Can You Hear Me Now? Student voice: High school & middle school students' perceptions of teachers, ICT and learning

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ABSTRACT

Information and Communications Technologies have become tightly woven into the fabric of most middle school and high school students' lives throughout the United States. However this is true, for the most part, only when students step outside the physical and mental confines of school. Today many students find that the technology they have access to outside of school is newer, faster, and far less restrictive than the technology they have access to in school. This dichotomy is creating a situation where, for the first time, students have more access to information and resources out of school than they do in school. This exploratory case study examines the viewpoints of Middle School (MS) and High School (HS) students in a technology-affluent, rural, United States school district relative to Information and Communications Technologies (ICT) use in and out of school. Students in our study 1) perceived technology in school as limited and restrictive, 2) recognized teachers' ICT skills determined classroom instruction, 3) provided suggestions to help teachers with ICT, 4) articulated the learning environments they prefer, 5) experienced a disconnect between ICT use in school and out of school, and 6) perceived educators as not caring.[1]

INTRODUCTION

Information and Communications Technologies (ICT) have rapidly become essential tools in today's society and experts view ICT proficiency as prerequisites for participation in society and the workforce (21st Century Workforce Commission 2000). Despite significant amounts of ICT expenditures and professional development initiatives, evidence continues to suggest a slow rate of ICT instructional implementation across educational institutions (Hanson-Baldauf and Hassell 2009; Sang et al. 2010). Many teachers remain wary to move beyond teaching isolated ICT skills and resist integrating ICT within traditional classroom practice (Kirkland 2009; McFarlane et al. 2004). Although computers are now widely available in most schools, effective ICT integration remains "on the fringes" of curriculum expectations and instructional focus (Kirkland 2009).

Along with the dearth of ICT use in schools, a new digital divide has emerged, not between students who have or do not have access to ICT, but between the ways students use ICT out of school and their ICT use in school under the direction of teachers (Levin and Arafeh 2002; Oldknow 2009). ICT use is pervasive among young people out of school (Kirkland 2009; Quan-Haase 2008; Selwyn and Facer 2007) making today's youth history's first "always connected" generation (Pew Research Center 2010). The purpose of this exploratory case study is to present the voices of Middle School (MS) and High School (HS) students relative to ICT use in and out of school.

THEORETICAL CONTEXT

The inclusion of student voice in efforts toward educational reform is grounded in the theoretical framework of constructivist learning theory, critical constructivism, critical pedagogy and student voice. The use of the word theory here is defined as a body of understandings that help to understand the forces that construct knowledge, including social and political implications, and how educators and students fit into this complex mix (Kincheloe 2005).

Constructivist Learning Theory

Constructive learning theory supports the ideology that students are central to their learning (Bransford et al. 2000) and that "authentic activity involves hands-on minds-on activities" that are socioculturally relevant and meaningfully connected to the everyday life of the learner (Zozakiewicz and Rodriguez 2007). Similarly, constructivist pedagogies reinforce the belief that students who actively construct their own understanding by synthesizing new experiences into what they already know and assess their learning (Bransford et al. 2000; Cook-Sather 2006b; Dewey 1897) can improve their academic achievement and learn independently (Bransford et al. 2000).

Critical Constructivism

Critical constructivism, grounded on the notion of constructivism, "promotes reflection on the production of self" as a social being shaped by the way "dominate powers operate to manage knowledge" (Kincheloe 2005). Critical constructivism challenges educators to examine the "educational act" introspectively and understand that different individuals coming from diverse backgrounds perceive the world in different ways. In traditional transmission-based pedagogy there is little reason to understand the learner because teachers, provided with curriculum, pass it along to students who are then tested to see how much knowledge they retain. By contrast, "in critical constructivist schools the identities of students matters" (Kincheloe 2005). Students' worldview, backgrounds and expectations, as shaped by their experiences and the social contexts of their lives have important implications for teaching and critical thinking (Kincheloe 2005).

