

Not for the sake of it: Using technology in the composition classroom

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Introduction

The concept of a digital divide in North America is an ongoing discussion within academia. Bharat Mehra, Cecelia Merkel, and Ann Peterson Bishop (2004) have described the digital divide as “the troubling gap between those who use computers and the internet and those who do not” (Mehra, Merkel, and Bishop, p. 782). Paulo Freire had a similar concern that by increasing more advanced forms of technology “in the educational field will, once more, work in favor of those who have and against those who have not” (Gadotti, 1994, p. 79). While social, economic, and political circumstances factor into deciding the “have” and “have nots” of digital communication, it is not a clear divide as some might argue; for example, age, race, and gender might also be factors when it comes how and what kinds of technology certain individuals are using. Many students are familiar with some form of technology before they enter the composition classroom, or any classroom for that matter.

I acknowledge that there are those students who enter their first year of college with not only access to computers and software, but also with limited knowledge of how to use it. However, there are also those students that do not have access to technology nor an understanding of how to use it, and there are those students that openly resist using technologies for personal reasons. There does exist a digital divide in North America, however, for the purposes of this paper, I would like to cast some light on how this phenomenon plays out in the composition classroom. I will do this by addressing the literature on technology and the teaching of writing, as well as interviewing first-year students in their first semester of composition. Using literature and interviews from students, I will contribute to the argument that technology should be used more than a “tool” in the composition classroom.

Technology and writing

I am not claiming that just because a student turns in a writing assignment with misspelled words or unchecked grammar, or even strange formatting issues, that that student has “collided” with a technology that they are altogether unfamiliar with or have a difficult time getting a grasp of, but that there is a more deeply rooted issue at play here. I am not necessarily making a technology proficiency argument here either. In many instances, students use different technological devices and access software on a daily basis at their place of employment or within the public sphere. It is not always an issue of access to technology, since many students have access to various technologies, but an issue of their purposes or desired intentions for using that technology. For many of these technologies that students are already using on a daily basis for a variety of work and public-related purposes usually do not come along with a live instructor (perhaps a briefly glanced over or completely disregarded paper-based instruction manual) telling and expecting them to use technology in a certain way or for a purpose.

The purpose for the technology to exist is determined by the system that has given it a reason to exist. The technology is largely determined by the ideology and language of a group of people or culture. Whether that ideology or language comes from the dominant group or culture, there would exist some form of technology(ies) created and used by humans. I agree that it is the dominant group or culture’s prerogative to influence and somewhat create the design and function of the technology(ies) that are used within society, however, the racial/ethnic/gender argument has only been successful in critiquing those technologies and appropriating them for their own uses rather than completely changing or revolutionizing them. For the purposes of this paper, I will concentrate on the commonly held view that technology is a “tool.” Kahn and Kellner (2007) use Illich’s (1973) problematization of calling something a “tool,” claiming that

when perceived as a source of “new creation,” tools “turn from being ‘means to ends’ into the ends themselves, and they thus alter the social, natural and psychological environments in which they arise” (Kahn and Kellner, p. 438). Perceiving technology as part of the writing process, rather than just a tool, that is used to express thoughts and emotions, means not only re-envisioning the teaching of writing, but also questioning why we call it “writing.”

Writing or ... “composing?”

When students use a computer to write, are they writing? Or are what they doing what Yancey terms “composing?” Yancey’s (2009) questioning of the word “composing” when it comes to writing offers two observations: (1) the breaking down or “deconstructing” of the print-based “pyramid” approach to writing and (2) “multiple models of composing operating simultaneously, each informed by new publication practices, new materials, and new vocabulary” (Yancey, p. 6-7). Yancey proposes three areas that need to be developed:

- “Developing new models of composing,
- Designing a new curriculum supporting those models, and
- Creating new pedagogies enacting that curriculum” (p. 8)

While I would agree with Yancey in these three areas, they do seem broad and perhaps directed at educational practices in general and not specifically at the teaching of writing. However, perhaps this is Yancey’s point since basic education includes reading and writing practices, which are at the core of teaching and learning. I would like to add one more to Yancey’s three criteria: Developing multiple methods of assessment for composing. My reason for suggesting this fourth criterion is to shift writing instructors’ and administrators’ practices and research endeavors away from perceiving technology as a tool, and start to focus their efforts on developing a framework for mutuality to thrive between instructors, students, and technology.

