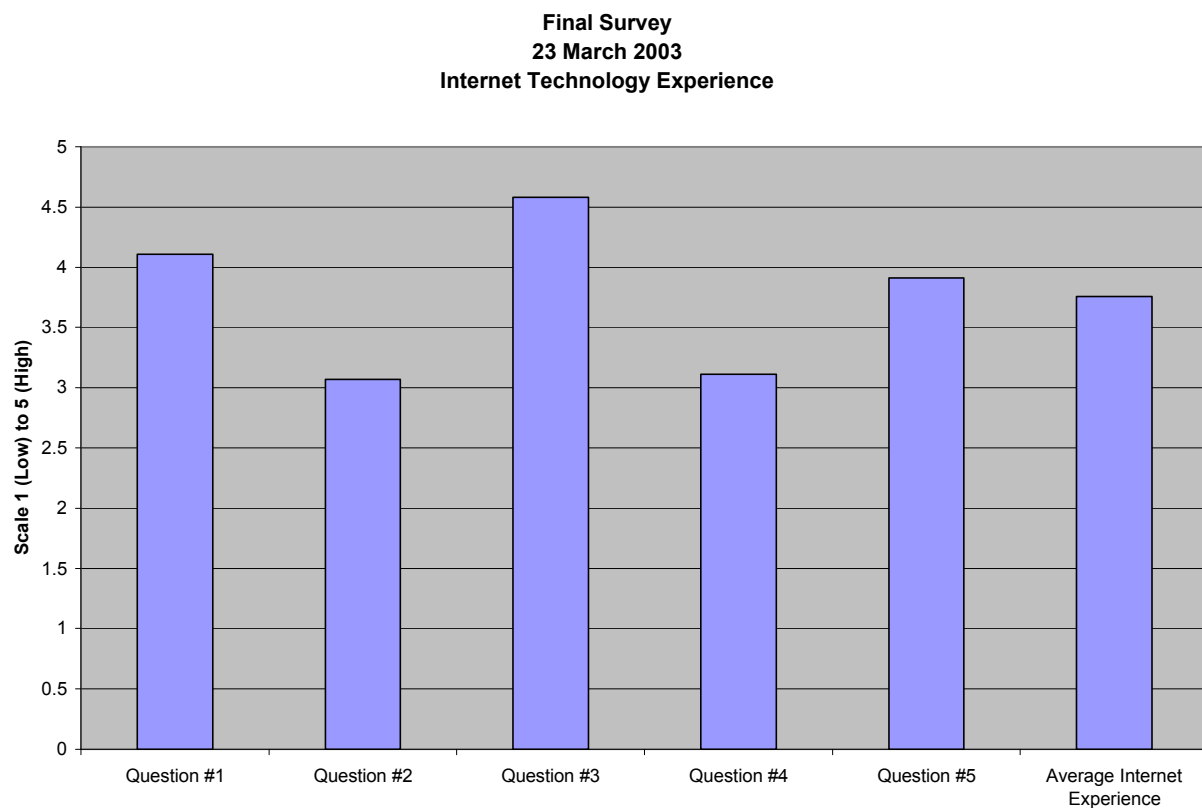


Figure 3: Final Survey Internet Technology Experience

Students were asked the same five questions from the preliminary survey:

Question #1: What is your current level of expertise with navigating the Internet (searching and getting around from page to page)?

Question #2: What is your current level of expertise using online web forums such as www.slashdot.org, www.anandtech.com, www.fatwallet.com, or forums related to music, video games, television shows, or other topics?

Question #3: What is your current level of expertise with email?

Question #4: What is your current level of expertise with chat rooms?

Question #5: What is your current level of expertise with instant messaging (services such as MSN, AOL Instant Messenger, ICQ, Yahoo, etc.)?

In the first survey, students' average rating for Internet technology experience was 3.60. In the final survey, students Internet technology experience grew to 3.80, a positive change of .20 and growth of 5.5%. Figure 4 demonstrates this increase.