Critical Pedagogy

Critical pedagogy, based largely on the work of Paulo Freire, challenges the oppressive "banking style" of education that views students as passive consumers of information, and calls for a "humanist educator" to work alongside students and "be transformed by them [working] together with other people—not other men and women [by] themselves" (Freire 2003). Critical pedagogy "compels its practitioners to examine traditional power structures and teach students to question dominant power relations" (Zimmerman 2009) acknowledging that the "world and human beings do not exist apart from each other, [but] they exist in constant interaction" (Freire 2003). Critical pedagogue bell hooks (1994), encourages educators "to transgress those boundaries that would confine each pupil to a rote, assembly–line approach to learning" and respond to students as unique beings who have different voices that they, and teachers, bring to the classroom. hooks refers to this holistic model of learning as "engaged pedagogy" (1994) whereby educators and students engage in praxis, reflection, and action upon their world to transform it.

Critical pedagogy "demands a fundamental rethinking [and] a deep reconceptualization" of the organization of schooling and the relationship between teachers and learners (Kincheloe 2008) recognizing that students are legitimate authorities on issues of teaching and learning (Cook-Sather 2006a).

Student Voice: History and Origin

Cook-Sather, a prolific writer on student voice, provides an in-depth examination of the term in her article "Sound, Presence, and Power: 'Student Voice' in Educational Research" (2006b). Highlights from that work are presented below.

In the early 1990s educators and social critics in Australia, Canada, England, and the United States began to take notice of the exclusion of students' voices and started to address the void. By the late 1990s and early part of the 21st century the term *student voice* began to emerge in the dialogue of educational research and reform, suggesting a cultural shift, not only to listen to students, but also to legitimize students' perspective and opinion and argue for its inclusion in discourse related to educational practice and school reform.

Nearly eighty years ago, John Dewey called for teachers to listen to students and to be "alive" to their thinking, affect, and learning (Dewey 1933). Yet, educators rarely ask students what they know and/or what teachers in particular, and schools in general, can do to help them learn. It is ironic that educators insist that students learn from them but rarely consider what they can learn from students. Smyth (2006a; 2003) describes this lack of attention to engaging the voices of students to improve curriculum design and pedagogical practice as one of the most urgent issues of our times. Lindquist (2010) agrees and identifies "the biggest pedagogical problem" facing the field as teachers' lack of knowledge about their students (p. 175). Despite claims that classrooms should be constructivist, student-centered, and empowering, school experiences are often controlling, oppressive environments for a large proportion of young people who are failing at and being failed by schools (Angus 2006; Smyth 2006a).

"It is puzzling that if we are wanting to promote independence in inquiry and autonomy in learning that we so deeply mistrust students" (Savin-Baden 2003). Research has demonstrated that the power of students' description of their learning, as revealed to teachers in dialogue, can play a powerful part in meeting learners' needs and in building trust and community (Rodgers 2006). Evidence also suggests that students' learning is enhanced when teachers pay attention to the "knowledge and beliefs that learners bring to a learning task" and use this knowledge to develop instruction by monitoring students' perceptions as instruction continues (Bransford et al. 2000).

Students' opinions regarding ICT have been collected over the last several decades using questionnaires, surveys, and essays, however student voice concerning ICT in the lived experiences of students in and out of school are seldom represented. Scant research has considered students' perceptions of ICT and school organization and rarely have students been asked as "experts or knowers to contribute to the knowledge base regarding the fit between learner and environment" (Boyer and Bishop 2004) . However, as Cook-Sather explains "because of who they are, what they know, and how they are positioned, students must be recognized as having knowledge essential to the development of sound educational policies and practices" (2002). This study is grounded in the belief that understanding students' perspectives within the cultural and social context in and out of school is critical for effective teaching and learning (Bransford et al. 2000; Cook-Sather 2003; Darling-Hammond and Bransford 2005) and imperative for meaningful discussions on school policy and transformative school reform.

PURPOSE OF THE STUDY

This study attempts to lay the groundwork for future inquiry via an exploratory investigation of issues related to the perceptions of Middle School (MS) and High School (HS) students relative to their ICT use in and out of school. Four (4) focus group sessions were conducted to objectively represent student voice. The focus group sessions were framed around the following broad questions:

1.   How do students use ICT in school?

2. How do students use ICT out of school?
3. How do students perceive teachers' ICT use?
4. What types of learning environments do students want?
5. What types of innovations do students envision?