Mutuality and tools

While there are dominant ideological beliefs and values that influence the creation of technologies within the work and public spheres, many individuals usually do not learn how to use technology from the designers from those technologies but instead from co-workers, peers, neighbors, or fellow users. While there are rules and expectations within the work and public spheres, these ruled and expectations function and operate somewhat differently in the classroom. In both instances, whether using technological devices and software programs in an academic, work, or public setting, there are certain expectations and rules to follow. However, the main difference between the academic, work, and public spheres is in the perceived uses of those technologies. David L. Wallace and Helen Rothschild Ewald's (2000) state:

The addition of computer technology to the composition classroom—much like the introduction of peer review, small group work, and other pedagogical revolution in and of itself. Instead, such innovations simply represent tools that expand the repertoire of class assignments and activities available to writing instructors and students and that can be used in course architectures that seek mutuality as a primary goal. (Wallace and Ewald, p. 13)

I find the word “mutuality” problematic because while there might be a certain level of mutuality achieved between the students themselves, the instructor/teacher usually still maintains an authoritative role as designer of the course. For the purposes of this research, I will be defining “mutuality” as the communication that occurs between the instructor, the students, and the technology they use and the negotiation of activities, assignments, and the use of technology that result from that communication.

Because the instructor is perceived as the authority in the classroom, the students trust that (s)he is knowledgeable about the technologies they are using in their pedagogy. Usually it is up to the instructor to choose what kinds of technologies they will be using in their classroom and it is up to the students to use it in various ways to meet the goals and objectives of the course. Although there are instances when instructors are required by their departments to use certain technologies, often reducing it to the role of a “tool” (Wysocki, 2004). The other concept that I take to task is the perception of technology as a “tool.” For the purposes of this research, I will be defining a “tool” as an inanimate object that is simply used to create but have no real effect on how something is created. While there are many levels of viewing technological devices and software as “tools” within the community and work places/spaces, many theorists have questioned why educational practices should mirror this perspective. In many instances, students not only have to learn a new technology but also the instructors’ intentions on how they are supposed to use the technology in the classroom. A more important aspect to focus on is how instructors in the composition classroom intend students to use that technology and how well they incorporate that technology into their pedagogy.

Cynthia L. Selfe (1999) places the responsibility on English instructors in not recognizing and taking advantage of the technological advances during the 1980s and 90s. One of the points that Selfe makes is that despite having technology in the composition classroom, many instructors of the current-traditional way of thinking (i.e. teaching writing as a skill, not as a process) continued to use technology from a conventional standpoint (Selfe, p. 69). I argue that many instructors still view technology, such as computers and software programs, merely as tools, as a means to an end, in the teaching of writing. The question is not only how we can change writing instructors’ perceptions of technology but also how we can change writing

instructors' perceptions of writing (Wysocki, Johnson-Eilola, Selfe, and Sirc, 2004). Of course, changing instructors' perceptions is not done overnight, but instead is an ongoing process. Paulo Freire provides a critique of western educational practices and suggests an educational model in which to view how students learn in the real world. However, the "real world" has drastically changed since Freire made his critiques and proposed his educational framework.