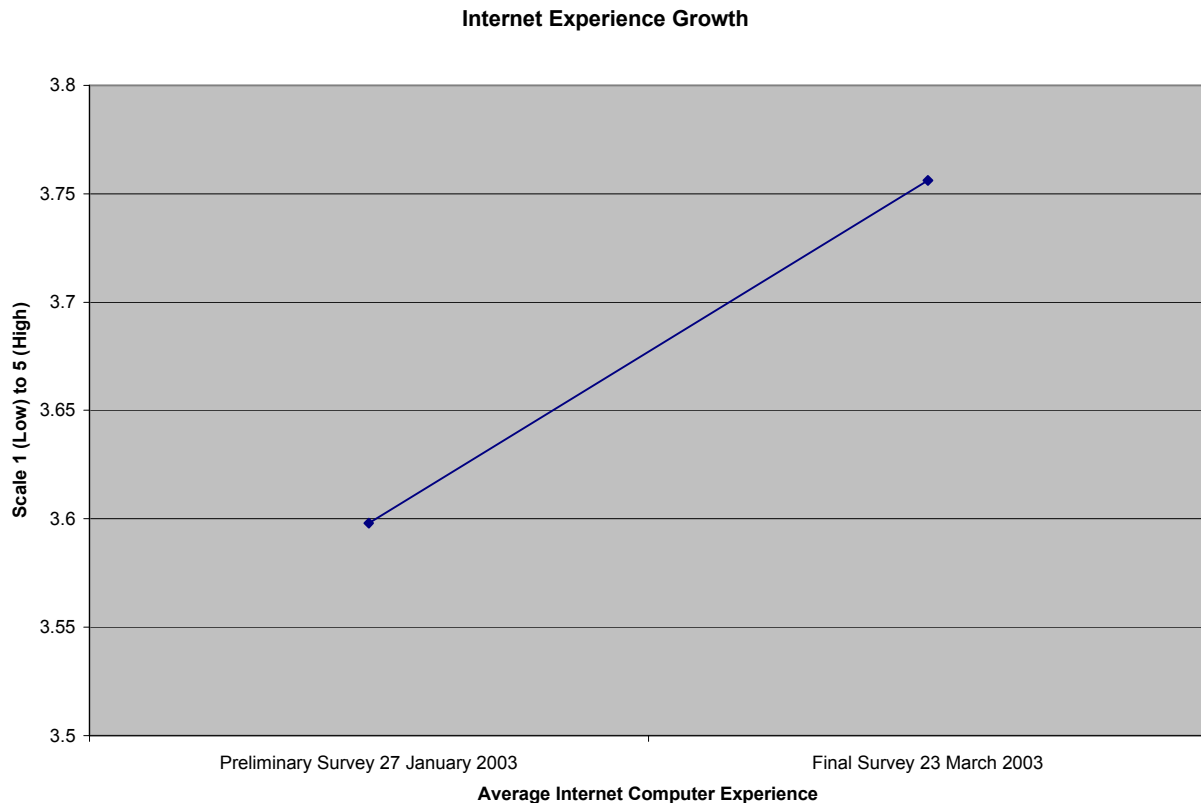


Figure 4: Internet Experience Growth

If a survey was administered at the end of the student grading period, after the students finished the new material that Klaber-Hartl had began, which was not part of my original research plans, I'm positive that we would find an even larger growth rate over the course of the spring 2003 term. A 5.5% growth over three months is what I had expected. I was originally expecting a 3-5% growth in students' Internet technology skills over the course of this experiment. Again, this is only perceived student ability. The way the survey was worded only provided me with the data of what each student perceived about their own personal Internet technology experience and skill level.