District Background

The district studied serves 2,418 students in 5 buildings: HS grades 9-12, MS grades 6-8, Intermediate School grades 4-5, Primary School grades 1-3, and a Kindergarten and Pre-K School. The district has a high poverty index, with more than 30% of students on free and reduced lunch and minimal racial diversity (approximately 2% minority). The State Education Department's *Need/Resource Capacity Categorization* classifies the district as a "High Need Rural District," calculated by dividing a district's estimated poverty percentage by its combined wealth ratio.

Among the 699 public school districts in this northeast state, the district ranks 1st (along with 390 other public school districts) as having 100% of its classrooms connected to the Internet. The district ranks 228th relative to its student-to-computer ratio with 2.63 students per instructional computer.

We selected an ICT rich district because it is argued that teachers need access to ICT in order to integrate ICT effectively into instructional practice (Demetriadis et al. 2003; U.S. Department of Education 1998). The district provides an extensive array of ICT resources and continuous professional development for teachers. However, student use data, student and teacher surveys, teacher interviews, and walkthroughs conducted by the authors revealed that many teachers are not integrating ICT in classroom instruction (Radlick et al. 2006; Stefl-Mabry et al. 2008).

A student web survey was conducted in February 2006, to capture the perceptions and preferences of MS and HS students relative to ICT use. Survey questions were developed to collect student demographic data as well as self-reported ICT skill levels, time dedicated to using ICT in and out of school, and students' perceptions of the value/impact of ICT. Results of the student web survey have been published in previous papers (Authors) and data from the web survey led to the formulation of the research questions and methodology for this study. A brief summary is presented below of the survey results pertinent to this study.

Student Web Survey Results

There were 1,128 unique student responses to the survey—530 MS (Grades 6-8) and 598 HS (Grades 9-12) students. Response rates were 94.6% of all middle school students and 81.5% of all high school students.

HS students used more individual software applications and had a significantly higher level of computer application skills than MS students, reflecting greater experience and knowledge of HS students. When asked the amount of time students perceive ICT use by teachers, 11.7% of MS boys said "All Classes", and 16.8% of MS girls said the same. In HS 9.8% of boys said "All Classes," and 13.7% of HS girls reported said the same.

When asked: "On a typical school day, how often do *you* use computers in classes?" The majority of students, 67.1% of MS and 67.6% of HS, indicated only "A few of my classes."

The results of the survey revealed that students perceive teachers as making minimal use of ICT in classrooms. After the survey results were shared with district administrators, the authors were invited to conduct student and teacher focus group interviews to gain more insight into the lived experience of the classroom.

METHOD

Participants

Administrators selected MS and HS students to provide a snapshot of students' typical ICT experiences. The sample was a purposeful one chosen for its potential to represent a cross-section of students' ICT experiences in and out school and identify areas for further study; not to represent a larger population. Principals asked teachers to identify two groups of fifteen students from different grade levels. Although one group included students in a Gen-YES course[2], the students, according to the technology coordinator: "are not technophiles, nor are they necessarily the most literate concerning technology, as this is an elective course that some students take to meet graduation requirements" (2010).

Students were provided a letter outlining the project to take home and read with parents. A consent form was attached and only students with signed consent forms participated. Participating students were eligible for a raffle and at the end of the sessions; one student from each group was randomly selected to win a mini-flash disk.

A total of 48 students, 20 females and 28 males, participated; two groups at the MS and two groups at the HS. A total of 26 MS and 22 HS students participated. See Table 1.

Table 1: Focus group samples

	Female	Male	
High School (HS)	10	12	22
Middle School (MS)	10	16	26
	20	28	48 = n

Middle School Focus Groups

MS students included 7 males and 5 females in the 6th grade and 9 males and 5 females in the 8th grade. See Table 2.

Table 2: Middle School

	Female	Male	
Group 1 (6th grade)	5	7	12
Group 2 (8th grade)	5	9	14
	10	16	26

High School Focus Groups

HS students included the GEN-Y class, consisting of 6 males and 1 female[3]: one 8th grader, two 10th graders, two 11th graders, one 12th grader, and one student who did not indicate a grade level; and an economics class consisting of 6 males and 9 females: one 11th grader and fourteen

12th graders. See Table 3.