Freire and re-conceiving expectations

Paulo Freire's (1970) critique of western educational practices is that it is a "banking method" approach to teaching, in which teachers are viewed as the knowledge-holders and the students are the empty receptacles of that knowledge. Freire (1970) states, "Authentic education is not carried on by 'A' for 'B,' mediated by the world—a world which impresses and challenges both parties, giving rise to views or opinions about it" (Freire, 1970, p. 93). Freire claims that technology plays a vital role in the "shaping identities" in an individual's life, as well as "the changing nature of the production of knowledge in the age of computer-based technologies" (Giroux, 2000, p. 153). While many might consider technology, such as computers in the classroom, as a shift to a more student-centered pedagogy, this is not always the case. Quite often computers are used perceived as a "tool," or as advanced typing machine, where student communication is still limited to producing a text. Even if students are using a software program two or three times a week, they might be simply using it as nothing more than a "tool," such as Wallace & Ewald (2000) suggest, mechanically performing necessary functions and tasks such as posting their writing in order to complete their assignments in order to earn a grade.

Using technology mechanically in the composition classroom is not much better than Freire's "banking method" style of education, because this approach does not allow the time or space for students to be frame, contextualize, or reflect on their learning, much less on the

technologies they are using. I acknowledge the issue of “toolization” (the reducing of technology in the classroom to a mere tool instead of emphasizing its communicative aspects) of technology in the classroom does not only lie within the instructor’s use of the technology itself, but also in the instructors’ philosophies of teaching, as well as the kind of activities and assignments they use. So in essence, there is a collision between not only students understanding how to use the technologies in the classroom, but also how instructors expect them to use that technology as well as the activities and assignments. Some might argue this collision is nothing more than *cognitive dissonance*—the uneasy feeling produced by being presented with two contradictory ideas at the same time—that should occur when students face new forms of learning and technologies (Festinger, 1957). This collision is due to a certain perspective of writing and technology held by many instructors/teachers and how they can be incorporated effectively in the classroom. In order to understand how technology can be effectively incorporated within writing pedagogy, the next section looks at the different kinds of technology many teenagers use on a daily basis and Brian McNely’s three categories of software that can be incorporated into the composition classroom.

New media writing

A recent study in England and Scotland determined that almost 60% of adolescents surveyed believe that computers “allow them to be more creative, concentrate more and encourage them to write more often” (Clark and Dugdale, 2009, p. 4). Another survey revealed that 93% of adolescents 12-17 and 93% of young adults 18-29 year-olds are online using some sort of social networking site (Lenhart, Purcell, Smith, and Zickuhr, 2009, p. 5). Lenhart, Arafeh, Smith, and Macgill’s (2008) survey on how technology effects teens’ attitudes toward writing also found that 15% of teens claim that “internet-based writing of materials such as emails and

instant messages has helped improve their overall writing while 11% say it has harmed their writing” (Lenhart, Arafeh, Smith, and Macgill, p. 10). However, 73% of teens claimed that using the Internet and/or computers has made “no difference to their school writing” (p. 10). Lenhart et al. also found that 57% of teens agreed that “when they use computers to write they are more inclined to edit and revise their texts” (p. 10). While surveys such as these are useful in gaining a general understanding on how many students use Internet social media sites and how they view writing on these kinds of spaces, they are problematic, because they mostly focus on the use of social media sites and Internet and not only on writing.

McNely’s (2009b) research proposes curriculum re-design in area of rhetoric and writing studies in order to address new media writing. McNely focuses on “rhetorical disposition” where students “think and act rhetorically” when researching and writing (McNely, 2009b, p. 141). McNely (2009a) introduces a theoretical framework for viewing three different kinds of social networking sites that writing instructors use in their classroom. The first type he labels “allopatric” (i.e. Blackboard, where the designer creates the design). The second type he calls “parapatric” (i.e. PBWorks wiki, where the designer allows some degree of design control to the user). The third one McNely calls “sympatric” allows students to contribute to the design of the social networking site (i.e. platforms, web building programs such as MS SharePoint 3.0, where the user creates the design) (McNely, 2009a, p. 4).

