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A Social History of Media, Technology and Schooling

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Abstract

This article explores the literature in the intersecting fields of media, technology and schooling in the United States across the past two centuries. It organizes the research from a social-historical perspective through a fictionalized interview with an archetypal third-generation urban public school teacher. This topography illustrates the problems and possibilities that emerge from the chronic push for technology in schools. Of particular mention are the privileging of orality and literacy through the common school reader, the mechanization of schooling through teaching machines and television, and the transformative yet still untapped potential of computers and the internet.

Keywords: Media Education, Media History, Education History, Technology, Media Literacy

To more fully understand and appreciate the complexities and challenges of media literacy education in the digital age, this essay reflects on the historical intersection of media, technology, and schooling in the United States. Although its history is well established as rife with tensions and contradictions,¹ this essay follows the lead of other social histories of teaching by weaving together research that illustrates a complex history that is problematic yet also filled with possibility.² What follows is a fictionalized interview between myself and Grace Dubois, an archetypal seventh grade English teacher in the northeastern United States. Through our conversation, the essay paints with broad strokes a landscape of two hundred years of perspectives, policies and practices surrounding technology and its uses in education. Referencing family journals, artifacts, and oral histories, Grace explores her own identity as a veteran teacher and contemplates what it means to be a millennial teacher in a post-digital age.

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Interviewer: Let's start with your story. Why did you choose to become a teacher?

Grace: You could say that teaching chose me rather than the other way around. My great grandmother, Beulah Mae Greene, was a western crusader who taught in a one-room schoolhouse in Indiana dur-

ing the 1860s. Her daughter, Bessie Virginia Greene, taught in the New York City public schools in the late 1890s. Her daughter is my mother, Eloise Dubois, who taught third grade for 48 years. A year after my mother retired from teaching in 1992, I received my teaching license in English education. I currently teach within an urban district in New Jersey.

Interviewer: Why do you think there are so many teachers in your family?

Grace: Well, we are incredibly hard working and until the last several decades teaching was pretty much the only acceptable profession for an ambitious unmarried woman.³ My great grandma Beulah Mae was an educated woman and also a staunch Protestant. She attended the Rhode Island Normal School and then went out West in 1856 at the age of 19. Her first teaching job was in a one-room schoolhouse in rural Indiana. She wrote in her journal about her strong belief in Horace Mann's idea of a common school to serve all classes and religions.⁴ I think my great grandmother firmly believed her mission in life was school teaching.

Interviewer: What was it like for your great grandmother to teach in the United States during the 1850s?

Grace: Well, there was a huge influx of eastern European immigrants who were very poor and spoke many different languages.⁵ Beulah taught students of all ages together in a one-room schoolhouse. She wrote

in her journals about making sure each of her students learned “moral uprightness.” Her mission was to save “these poor immigrant children” by teaching them English and the Bible. I get the sense from her journals that her goal as a teacher was primarily a religious one. Everyday she would begin school by leading her students in prayer. Then she led them in a reading lesson. So, literacy was essentially the vehicle for religion.⁶ And being a good American citizen was a by-product of becoming literate.

Interviewer: Were there any technologies in school at the time?

Grace: I don’t know if you’d consider prayer a technology, but the spoken word certainly reigned supreme in education during the mid-nineteenth century. Children learned to read through phonics and phonetics—sounding out letters, blending them, and then repeating them. By reading the Bible aloud, they would come to an understanding of the words of God. The spoken word—and especially prayer—were, at least for Beulah Mae, sacred and powerful methods of teaching.⁷

Interviewer: So books were the primary instructional medium?

Grace: From what I can gather from Beulah Mae’s journals, the tools were pretty simple in 1857. She used ruled blank books, lead pencils, slates and sponges mainly for students to learn how to form letters and to imitate handwriting.⁸ I have an old daguerreotype photograph of her standing in front of a slate board. She wrote how excited she was to teach more students while standing at the head of the class instead of walking around to each pupil and instructing them individually on their own slates.⁹ Beulah Mae was so grateful for that giant slate board on the wall, even though she regularly choked on the dust while cleaning the erasers. It was one of her least favorite chores, and so she frequently asked her pupils to assist with what I imagine was quite a messy task.