Table 3: High School

	Female	Male	
Group 1 (GEN-Y)	1	6	7
Group 2 (11/12th grade)	9	6	15
	10	12	22

PROCEDURES

The primary focus of this study was to obtain an objective description of perceived behavior. While perceptions are not objective reflections of reality (Owens 2001) "whatever people in an organization perceive as their reality is the reality to be described" (Zhao et al. 2002). Focus groups were an appropriate methodology for this study as they often encourage participants to make more critical comments than they would if interviewed individually (Kitzinger 1995) and "young people are often stimulated to talk more expansively when others of their age join them" (Bogdan and Biklen 1998). In addition, the "format of a focus group tends to create a permissive, non-threatening environment in which participants can share ideas and perceptions" (Andrade and Du 2007).

Focus group interviews were conducted in March 2006 and took place during school hours in the morning at the HS and in the afternoon at the MS. Participating students met with the researchers in assigned classrooms for 30-minute sessions that were audio and videotaped.

As the interviewers and participants had no prior relationship, the risk of data being tainted by social desirability was minimized. A semi-structured question guide was developed based upon results from the student web survey. Transcripts of the sessions were shared with authors and school administrators for confirmation and clarification and revised, as appropriate.

Data Analysis

An adapted version of consensual qualitative research (CQR) methodology was employed (Hill et al. 1997; Hill et al. 2005). CQR involves a team of researchers coming to a consensus during five analytic steps: (1) developing domains or topic areas; (2) coding the data; (3) constructing core ideas across cases while examining the data for confirmatory and disconfirmatory evidence; (4) charting the results; and (5) writing a narrative summary (Andrade and Du 2007). The codes were defined in terms of the content of participants' comments, rather than by the length of utterance.

Authors' session notes were independently transcribed, summarized, and shared with the team within 48 hours after the sessions to ensure immediacy and accuracy of observations and provide multiple perspectives to the group. The first author, with a graduate assistant, transcribed the tapes and shared transcriptions with the team. Prior to the selection of domains each researcher listened to the tapes and read the transcripts to immerse themselves in the data so that "everyone could 'hear' any subtle meanings conveyed by voice tone, volume, or pacing" (Hill et al. 2005).

Development of Domains

After careful examination of the data in all permutations the team argued to consensus a list of 12 domains (or topics) to be applied to the data. The 12 original domains are presented in Table 4.

Table 4: Original 12 domains used to code data

Original Domains
1. Students' ICT satisfaction in school 2. Students' perceptions of ICT use in classrooms 3. Students' perceptions of ICT use in school 4. Students' recommendations of ICT for learning 5. Students' recommendations of ICT change in school 6. Students' perceptions of teachers' ICT skills general 7. Students' perceptions of teachers' ICT skills teaching 8. Students' perceptions of their ICT skills 9. Students' ICT use out of school for learning 10. Students' ICT use out of school in general 11. ICT students want in school 12. ICT students want out of school

The first author and graduate assistant independently coded one set of transcripts using the 12 domains and NVivo software (a data management tool). There was little disagreement in the assignment of the 12 domains, however the raters reported much overlap. The team reviewed the transcripts and a second level of coding, using six domains to better represent the data, was argued to consensus. The six domains are presented below:

1) Students' ICT use in school
2) Students' ICT use out of school
3) Students' perceptions of teachers' ICT use
4) Learning environments students want
5) Students' feeling of disconnectedness with educators
6) Innovations envisioned by students

The Development of Core Ideas and Cross Analysis

Core ideas emerged as the data was coded and shared. The team served as internal auditors editing and challenging the core ideas as they were generated. The team argued to consensus to edit core ideas and ensure they were as accurate and contextually based as possible.

RESULTS

Analyses revealed 14 main findings that are organized by the 6 domains and presented below.