While McNely’s ideal platform is a sympatric one for the teaching of writing, others have found wikis (i.e. parapatric) to be an effective platform for encouraging collaboration and knowledge sharing among students (Beach, Anson, Breuch, and Swiss, 2009). While research has addressed faculty’s attitude toward using Web 2.0 tools (i.e. wikis, social networking sites) in their pedagogy (Ajjan and Hartshorne, 2008), there are no qualitative studies that focus on

how using wiki affects students' attitudes toward writing in the composition classroom. For the purposes of this research, I will be conducting a series of interviews of college first-year students who are using PBWorks in their composition classrooms. My goal is to create a better understanding of how instructors can incorporate technology into their composition classrooms. This research is not proposing to completely resolve the "collision" issues that many students face when presented with new technologies, but hopefully to advance the "mutuality" (in the purposes of using technology in the classroom and in the creation and negotiation of activities and assignments) that Wallace and Ewald are describing in their research. My research questions are: How do students view the use of technology in and outside of the classroom? What kinds of experiences have students faced using technology in the classroom? How do students feel about using a program such as PBWorks in the composition classroom?

Method

PBWorks is a parapatric social networking site, a free online collaboration website. PBWorks is best described as a type of new media. Carnegie (2009) claims "new media goes beyond the one-to-one and one-to-many models of communication that characterized 'old' and mass media, facilitating instead many-to-one and many-to-many models of communication" (Carnegie, p. 167). New media allows the user to participate in the management and construction of their virtual environment, and is not relegated to simply a "receiver" of information (p. 166-67). In this kind of classroom setting, students interact with other students and their knowledge and ideas.

Beach, Anson, Breuch, and Swiss (2009) credit wikis for providing students the opportunity to work "simultaneously" on a piece of writing (Beach, Anson, Breuch, and Swiss, p. 75). Wikis such as PBWorks are also useful for having students create electronic portfolios,

because wikis allow students “to create their own learning spaces in which to engage in reflection consistent with their own needs” (p. 210). Wikis also allows students to construct and organize a body of knowledge to present to a larger audience than the teacher. The reason why PBWorks was chosen for the platform for students to use was because the instructor/researcher was more familiar with it than they were with MS SharePoint 3.0 or other web-building programs.

Design

The researcher/instructor designed the basic structure of the composition courses that each of the students were in. All of the students were required to use PBWorks to collaborate with their peers and to submit their writing assignments. All three of the courses were held in computer labs, lasting 15-16 weeks, beginning in the middle of January and ending in the middle of May. In all three of the courses, the syllabus, class plans, activities, and assignments were located on the researcher/instructor’s main wikipage. All of the students were required to register for their own PBWorks accounts at the beginning of the semester. The researcher/instructor of each course kept up with students’ participation and writing assignments by hyper-linking all of the students’ wikipages onto an empty wikipage on the researcher/instructor’s main wikipage. Each composition course required the students to construct an electronic portfolio over the course of the semester. There was an emphasis on collaborative work and situational or scenario writing in all of the composition courses.

I used purposive sampling in selecting the three students to interview. The three students that I chose to interview were the best candidates because they were likely to give constructive criticism about technology and use of PBWorks. I chose the three students from three different first-year composition courses. Two of the students were from a community college in west

Texas. The third student was from a university in west Texas. All three students were first-year students in their first year of college. The students consisted of one male and two females. One of the students was Hispanic and the other two were white. The age range of the students was 18-30. The interviews were conducted through email, not only to emphasize the use of technology, but also to allow the students adequate time to reflect on the questions. Once they completed the interview, the students emailed an MS Word document with their responses to the questions back to the researcher/instructor. The researcher/instructor then collected and analyzed the students' responses. The interviews were conducted four weeks before the end of the spring semester of 2010. Below are the interview questions that the students answered:

1. What are your previous experiences with using technology in any of your classes?
2. What are your experiences with using technology in general? i.e. Good, bad, for creative purposes, for work purposes, etc.?
3. Please share your thoughts on how this writing course used technology (i.e. PBWorks and computers for writing)?
4. What did you like about this course? What could be improved or changed?