***To Kill a Mockingbird* Data Analysis**

Students were asked twelve questions specifically asking about their experience with the forum and Harper Lee's novel *To Kill a Mockingbird*. Several students' data was thrown out for

the last two open-ended questions because word responses were given when number responses were asked for. Only the most useful data is presented here. The remaining data can be found in the Appendix.

Question seven was “Do you think the online discussions improved your understanding of TKAM?” and this was a yes or no question. Students responses between the two classes resulted in .57 where 1 = Yes and 0 = No. This meant that 57% of these 50 students believed that the online discussions improved their understanding of the *To Kill a Mockingbird* unit. Both classes had different responses to this question. Third Period had an average score of .73, meaning that three-fourths of the students believed that this unit improved their understanding of Harper Lee’s novel *To Kill a Mockingbird*. Sixth Period had much different results. They had an average score of .39 meaning that only four out of ten students thought that this improved their understanding of the novel in question. The average between all 50 students responses was .57. Overall we can look at this and see that 57% of students believed that discussing this material online in addition to their in class discussions improved their understanding of the novel. Likewise, 43% believe that it did not contribute to their understanding of the novel. See Figure 5.

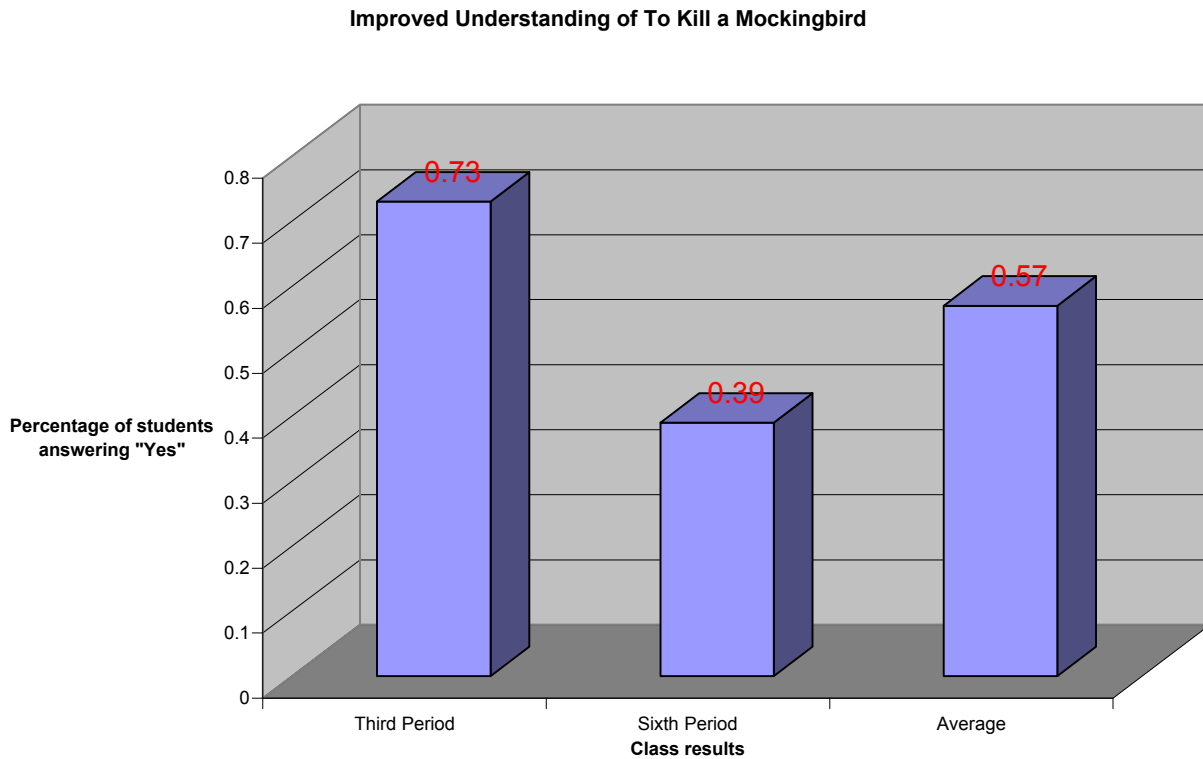


Figure 5: Online Discussion Improving Students Understanding of *To Kill a Mockingbird*

The differences in values between the two classes is most likely a result of classroom dynamics and time spent each day in front of a computer, a factor that was not analyzed in this research.

