Classroom Technology: The Problems that Inner-City Students See

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Introduction

Many schools welcome classroom technology without reservation because schools see it as as a solution to problem areas. Often schools see technology as the primary solution way to raise standardized test scores, which is the current indicator of a schools' academic performance (MacGillis, 2004). Today, classroom technology is an expectation rather than a need. Schools are judged on how much current technology is used in classroom activities. Often a school's merit based on a principal's ability to demonstrate and exhibit the school's commitment to technology —"[w]oe to the school leader unable to show patrons and visitors rooms full of machines. A good school has become, by definition, a technologically equipped one" (Cuban, 2001, p. 159).

Overall, adopting technology into the classroom comes with a high price tag, especially for low-income urban schools. Even before schools integrate technology, there are significant inequalities in classrooms. Specifically, low-income schools are often run down, dilapidated, and lacking basic infrastructure; the external appearance of the school is often a direct reflection of the quality of learning that happens within the school (Ladson-Billings, 2001). The crumbling facade of many urban schools is often indicates the caliber of classroom technologies available to the students within its walls. Gorski (2003) asserts that most students in urban schools experience technology through elective courses taught in overcrowded computer labs and with outdated equipment. Early attempts at integrating technology into the classroom perpetuated economic stratification because only the most affluent schools could afford to purchase technological tools (Smiley, 2003). The addition of technological demands has contributed to greater dissimilarities between the underprivliged and affluent students. This is most noticeable is in under-resourced schools that serve diverse populations (Atwell, Suazo-Garcia, & Battle, 2003). Under-resourced urban schools often can only offer students rudermentary technology experiences. Stakeholders see any technology experiences as a great benefit to the

students, even if they are inferior to their contemporaries (Santa Maria, 2008). In other words, technology instruction offered in urban schools is not in keeping with 21st century technology skills, and therefore contributes to already significant disparities.

Under-funded schools embrace even the smallest amount of classroom technology use because it is thought to give students cultural capital, because technology is seen as a gateway to a better education leading to a better job. Bordieu defines cultural capital as, "actions which are carried out within the framework of social structure, that… work together in a harmonious way to transmit a cultural heritage which is considered as being the undivided property of the whole society. (174). Willis (1977) expands the cultural capital idea asserting "educational advancement is controlled through 'fair' meritocratic testing of precisely those skills which 'cultural capital' provides" (p. 128). Today knowing how to work with technology and having computer "skills" means that the more a student understands how to use technology the further they can go with their education. This commonly held understanding suggests that any exposure to technology is valable because it provides students with more opportunities to move within and between social strata (Richardson, 1985; Saha, 1994).

Methodology

This qualitative research study examines both teachers and students at an urban High School in Beaumont (pseudonym), a town located in upstate (name has been changed). I collected data over an eight-month period. My methods include taking field notes, participant observation, in-depth interviews, focus group interviews, and document analysis to gain an understanding of the actions, ideas, and culture of students in order tp represent them here. I also interviewed faculty members to look at how faculty view students and technology and the perceptions they have of the associated limits and possibilities for their students. I recordedthe interviews with both students and faculty and then transcribed, and coded these interviews in order to find emerging themes.

The setting

Schools support a standard and reproduce attitudes that define or legitimize ideas about race, class, and gender (Carlson & Dimitriadis, 2003, p. 3), as well as influence academic standards. In the case of urban schools that serve underprivileged students, one of these standards is the idea of finishing high school and gaining employment as soon as possible after graduation. The academic focus of the school, Rozene Information Technology High School (RIT), is to learn a set of skills that will get the student immediately into the workforce after graduation.

The school is unique having 2 high schools in the same building: Beaumont Academy of Technology for honors students (BAT), and Rozene Information Technology (RIT), or as named/identified by the students "regular Rozene" for district students. Students in the RIT program were trained in basic Cisco programming and networking techniques through elective courses. The classwork consisted primarily of drill and practice activities, offering few opportunites for students to engage in analytical learning activities. In contrast, the BAT program was centered on an comprehensive curriculum that centered on creating a network and troubleshooting errors, requiring students to critically analyse errors.