The interviews

For the purposes of this research, I decided to use standardized open-ended interviews, so that I could locate themes in the responses (Turner III, 2010, p. 756). In preparation for the interviews, I also followed McNamara's (2009) eight criteria: (1) choosing a setting (email-based interviews), (2) describe the purpose of the interview, (3) explain confidentiality, (4) describe the interview format, (5) indicate time allotment for the interview, (6) provide contact information, (7) allow for questions prior to the interview, and (8) record all responses (McNamara, Preparation for interview section, para. 1). I then selected the students that would be willing to

give feedback and “their story” (Creswell, p. 133). After I had selected the participants, I sent them an email asking them if they would answer some questions about using PBWorks in the classroom. The three students for this study were asked individually if they would participate in answering four interview questions based on the use of technology and PBWorks in their composition classrooms.

After all three students agreed to answer the interview questions via email, the researcher/instructor had them sign a release form that permitted the sharing and reprinting of their responses to the interview questions. Once the consent forms were signed and collected, the students were emailed the four interview questions with a set of instructions on how to answer them. Once the students completed the interview questions and emailed them back, the researcher/instructor printed out each MS Word document, stored them away in a safe, undisclosed location and deleted the students’ responses from their personal email account.

Qualitative analysis

The responses to the interview questions are themed in three categories: Types of technologies used, daily use of technologies, and technologies used in the classroom. To discover these themes, I used Hramiak’s (2005) “Compare and Contrast Grid” to locate emerging patterns or themes in the interviewees’ responses (p. 86). The chart below displays a breakdown of the responses into two large categories, similarities and differences.

Table 1*Hramiak's Compare and Contrast Grid for interview responses*

QUESTION COMPARING RESPONSES	SIMILARITIES	CONTRASTING RESPONSES
1. What are your previous experiences with using technology in any of your classes?	Students claimed to have some experience with technology in the classroom	Various levels of exposure to different technologies, experiences range from complex programs such as Photoshop, Indesign, and Flash to Microsoft software programs in computer labs
2. What are your experiences with using technology in general? i.e. Good, bad, for creative purposes, for work purposes, etc.?	Students use computers and software programs for school and/or academic purposes	There was a difference between using technology for school and work purposes, as well as some distinction between academic, work, and creative uses of technology
3. Please share your thoughts on how this writing course used technology (i.e. PBWorks and computers for writing)?	Students claimed that PBWorks had a positive effect on their learning and writing	One student found using PBWorks helpful with their writing and ideas, another student found it helpful with preparing for their future profession (the focus of the activities and assignments), and one students said that PBWorks was very user-friendly
4. What did you like about this course? What could be improved or changed?	All of the students agreed that they enjoyed the design of the course	Two students claimed that PBWorks was used effectively for class work, activities, and assignments, another student claimed that they could work on their writing anywhere, and one student said that they could easily access the writing they did on PBWorks for the class for future employers (once again the nature of the writing and research activities and assignments)

I have chosen some quotes from the interviews because they emphasize my argument that technology (i.e. computers and software) should be used as something more than a tool in the classroom.

Question 3: Please share your thoughts on how this writing course used technology (Ex. PBWorks, computers, for writing, etc.)?

“In addition, while using PBWorks, I became increasingly aware that it was a very reliable and protected website to use. I have never had any problems or concerns while using my Wiki page. These days, students are using the internet much more frequently, and because of this, it is extremely beneficial to incorporate technology into the classroom.” –*Fred, 1301 student*

“It is very different from a regular classroom, less boring, let’s be honest.” –*Melanie, 1301 student*

“This writing course used technology not only to challenge my learning in the field but also to self-motivate me to learn on how I should organize my work.” –*Crystal, 1311 student*

By the responses above, it is apparent that students are more reflective or conscious of their writing and of the technology that they are using. The instructor/researcher did not just use technology for the sake of it or use it supplementary, but instead integrated it into the pedagogy. The concept of “mutuality” is not only established between students, technology, and the assignments, but also with the instructor. To follow up on the three interviews, I decided to administer a survey of the all of the students in the four English composition courses.