This data is extremely promising. A 57% improved understanding of a piece of literature definitely justifies further research and implementation of an online discussion forum in the high school environment.

In question eight, a similar question was asked but using a different scale. Students were asked “How well did the online discussions of TKAM improve your understanding of the novel?” using the following scale: 1 = none, 2 = very little, 3 = some, 4 = a good deal, 5 = a great amount. The average between the two classes was 2.73. Again, a large variance developed between the two classes with Third Period having an average score of 3.12 and Sixth Period having an average score of 2.31. This is again likely related to the class differences in dynamics.

See Figure 6 for a graphical representation of this data.

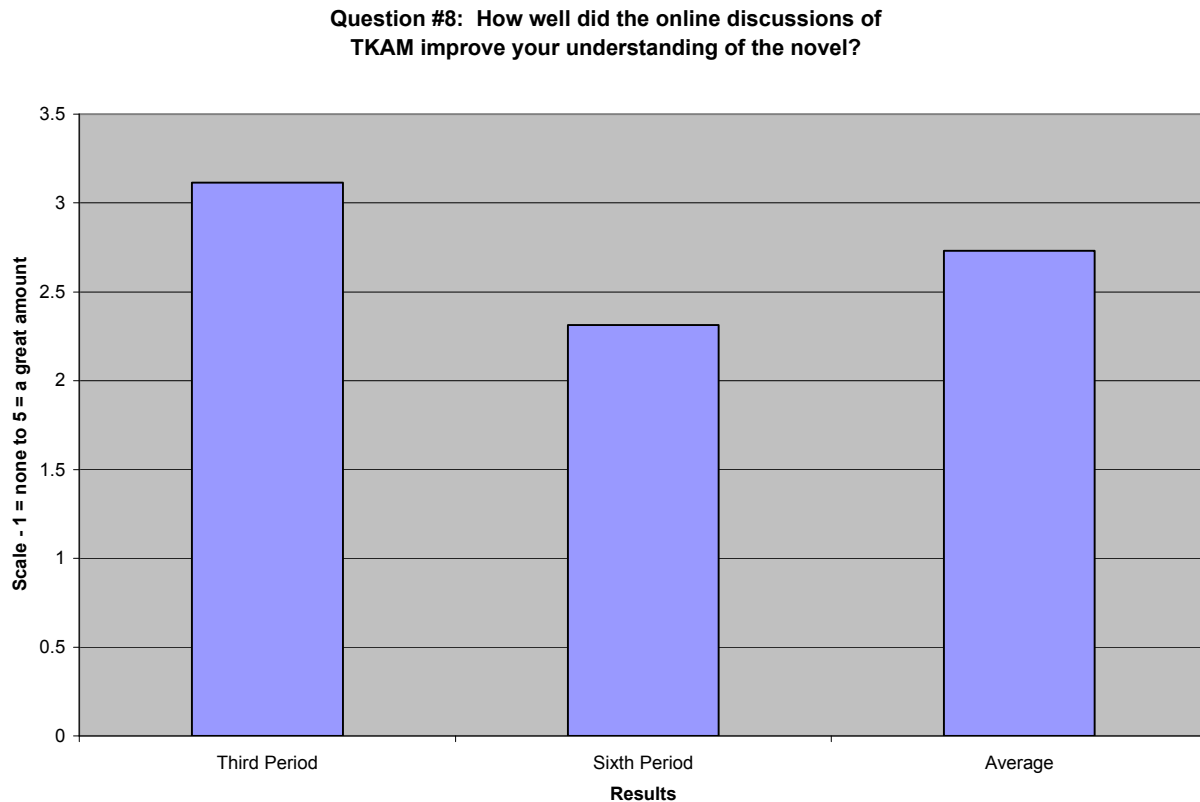


Figure 6: Final Survey Question #8

This data, although less promising than survey question #7, also indicates that this type of technology should be further studied and possibly implemented on the high school level. This technology tool improved students understanding of the novel *To Kill a Mockingbird*, although, I had expected results closer to 3.0 for this question.