1. Students' ICT Use in School

Finding 1: MS and HS Students' School Use of ICT is Limited

Students described school computers as slow, frequently crashing[4], and restrictive[5]. Although students' view filters as "necessary to keep them safe", they felt filtering hindered their ability to find information for assignments:

"They block almost everything that's not linked [to the district]."

"We have a lot of technology but we're not allowed to use it."

Students listed word processing, PowerPoint, image editing, and Google as common school applications. They described some teachers in science, chemistry, and social studies who used digital simulations when teaching. MS students were dissatisfied with the limited number and types of ICT courses available. MS students acknowledged that PowerPoint was easy to use:

"You don't have to get like seven to eight pieces of paper out. You can just print it."

However, students were tired of PowerPoint:

"It makes it easier but yet, it gets boring after a while."

Students liked the Gen-Y course because they were learning new technology programs and applications.

Finding 2: MS and HS Students View ICT as Replacing Books

MS students felt that PowerPoint reduced the need to read textbooks:

"In SS [Social Studies] we do PowerPoint all day instead of just reading out of a textbook."

HS students described ICT as: "awesome" and that using computers was easier than reading books:

"You can just go on the computer and highlight stuff you need instead of looking through books and you lose your place."

MS and HS students described ICT as indispensable for schoolwork because they provided access to a variety of resources:

"…without having to wait for a book or go to a library."

2. Students' ICT Use Out of School

Finding 3: MS and HS Students use ClassLink at Home to do School Work

The majority of students use *ClassLink*[6] to access school-based software applications and assignments from home via the Internet. Some students use *ClassLink* to receive email from teachers regarding grades, information on school projects and assignments. Students explained:

" It [Classlink] makes it easier for our parents to be able to see what we're doing and stuff."

Some students do not use *ClassLink* because their home computers and software are "newer and much faster" than those on the school's network. It is worth noting that some MS students

elect to use *ClassLink* for email at home, even though it directs them to the filtered environment of school. If they accessed the Internet directly from their home computers they would have unfiltered access[7].

Finding 4: Students Use ICT to Multi-Task Out of School

Students' use ICT out of school to multitask. As one student explained, as soon as she gets home she turns on her computer, chats with friends using instant messenger (IM), listens music on her iPod, browses the Internet, and does her homework—all simultaneously.

Finding 5: Rural MS and HS students want the Same High-Speed Connection in School and at Home

As this district has a large rural constituency, a number of MS and HS students reported access problems at home using dial-up and DSL connections. Students complained that their home computers were old, making it additionally difficult, if not impossible, to access the district's electronic resources to do schoolwork:

> *"Because I live in the middle of nowhere I'm stuck with dial-up."*

3. Students' Perceptions of Teachers' ICT Use

Finding 6: MS and HS Students Believe that Teachers Need Help Using ICT

Students in all groups described teachers' ICT skills as "not that good" and that teachers needed help. MS students were most direct, explaining:

> *"If we could give them a grade it would be an F."*

HS students also gave teachers a failing grade. MS and HS students felt that "state standards and the strict curriculum" dictated what teachers:

> *"…could use and what they couldn't use and because of this they [the teachers] can't do too many projects."*

MS students had suggestions for teachers:

> *"Take online technology courses."*

> *"Go back to college."*

> *"Use AIM (AOL Instant Messenger) and MySpace"*

Finding 7: HS Students Perceived Teachers' ICT Proficiency Relates to In-Class Use

HS students described their teachers as "still living in the seventies," "clueless," and "technologically challenged." They noted that one science teacher and "the computer lab lady" were the most technologically proficient people in the school. Students shared that teachers "did not know what they're doing" and students were frustrated that teachers were "telling us to do something" yet "couldn't do it themselves." One student described the problem he felt science teachers were experiencing:

> *"They don't know really how to use anything up to their full potential. They need a little more learning…more classes and how to teach and how to use like the devices and stuff. We have*

probes and stuff, temperature and pressure and all those but they don't know how to use them."

HS students said that many English teachers use Microsoft Word but:

"Most teachers don't really know much about the technology so usually they stick to the book."

When asked how teachers use ICT MS students responded:

"All they can do is clicking [sic] on and pressing [sic] the attendance and email".