"Regular Rozene" Students

Didi is an example of a "Regular Rozene." She is a mixed race female who has taken some business/computer classes as electives. She is excited about learning new things and passionate about school. She uses the Internet to gain knowledge that increases her cultural capital; she looks for new bands on the Internet, is a fan of anime, and is a regular on Fanfiction.net (a social networking and writing site where "writers use characters and situations already created by other writers in order to develop their personal and preferred views of the story," http://en.wikipedia.org/wiki/Fan_fiction).   She is not currently enrolled in any technology courses, so I inquired if any of her other classes incorporate technology into their lessons.

> DiDi: English we have computers in our [lessons]. Now we're doing like a video thing in English. [First] we Google search like our authors, and stuff, like who we're going to read about. [Next] we're doing iMovies where we make charades of the poems and stuff that we're doing, because we just finished Langston Hughes. So we took like [his] poems and we made it into a video, so that you can better understand it like watching it.
>
> Ramona: How do you think this helped you understand the topic?
>
> DiDi: Yeah, it's different. I've never done anything like that before. But it's really interesting, we get to work with the computer a lot and make sound effects and graph it all together and put it together to make one film. So it's interesting to see how it all works and stuff.

DiDi's statement shows effective use of integrating classroom technology into a traditional classroom. Her account illustrates how, through the use of technology, she is able to think about the work of this complex poet in a new manner - visually. While she is gaining academic knowledge, she is also learning a computer skill, how to edit video on a non-linear system. DiDi is learning how to make quick-cuts, set the tone of a video with music and most importantly she is learning how to critically think about the topic how to construct multi-layered ideas. Overall, this assignment incorporated many 21st century skills needed for future employment.

Her narrative showed her first-hand enthusiasm for classroom technology that I pressed further, asking her how much technologic knowledge she felt she has in relation to other students:

> DiDi: Not a lot. I don't really know a lot about technology. Like I know it's there. And I can learn about it; like I can sit in front of something and learn how to use it in like ten minutes. But there's a lot of other kids that know how to do it. Well, I see a lot of students like go around (like BAT students) -- they like go around to like Mr. Odin's class and they fix his computers for him. There's a lot of students' that do that because they know so much about technology.

It is curious as to why she only perceives those who have hands-on mechanical/technical knowledge as those acquiring "authentic" technology skills. However, what her statement does put into perspective is that although she learned how to think critically about a subject through a visual narrative, using video editing, she values this less technical ability less because it was *only* a mental skill and in no way mechanical. According to Weis (2004) mental skills hold less credibility in a working-class situation.

DiDi's narrative almost suggests a new way to look at the mental versus manual

argument. Weis (1990; 2004) explains that there are jobs that require mental labor (lawyer, accountant, teacher), while other jobs involve physical or manual labor (construction, plumber, factory work). There is tention between these two groups; especially amoungst though is manual labor. Weis continues, "mental labor is not only less valued than manual labor, but it is less valued *because* it is seen as feminine" (p.39). DiDi's narrative highlights how much she enjoyed working with video editing technology – a skill that is both mental and manual – using a technology skill that fosters creativity, critical thinking, and production to create the end result. However, when I asked about her skill level she demotes what she learned while video editing by saying that other students "go around to like Mr. Odin's class and they fix his computers for him." What DiDi overlooked is that she learned skills editing video has many more mental and technical applications that can be used in future editing positions or transferred other technology work.

DiDi's nattative is representative of other working class students at "regular Rozene" that have yet to reconceptualize themselves as completing mental labor. Furthermore, an overall look at the student narratives shows evidence that working-class schools, and their students, have yet to re-conceptualize industrial ideas of labor, resulting from a post-industrial society and global economy. Overall, technology skills, whether they are mechanical or mental, have validity and can lead to technology or other types of employment or academic opportunities.

Beaumont Academy of Technology Students (BAT)

The next account comes from a senior student in the BAT program. Susan takes a slightly different approach when discussing the benefits of being enrolled in a technology based "college preparatory" program. Her narrative is distinctly different from that of DiDi a "regular Rozene" student.

Ramona: What are some of the benefits of attending a school of technology?

Susan: If you go here you can get an internship at [International Bank].

Ramona: Is that internship set up through a school program?