In question nine, students were asked “How much has this online discussion forum unit improved your technology (computer) skills?” using the following scale: 1 = none, 2 = very little, 3 = some, 4 = a good deal, 5 = a great amount of improvement. This was another way to assess students improvement in their technology skills. Given the design of this experiment, I was expecting improvement around a 3.0 level. Although the data I received was less than this,

the results are still promising enough to warrant further research and implementation of online discussion forums in the high school environment. The overall score between both classes was 2.52. Third Period had an average score of 2.98 and Sixth Period had an average score of 2. Again these differences are most likely related to class dynamics.

In question ten, students were asked “How much time per day did you spend on the forum, writing posts, reading posts, responding, during the TKAM unit?” using the following scale: 1 = 0-5 min., 2 = 6-10 min., 3 = 11-15 min., 4 = 16-20 min., 5 = more than 21 min. This scale was created so that future instructors could plan students’ homework assignments in the future. In addition, this scale would show how little or how much time it takes to work with a forum on a daily basis. The average score between the two classes was 2.84. Period Three reported an average score of 2.98 and Sixth Period reported an average score of 2.67. This means that the average student spent approximately eight to twelve minutes per day on the forum for the *To Kill a Mockingbird* unit that was designed by Tintor. This is an extremely reasonable amount of work to expect per day from a Ninth Grade English Student in addition to their other homework. Third Period spent slightly more time, around thirteen to fifteen minutes, and Sixth Period spent slightly less time, around seven to nine minutes, on the forum each day. Differences are less extreme in this situation; however, class dynamics continued to play a strong role in how each class scored in every survey I administered.

In question thirteen, students were asked, “Did you enjoy this experience?” with a yes or no response. A score closer to one leans toward yes and a score closer to zero leans toward no. The average between the two classes was .55. This means that 55% of the fifty students surveyed believed that this experience of using an online discussion forum in class was enjoyable. Third Period had an average score of .77 and Sixth Period had a score of .31. This

means that three-fourths of students in Third Period enjoyed this experience and only one out of three students enjoyed this experience in Sixth Period. Again, class dynamics played an important role in this project.

Finally, in question fifteen, students were asked “How much has this improved your ability to analyze and interpret online web resources?” using the following scale: 1 = none, 2 = very little, 3 = some, 4 = a fair amount, 5 = an excellent amount. This question was designed to see if the *Romeo and Juliet* web labs had any affect on improving students understanding of what is a good web site for research. The average score between both classes was 2.61. I had originally expected a result of 3.0 from the students. Although the data I received was less than I had expected, I still believe that this warrants further research, design, and implementation of an online discussion forum in the high school classroom. Third Period had an average score of 2.89 and Sixth Period had an average score of 2.30. Class dynamics played an exemplary role in the differences in student responses for all the survey questions I asked.