4. Learning Environments Students' Want

Finding 8: MS and HS Students want ICT to Support Learning

MS students want video games such as *Call of Duty* integrated into class work explaining that videos games could help them learn "strategy skills for social studies and life." MS students want to create videos for assignments:

"I like making movies because you get to take nothing, bits of nothing and make it into your own project."

HS students want to view their grades online so they can see what assignments are missing and what they need to do to improve their grades, explaining:

''…it would be awesome to have worksheets and extra credit assignments online."

Students also wanted courses and all textbooks available online:

"So that we don't have to carry heavy backpacks."

HS students suggested more classroom visuals explaining:

"…the classes will be more interesting, and PowerPoint slides are easier to read than teachers' handwriting."

Finding 9: MS and HS students want to use personal ICT devices in school.

MS and HS students want to use their ICT devices (laptops, iPods, and cell phones, etc.) in school. MS students want to use IM in school to talk with their friends and ask friends for help with class work. The district's ban on all personal ICT devices makes HS students feel disempowered:

"Pretty much we can't do anything. Pretty much this is middle school again."

Finding 10: HS Students want a More Efficient Search Engine

HS students want a better search engine than Google and are annoyed at its inefficiency:

"Google gives you so many answers that you don't need."

"It gives you stuff you don't want to know or stuff you already know."

"We need to find a new thing, like, not just always Google."

Finding 11: HS Students Find the Silence in School Distracting

HS students feel it is difficult to work in school because it is too quiet:

"Most kids usually can't stand having all silence and usually want to hear something like listening to music. And that's how kids usually learn better. But teachers don't really want to hear that. They just want to hear pencils writing research papers, whatever."

"When you're sitting here writing a long paper it gets really really boring fast. And plus I type faster when I have music going. I like the speed of the music."

"When there's silence you just want to talk, and you don't want to concentrate. Maybe that's just me though."

Finding 12: MS Students Feel Teachers Talk Too Much

MS students described teachers as being too talkative:

"We have a lot of teachers who sit there and talk the whole time. ""If we did more stuff, even if we did more worksheets, it doesn't have to be like, you know what I mean for 84 minutes. You don't want 84 minutes to talk about different stuff that doesn't even relate to the class."

When asked to describe teachers who taught well, MS students described Mr. L.:

"I like how Mr. L. he had this thing where there's only a certain amount of time where you can listen to somebody or look at something to get your mind to keep paying attention to what's going on in class. He used to do this stuff during class and I think if every teacher did that everyone would learn better."

" Just like he'll talk for a little bit and do notes. Then we'll do a lab. Sometimes we'll go outside and look at trees or whatever to identify stuff. He'll just keep us busy instead of talking all the time. You sit in certain classes and you [teachers] talk. It's like the longest class alive."

5. Students' Perceive a Disconnect from Teachers

Finding 13: MS and HS Students Feel Disconnected from Educators

When asked if educators asked them how they felt about school, students' responses varied from "never" to "not much." One student elaborated:

"I think that's why a lot of kids feel that this is a prison because we're not allowed to do much and just come here and learn and half the kids don't understand what they are learning."

Students felt their opinions didn't matter:

"We're their last priority."

"Even if you talked to teachers they probably won't do anything. They probably say: 'Oh well, this is our school and we'll run it the way we want.' They are really ignorant here."

"Some of them, not all of them though."

"Most of them like silence. So they're not going to say: Yeah, I agree with them."

6. Innovations Envisioned by Students

Finding 14: Students want ICT that are Smaller, Faster and Multifunctional

MS and HS students' ideas for innovation are presented in Table 5.

Table 5: Innovations envisioned by students

Student Innovations
1. Cell phones that don't lose reception and have television, movies, computer games, and web access all in one small device
2. Eyeglasses embedded with computers
3. A "perfect artificial intelligence system" so that we can live in prehistoric times
4. A time machine to enable us to go back and correct the problems of the past
5. A device that automatically saves and backs up so we won't worry about losing work
6. An automatic robot to clean our rooms
7. An invisible device to bring to school so no one knows we have it
8. Online textbooks so we won't have to carry books.