Susan: They only pick like 12 people to do it and you have to go through like interviews and you have to have a whole bunch of stuff…a resume and all that.

Ramona: What did you have on your resume that was different than other students?

Susan: Yeah it was helpful and with all the computer classes I took, because I've been [programming] for 5 years. And my business classes and all of that looked better on my resume. So there was a bunch of stuff, and I was on honor roll for the first three years of high school, that looked good. I did community service at Hospice.

Ramona: After high school, where do you want to go to college?

Susan – I want to go to college at City College for Criminal Justice.

Ramona – What part of Criminal Justice are you interested in?

Susan – I'm really interested in Crime Scene Investigation. I used to want to be a pediatrician but the years of college are too much for me.

Like Susan, most BAT students discuss their school experience and the benefit of being enrolled in BAT as a positive experience. Afterall, they are afforded more opportunities because they are in this program. BAT students are elevated above other students because they are "the good ones" (conversation with Cisco teacher Mr. Andolini), the honor students and the students given special opportunities at school. However, BAT students may gain an advantage because of the cultural capital associated with being a part of a program that is valued in their home, by their family, as well as, at school.

Even when parent involvement was not present for a student there were many teachers advocating for BAT students, many placed themselves in the parental role campaiging for a students' betterment. Regardless of academic standing all BAT students are familiar with the language of technology. They are able to break through the some of the "mystery" associated with technology, which provided them with them some skills to move forward in the workplace, possibly on to college or a technical career. However, what BAT students take away from the program is different from the "regular Rozene" students. BAT students see some sort of post-

secondary education in their future – they are able to connect their present opportunities within the BAT program with their future dreams; BAT students see what they are presently learning with regard to technology skills factoring into their future employment.

Focus Group Session

This focus group session was a mix of both BAT and "regular Rozene" students. I began the session with some general questions regarding technology within the High School ("Tell me about the schools or places that you think use or have the most technology…"). I then shifted focus and asked students about their perceptions of technology at other schools to assess if, or where they noiced differences between schools, and furthermore how this can make a difference in future opportunities (ex. "In your opinion which school has the most or best technology in the area?"):

> Ramona: If you think that other schools have better technology – how do you think that you are going to compete with them once you leave this school…?

Although the words from my question still hung in the air, the students' answers came back like rapid fire, overlapping, excited, andinsensed:

> Marie: We can't!
>
> Clarence: Gonna have to work twice as hard!
>
> Marie: They got money and most of them people stay outside, in the suburbs and stuff and keep their money out of Beaumont Public Schools and we don't have nothin'.
>
> Alberto: We can but they have an advantage, you know, because they have more-better stuff than our school.

This conversation was so was intense; students were talking over one another. It was as if these students *finally* had a venue to communicate their dissatisfaction. These students offered a look into their reality that scholars and journalists commonly refer to in theoretical writing, newspapers, and books, but which they themselves rarely express. Students vividly expressed the realities of, and frustrations with, the school and district - they know that they deserve more. The level of discontent that these students communicate is hard not to notice, especially in both Marie and Clarence's expressions of "We can't" and "Gonna have to work

twice as hard!" These students are poignantly aware that other students have more than they have, not just in terms of economics, but also in terms of more resources in their schools. This is not a new idea. Kozol (1991) asserts that those who are disadvantaged know that they have less; they want more for themleves, and especially a better education and opportunties and also understand that the system is broken.

As the focus group calmed down, I inquired if there was anything else that they wanted to tell me about their school. Considering that we had been discussing technology throughout the session, I assumed that they would express that they wanted newer computers, or some other type of cutting-edge technology. The students mockingly joke about how they have the latest technology in metal detectors, but throughout the conversation, they confer that even these do not work properly. However, in later focus groups, students spoke of changes within the schoolthat are not necessarily associated with the latest technology, but with which they connected the school's ability to meet students' basic needs.

Ramona: What else do you want to tell me about this school?

Clarence: I would tell you that all the calculators don't got no batteries.
   (Everyone laughs)

George: We have like 8 calculators and 2 batteries

Alberto: They should get the calculators that don't run on batteries the [solar] ones.