Method

To follow up to the interviews, I decided to administer a short survey in order to see the students’ attitudes about using PBWorks in the classes. Research question: What are students’ attitudes toward using PBWorks in the English composition classroom? To answer this question,

I developed a six question survey based on the Likert Scale. The questions were based off surveys conducted in previous semesters.

Setting

The survey was administered to four English Composition course in two colleges in west Texas. Two of the courses were at a two-year community college and the other two courses were at a four-year university. Both institutions of higher learning are Hispanic Serving Institutions. Two of the courses had 25 students, one had 24, and one had 15, equaling 89 students. All of the courses were taught in computer classrooms.

Participants

Non-probability sampling was used in selecting the participants. All of the participants were recruited from the instructor/researcher's English composition courses. The students were chosen out of convenience since the instructor had easy access to them. Most of the participants were Hispanic. However, there was a multiracial amount of students in all of the courses. The age range was 18-30.

Procedures

Since all of the courses were in computer classrooms, the survey was administered using SurveyMonkey.com. The instructor/researcher posted a link to the survey and directed the participants to it. The participants were given five minutes to answer the survey during class. The instructor/researcher kept the survey open for seven days.

Instrument

I will be using Davis, Scriven, and Thomas' (1987) definition of attitude, which is the "[p]redisposition to respond in a consistent manner with respect to a given object or experience based on one's values about that object or experience; attitudes often link mental events (beliefs)

with behaviors” (Davis, Scriven, & Thomas, p. 97). Davis, Scriven, and Thomas (1987) stated that many students using computers to write is favorable, however there is no valid or reliable research to back up these claims because many of them are based solely on success narratives (i.e. “anecdotal reports”) (Davis, Scriven, & Thomas, p. 50).

Shaver (1990) critiqued the Davis et al. research for not providing a “measurement of attitudes toward writing with a computer” (p. 376). Shaver (1990) developed a high reliability instrument for measuring students’ attitudes toward writing using a computer. The scale that Shaver developed is called “Attitudes Toward Writing With the Computer Scale” (ATWCS), and while I did not use this scale for this survey, it did somewhat inform how I wrote the statements.

1. PBWorks is easy to learn
2. PBWorks is difficult to learn
3. PBWorks is good for student collaboration
4. PBWorks is helpful in organizing my writing
5. PBWorks is a program that I will keep using

Survey results

The survey was administered during class time at the end of the spring semester. Students were directed by the instructor/researcher to the SurveyMonkey link that was posted on the PBWorks class plans for that week. Students were given 10 minutes to answer the survey. Thirty-two out of 89 students from the four English composition courses answered the survey. I speculate that number was because it was close to the end of the semester and I was no longer taking attendance. The instructor/researcher closed the survey down after seven days. Below are the results from the survey.