DISCUSSION

The discussion that follows is organized around the first five domains of the study (students' innovations are not included in this discussion as they are self-explanatory).

1) Students' ICT Use in School

Students reported few teachers using ICT for classroom instruction. This data supports results from our web survey that revealed the majority of students (67.1% of MS and 67.6% of HS) reported that technology was used only in "A few of my classes." This finding is also consistent with research demonstrating that teachers are cautious in integrating ICT in traditional classroom instruction (Pascarella 2008) with effective integration of ICT remaining tenuous in many educational contexts (Brogden and Couros 2007).

HS and MS students voiced frustration with restricted Internet access and the district's ban on personal ICT devices. Although valid reasons exist to restrict young students' Internet access, a unilateral digital lock-down across all grades prevents older students from learning "to negotiate and evaluate information online, to recognize manipulation and propaganda and to assimilate ethical values" (Jenkins 2007). These are critical skills that are widely accepted as being essential to 21st century education (American Association of School Librarians 2007; Brogden and Couros 2007; Burkhardt et al. 2003; Callison and Preddy 2006).

2) Students' ICT Use out of School

Students use more ICT for academic work out of school than in school. Responses similar to findings in the 2002 Pew Internet & American Life Study that reported students' educational use of the Internet "occurs mostly outside of the school day, outside of the school building, outside of the direction of their teachers" (Levin and Arafeh 2002). Many educators ignore the digital cultures that encompass students' out of school lives, where most students "treat their multi-

tasking hand-held gadgets almost like a body part" (Pew Research Center 2010). An ever-widening cultural gap exists between a twentieth-century philosophy of education and the twenty-first century digitized lifestyles of students (Levin and Arafeh 2002; Williams 2008). When this environment is compared to the locked down and locked out environment of school it is understandable why students feel "disconnected" in school. If school reform is ever to impact student learning, it is critical to invite, welcome, and respond to the issues students depict as "influencing their constructive and unconstructive effort" (Iceman Sands et al. 2007).

3) Students' Perceptions of Teachers' ICT Use

Students perceived few teachers as competent users of technology and those who are were described as "connecting to students". Students recognized teachers often substituted PowerPoint for chalkboard notes and MS students were tired of PowerPoint, illustrating resistance to what Tufte refers to as the disturbing "PowerPoint cognitive style in our schools" (2003).

Students offered practical suggestions to help teachers learn to use ICT, ideas similar to students in the Pew Study who asked that teachers receive training to become more creative in designing Internet-based assignments (Levin and Arafeh 2002). Teacher expertise can be enhanced through being informed by student perspectives, if teachers are open to listening (Cook-Sather 2006a). "Openness is the condition for the possibility of real communication and mutual learning" between teachers and students (Bergmark 2008).

4) Learning Environments Students' Want

Students want personalized and customized learning and are willing to do extra assignments to improve their grades. Similar to the HS students Easton (2002) interviewed, the students in this study want to take more responsibility and ownership for their learning.

Just as students actively participate and create in and through their media, students want to be actively engaged by educational content that is relevant (Burkhardt et al. 2003). They want teachers to talk less and stay on task—an interesting finding given that teachers often make this comment about students (Twenge 2009). Shor (1992) explains that students are being inundated with "teacher talk," which is used to control the classroom and guide or suppress students' thoughts. Teacher talk needs to be minimized to enable students to become empowered "owners of the classroom and the conversations" (Alford 2002).

This does not suggest unreflective acceptance of student perspectives, nor does it propose that teachers, pedagogical practices, and schools should change based solely on what students say (Cook-Sather 2006a). However, a shared commitment to foster "major shifts on the part of teachers, students, and researchers in relationships and in ways of thinking and feeling about the issues of knowledge, language, power and self" (Oldfather 1995) would allow teachers and students to be learners and teachers.

Students want in school the same accessibility to ICT they have out of school. This is not surprising as students spend more time with digital devices (e.g., computers, laptops, smart phones, netbooks, iPods) than attending school (Flynt and Brozo 2009). While students' suggestion to use instant messaging (IM) in class may appear spurious, IM is one of the fastest growing Internet applications with an estimated 510 million users worldwide (Quan-Haase 2008). Currently students' primary use of IM is for social purposes, however IM has proved to be helpful in supporting and coordinating students' schoolwork including homework support or companionship while students complete school assignments (Quan-Haase 2008).