Marie: Like in Cisco they have all them computers broken down and like I had information in one of them and it got stuck in it.

Meg: Like all the keys in the keyboards have like 5 keys missing.

Clarence: … Or they switch 'em around.

Meg: …Or they write on the keyboard or something, it's horrible.

Meg: You know we got overheads, but even the newer ones they broke down.

George: Basically everything in this school that has to do with electricity, everything it's broke down, they need to start from scratch.

The conversation quickly moves from wanting the basic necessities in technology to expressing their dissatisfaction with the overall care taken in the school.

They comment about how students steal the phone cords so that teachers cannot call security, and how, with some phones, you can dial out, but you are not heard on the other side. As George points out an example of a phone without a cord, he notices another common problem that takes the conversation in a different direction:

> George: Yeah Miss [Ramona], just look at the walls the paint is peeling…
>
> Marie: They need to change the bathrooms…
>
> Ramona: What's wrong with them?
>
> Meg: They are disgusting. In one bathroom, I think on the third floor, the toilet seat is broken off …it's like all of those rodents, too.
>
> Chynna: Oh yeah, we need [new hand] dryers in the bathroom too.
>
> Marie: They need to change the whole bathroom…
>
> Meg: Most of the bathrooms don't have toilet tissue in them.
>
> Chynna: You gotta like walk in one [stall], no toilet paper go in another keep lookin'.
>
> Meg: …And soap I would like to put my hand under the thing and get some soap.
>
> George: Whoa! We ain't never have soap. You got soap? We don't got mirrors. soap, or paper towels.
>
> Clarence: …Yeah they go and close bathrooms [during class time], but then the ones that they do keep open, they not staffed. That's just ignorant.
>
> Marie: They need locks on the doors because people keep tryin' to push in. And maybe there wouldn't be problems if they got some locks on 'em.
>
> Alberto: Yeah I heard [of] people having sex in the bathrooms - it's crazy.

These students at RITHS express how marginalized they feel, not only because of inferior technology, but also because of the way in which the school is improperly cared for. To look at the outside of this High School, it is fairly well kept, but I would like to relate Ladson-Billings' previously state idea to the *inside* of this school, where the lack of care is evident to the students and extends into the lack of resources in the classrooms. Everywhere you turn inside the school; there are huge cracks in the wall, and large sections of paint peeling off of the walls, especially in

main thoroughfares, such as stairwells. Students at this school see that within the school there is a need for basic resources such as basic paint and maintenance, clean bathrooms, and rodent control. These students want the basics, whether it is batteries in their calculators or clean bathrooms. Students are not looking for extras - they want a school that can facilitate an environment of learning. Pedro Noguera (2003) speculates that once low-income students' basic needs are fulfilled, it is easier to focus on academics.

Conclusion

For most students, a High School education does not prepare them for a job after graduaton— academic subject prepare students for post secondary education. It is arguably the case that most schools expect basic technology literacy, and still other schools give a heavier emphasis on more technical "Academy" settings where students learn technical, marketable skills. However, some of the previous student narratives suggest that these students view the technology they are learning as skills that will lead toward other types of technology employment.

For students who are economically challenged, those who attend urban schools and look to get out of high school with a skill and immediately into a good paying job, technology positions seem attainable. Skill-based technology jobs contain the allure of something which students are likely familiar, skills-based labor, but this time the learned "skill" in the form of programming or networking combined with the possibilities within the popular, professional and often lucrative field of computers. Whether or not students, or their parents, see what they are learning as low-end technology skills leading to high-end positions, what students gain is exposure and more cultural capital. Scholars Bass & Rosenzweig (2001) recognize that technology has become a new, important cultural capital.

Truly, if schools want life-long adaptable skills for students to transcend students between the skills-based technical world and the knowledge-based blue- and white-collar sectors, schools need to prepare students for current employment by emphasizing current technology skills. Employers are calling on schools to to infuse into both technical and non technical programs classroom lessons that foster

such things as creativity, critical thinking, analyzing from multiple perspectives, and deductive reasoning to prepare these students for a post-industrial economy that is ever-changing (Gee 2003, 2007). Technology, when used effectively in the classroom, can facilitate soft-skills, if integrated properly and upgraded consistently.

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