Conclusion

Many amazing results came from the student responses to surveys. Certainly the most astounding statistic of this report is the 57% improved understanding of Harper Lee’s *To Kill a Mockingbird* as a result of further discussion of this topic online in a Ninth Grade English Honors Course. This result demonstrates that this type of technology can be an effective teaching tool at the high school level. The second most astounding result of this research is that this project improved students’ perceived Internet technology skills. Again I need to mention that the surveys I gave, which calculated students’ Internet technology skills, were their personal perceptions of these skills. Students skills improved by 5.5% over the course of six weeks. In addition to using the forum, students learned how to better evaluate online content through

classroom explanation and then putting these skills into practice in the forum. The average score was 2.61 on a 1 (Low) to 5 (High) scale. This made students more aware and will prepare them for future research that they will be conducting before they graduate. In addition, it will prepare college-bound students as more research data is published online before it becomes available in print format. Students stated that they spent approximately 8-12 minutes per day using the forum during the *To Kill a Mockingbird* unit. This is a quite acceptable amount of homework for students in a Ninth Grade English Honors classroom. The data that came out of this experiment proved quite promising for the future of online discussion forums in the high school setting.

Other advantages of this type of forum and its use in the high school classroom are allowing students the ability to work from home, work at their own pace, and improve their Internet technology skills. By allowing students to work at their own pace on this unit, it allowed those that were confident in their abilities and extremely intelligent to lead the pack while those that needed help from myself or the instructor were able to get it in the classroom. Students found it advantageous to be able to do this work at home. Central has only one computer lab for approximately 1,500 students. It is difficult for instructors to schedule time in the lab and even more difficult for students to find opportunities to use the lab for work to be done out of class. Because the forum was on the Internet, and the price of computers has become extremely affordable, many homes have access to the Internet through their own personal computer. This allowed many students the opportunity to do their posts at home as homework and will prepare college-bound students with the higher expectations of doing a majority of ones coursework at home.

Although this forum was advantageous as a whole, two large disadvantages emerged. One of these was that in order to get Ninth Grade English Honors students to do the work, they

had to be assigned to do it. This was demonstrated in Lab #1, The *Romeo and Juliet* unit, and Lab #4. The number of posts was extraordinary as all of the students in both classes were required to do these posts. In addition, they were given class time to do these posts so many students completed these assignments in the lab time that was given to them. As a result of Lab#4, I created the Miscellaneous Discussions Folder for students to use throughout the term to discuss any appropriate topic on their own time. Although this folder saw some use, it remained highly unused by a majority of the students involved in this project. Based on the data I received from students from lab #4, I believed that students would likely use this portion of the forum greatly. They were given free reign to type as much or as little as they wished and could discuss topics outside of class such as local issues, favorite books, even video games. A second disadvantage was that students “cheated” to make the word count by babbling. Students at this level do not understand yet that word limits are merely guidelines. Although this experiment demonstrated a couple of large disadvantages, it was advantageous as a whole.

When this type of technology is implemented in high schools in the near future, several specific changes will need to be made. The most important of these is security. I strongly suggest that Central High School and other schools look into purchasing the Web Crossing discussion software or other software of this type that provides very good protection for the students. Using a public forum, such as www.umdstudents.com, gives anyone with an internet connection the possibility of posting and contacting students via email. With minors on the Internet, and the wide spread amount of pedophilic and child molestation acts that we hear on the news on a weekly basis, student security is of the utmost importance. If the security of students cannot be guaranteed to a high level such as that provided by myself, than I would suggest that forums NOT be used in the high school environment except for senior level courses where a

majority of the students are 18 and no longer fall under the category of a minor. Another thing that needs to be considered and implemented when this is instituted is the amount that students are required to use it. As a teacher, I would require much of the students' written work that they turned into me to also be posted online so that their peers could also read their writing. By doing so, it provides students with views from their peers and will certainly improve students understanding of the material they are reading and analyzing in class. This can also be implemented in other courses, e.g., science classes can discuss problems and post results of experiments. Forums of this nature would make another alternative for students who want extra credit work.

This research proved to be a rewarding experience for myself and for the Arrowhead Preparing Tomorrow's Teachers to use Technology program. The results of my research will be examined more closely by this committee and other educators in the Duluth area. This research may lead to implementation of this type of technology at a much faster pace in Duluth and in other school districts. I am very fortunate have been able to do this research for the University of Minnesota Duluth and work towards improving the public education system.

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