5) Students' Perceived Disconnect from Educators

Students described school as a "prison" and perceived adults as not interested in listening to them. School can be a hostile environment for many students, especially when students' "lives, experiences, cultures, and aspirations are ignored, trivialized, or denigrated by the school and the curriculum…" (Smyth 2006a). This disconnect may provide insight into why 30-40% of students in most western countries do not complete high school (Smyth 2006b), and needs further study.

Research suggests that providing students opportunities to express their opinions allows students to see that others care (Certo et al. 2008) and students' perceptions of teachers as promoting interaction and mutual respect is related to positive changes in student motivation and engagement (Ryan and Patrick 2001; Smyth 2006a, b). The students we interviewed appear to be what Yonezawa & Jones (2009) describe as underutilized key partners in educational improvement.

LIMITATIONS

This exploratory study is based on focus group data from a small, non-representative sample of students that prevents us from making concrete recommendations to other districts, particularly districts with populations of students who are different from ours. Students do not make up a massive homogenous group and "have very different identities and respond and are responded to differently based on those" (Cook-Sather 2007).

Although we have tried to be impartial and objective in presenting what we heard in the data, our choice of language itself contributes to, creates, and/or comprises reality (Clifford and Marcus 1986; Tashakkori and Teddlie 2003). However, "it is not a weakness of any qualitative study that nomothetic generalizations cannot be drawn or that samples are not statistically representative" for in qualitative research "the write up is conceived less as an end product of inquiry than as inquiry in the making" (Tashakkori and Teddlie 2003). This study is an inquiry in the making, for although student voice, particularly in relationship to ICT, teaching, and learning is rarely present in educational research, our experience, as well as others, suggests that more needs to be done to ensure student voice is at the forefront of any dialogue concerning school reform or curriculum design.

CONCLUSION

The results of this study support the findings of our initial student web survey and provide a much deeper understanding of student use of technology within this district. As educators continue to explore ICT to help students participate fully in the global community of the 21st century, the inclusion of student voice is critical. We need to reveal "what is happening and what could be happening within classrooms that the wider public can hear and take seriously" (Cook-Sather 2002). Young people are ubiquitous in their use of new media. An understanding of the participatory social practices of young media users may enable educators, together with students, to build upon traditional literacy taught in today's classrooms and expand those practices into new media environments to reposition teachers and students as learning and partners.

ENDNOTES

1   The research presented in this paper is based on a Conference Paper Seen and Still Not Heard: What Student Voices Reveal About Teachers & Technology presented at the American Educational Research Association (AERA), Conference, New York, NY, March,

2008.

2 GenYES began as a federal Technology Innovation Challenge Grant in the Olympia school district in Washington State in 1996. The vision was to include and empower students in the effort to infuse technology into curriculum in every K-12 classroom. The program is not only still going strong in Olympia, but has spread to hundreds of schools throughout the country and around the world Generation Yes: Youth and Educators Succeeding. 2010. "Generation Yes - Student powered technology integration.".

3 District administrators acknowledged that more males than females enroll in this class but despite efforts to increase female enrollment the disparity remains.

4 The results of this study were shared with the district technology coordinator who was unaware of the problem. Immediate trouble shooting efforts uncovered a technological glitch on the network for some computers, and the problem was quickly rectified.

5 The district used the Bess/N2H2 filtering system, as required under the Child Internet Protection Act of 2001. Bess is a service run by a Seattle based company called N2H2 (www.n2h2.com). Bess operates at the server, or network, level and provides filtering for every computer on the network.

6 ClassLink is a thin client software system for education. According to the ClassLink website: "With ClassLink, school districts can deliver 24/7 access to instructional software and files from any computer in the school, community or from home" ClassLink. 2009. "ClassLink Technologies." ed. Berj Akian. Hoboken, NJ: ClassLink Technologies.

7 Unless their parents set up parental controls on their child's web browser.

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