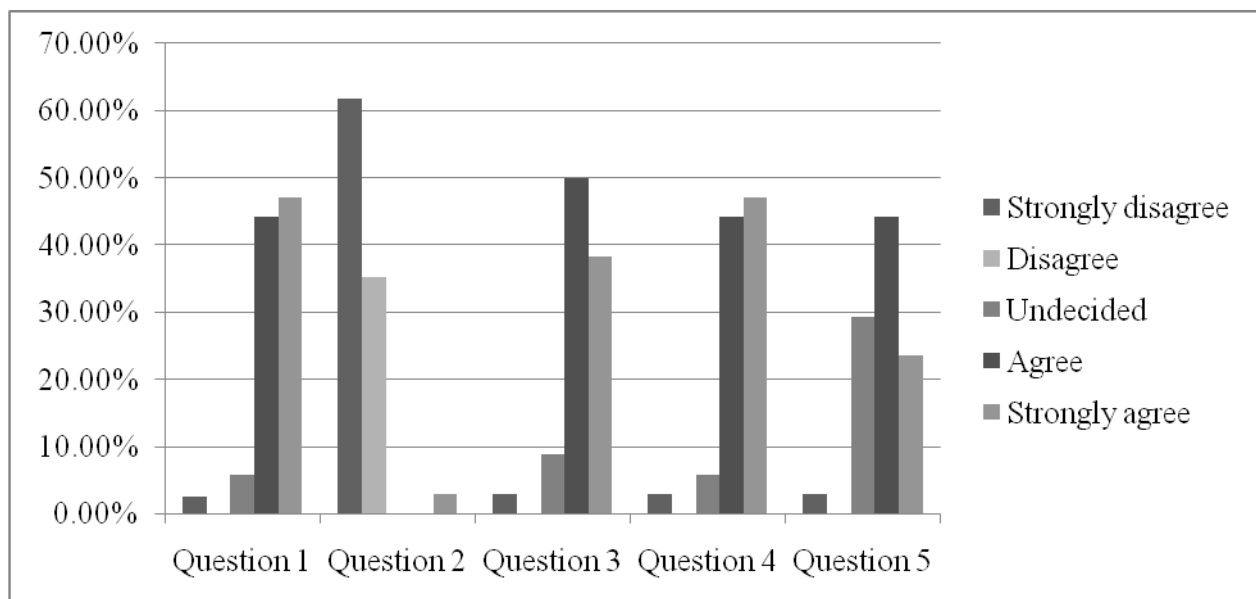
Table 2

Percentage of students who answered the survey

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1. PBWorks is easy to learn.	2.5%	0%	5.9%	44.1%	47.1%
2. PBWorks is difficult to learn.	61.8%	35.3%	0%	0%	2.9%
3. PBWorks is good for student collaboration.	2.9%	0%	8.8%	50%	38.2%
4. PBWorks is helpful in organizing my writing.	2.9%	0%	5.9%	44.1%	47.1%
5. PBWorks is a program that I will keep using.	2.9%	0%	29.4%	44.1%	23.5%

Figure 1

Displays the results of studnets responses



Data analysis of the survey

For question one, a large percentage of the students found PBWorks easy to learn, which is supported in the next question, “Is PBWorks is difficult to learn.” For the third question, “PBWorks is good for student collaboration,” a large percentage of students agreed. Question four, “PBWorks is helpful in organizing my writing,” over 90% of studnets agreed that using the program was useful in organizing their writing for the course. For the fifth question, “PBWorks is a program that I will keep using,” there was a somewhat mixed response to this question. Twenty-nine percent of students see using PBWorks simply for the classroom and a program that they might not use again for posting future writing assignments/activities and using for collaborative purposes. However, a large percentage did respond that they would use the program again.

Below are some of the qualitative responses the students gave to the open-ended comment section on the survey.

English Composition students’ Reponses:

PBWorks is a great program that helps students prepare to write and organize themselves better in a modern new take.

It was a great tool due to the fact that you could have access to turn in your homework even out of school

PBWorks is a neat way of new learning, & is a fun way of learning.

PBWorks is an effective way of doing class work, because I can be in touch with the professor while still writing my assignment for technical assistance.

PBWorks is not only very easy to understand but also very informative and helpful.

A recurring theme in the student qualitative responses from the survey seems to be the convenience in which students can turn in and work on their writing, as well as stay in contact with the instructor. Another recurring theme was many of the students agreed that they felt that were able to “organize” their writing using PBWorks.

Discussion

All of the students interviewed reacted positively not only to using technology such as PBWorks in their composition classrooms, but also to the way in which it was used by the instructor/researcher. Technology such as PBWorks and/or any other programs that foster a communication aspect to it must be seen as more than just a “tool” in which students use occasionally. Ideally, students should act as creators with more “sympatric” and “parapatric” (borrowing from McNely’s terminology) kinds of software programs that are more student/user-centered in nature. While even parapatric kinds of software still have limiting parameters, students’ writing is not merely something that is submitted or posted on a website, but is actually part of the website itself. Another important factor for incorporating and integrating technology into the composition classroom depends on what kinds of writing activities and assignments instructors develop for their students. This means re-envisioning writing as something more than having the students’ creating a “document,” but instead creating web-based visual/texts (a term I would like to call “vocuments,” because of the fluidity and transitional nature of writing a substantial piece of text in cyberspace). This term actually insinuates the vocal + textual appeals to writing and reading, becoming as somewhat “wreaders” and “wriders,” borrowing from George P. Landow’s terminology (Landow, 1991).

The instructor/researcher’s attitude toward using the technology provided in the classrooms also had a positive effect on how students saw and used it. Of course, the

instructor/researcher felt comfortable using the computers and PBWorks, which is another important aspect to consider. Instructors should feel comfortable using technology (i.e. computers and software) before attempting to teach with them, otherwise students might only engage superficially with the technology, or worse collide with it and the instructor's purposes or expectations for them using it and eventually resist it as well as the instructor. Another challenge that instructors will face is altering their perspectives on writing and their activities and assignments. This means that instructors will have to do the intellectual and physical work necessary to alter their perspective on how writing should be taught. The logistics of this kind of writing classroom might also include first teaching students a little about the technology that they will be using, perhaps even sometimes re-teaching them certain functions or features.

I would like to return to this interesting observation made by Fred: "*Because everything can be sent electronically, there lacked the need for a textbook in the class. In order to save paper and ink, all of our writing assignments are posted directly onto our PBWorks page.*"

While the digital aspect of the activities and assignments reduces the need for paper, it does not mean that there is no need for a textbook. While all of the courses did use certain sections of a basic writing guide textbook as reference reading for the assignments, there was not a heavy emphasis on using writing examples and strategies from the book. However, Fred's comment does provide some insight into the textbook situation in the writing classroom, since there is greater access to the Internet and greater access to many online free resources on research and writing (i.e. OWL Purdue Online Writing Lab among many others). While I am sure that this poses no real threat to the textbook industry, I am sure that it challenges them to think about creating more digital-based texts.

Finally, echoing Wallace and Ewald's (2000) the idea of mutuality will largely depend on how the instructor perceives writing and technology and how well they incorporate it within their pedagogy. There is no magic way to "fuse" technology and the teaching of writing, however, there are certain software programs that instructors can try out and use to see which one they are most comfortable with as a user and as teacher.

Limitations

The biggest limitation to this experimental study was the high level of bias since the instructor was also the researcher. It would have been better to have a separate researcher and instructor in order to lessen the amount of bias. While it is difficult to reach any definitive conclusions about how well students respond to a program such as PBWorks in the composition classroom based on three students, the literature on technology and writing does indicate a need for more research in this area. I would suggest more quantitative and qualitative research focusing on students using various technologies over a longer timeframe in order to get an idea of what kinds of programs (i.e. allopatric, parapatric, and sympatric) they find most useful. I think this would not only benefit the college or university is deciding what kinds of user-friendly technological hardware or software to purchase, but also how to implement in within the pedagogy.

Conclusion

The statistics provided by Clark and Dugdale (2009) and Lenhart et al. (2008) suggest a general shift in how many teens are engaging in writing habits outside of school. I think that the keyword here is "writing habits," or perhaps like Yancey (2009) suggest, "composing habits." However, is there a need to include these writing/composing habits into the composition/writing classroom? Can we teach students how to write/compose more effectively than they might

already be doing? If we are to call writing composing, what are the overall implications of this within education? What will be included/excluded from the composing process? What kinds of writing activities and assignments will we have students do in the composition classroom? How will technology become part of the composing process? While these are important questions to consider, I think one of the most important will be how will we as writing instructors assess, grade, or score the composing process? And quite possibly the most important question, will calling writing “composing” change how instructors use technology to teach it? Or will many instructors simply acquiesce to using technology in the composition classroom as a pseudo technical writing class—a skills-based class—where all that is taught are formats and conventions?

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