Interviewer: What books did your great grandmother use in her teaching?

Grace: Beulah Mae kept three books on her desk at all times: the Bible, *McGuffey’s Fourth Eclectic Reader*, and *Webster’s Dictionary*.¹⁰ She writes in her journal how excited she was to purchase her first *Eclectic Reader*. It cost her 75 cents, which was about one and a half day’s wages. She wrote, “My pupils adore the Bible stories, literature and folk tales. They give the children a solid foundation of what to believe in and how to behave.” So basically the curriculum was loyalty to God, neighbor, and country—and in that

particular order.¹¹

Interviewer: Did Beulah Mae write in her journal about her teaching methods?

Grace: I think Beulah Mae wanted students to read aloud, instead of just mimicking the teacher through recitation, which was customary back then. By reading these stories together aloud, the students lived them. I was flipping through one of the *Eclectic Readers* and the illustrations were actually quite elaborate and innovative for the time period. In a journal entry from 1884, Great Grandma wrote: “I gain immense satisfaction that my pupils are exposed to this new art form even before the children in affluent New England schools.” She was also quite proud of her map collection that she carried around with her. I guess you could say her technologies were geared primarily towards the spoken word—with some visual aids thrown in.

Interviewer: You mentioned earlier that your grandmother was also a teacher?

Grace: Yes. My great grandmother Beulah Mae resigned from teaching in 1861 at the same time she married Clovis Dubois, who was a merchant banker. They had three children—one of whom is my grandmother, Bessie Virginia. When Bessie was 17 she moved to New York City. It was on the cusp of the Industrial Revolution, when a huge influx of eastern European immigrants nearly tripled the country’s population. Many families moved from rural to urban communities to work in factories and prospered economically. But Grandma Bessie wrote that the school system was “too rigid” and struggled with the idea that schooling was seen as a factory.¹² On March 10, 1904 she wrote in her journal:

Today the superintendent told me the primary school needs to display the “efficiency of an assembly line,” and that my job is “to produce hard workers for this nation.” Yet I refuse to treat my dear pupils in such a way. What am I supposed to do with pupils the superintendent considers “defective?” Do I just pull them off this “assembly line” and toss them aside like rubbish? While I dare not disobey the superintendent, I continue to ponder whether my job is to teach children or to manufacture light bulbs? The modern system of schooling is nothing short of blasphemous in its ignorance of human creativity.

I think she also feared the possibility of being inspected at any moment by her supervisor. Grandma Bessie wanted to appear the firm disciplinarian, but she said it was difficult in a third grade classroom where her pupils ranged in age from 5 to 18 years and for most of them English was not their native language. She wrote that a male pupil got “overly affectionate” with her one day and after she “gave him a harsh talking to,” he never returned to school.

Interviewer: Do you think Bessie’s teaching experiences were similar to those of her mother?

Grace: I think their experiences were quite different. Grandma Bessie’s journals and letters paint a very different picture of schooling than those of Great Grandma Beulah Mae. For one thing, Bessie was in urban New York City and not rural Indiana. The oral and the moral traditions that my great grandmother Beulah Mae enjoyed while using *McGuffey’s* during the common school era in the 1860s had faded by the time Bessie Virginia was at the height of her teaching career in New York City in the early 1900s.¹³ The textbooks were sanitized for religious content, which runs counter to her mother’s philosophy of education. Bessie was interested in the scientific theories and methods of teaching. I found her marked up 1924 copy of Franklin Bobbitt’s *How to Make a Curriculum*. What I think my great grandmother and grandmother shared in common was a belief in the pedagogical value of the spoken word. Bessie was disappointed to see the oral tradition fade in the 1930s when the *Dick and Jane* series of textbooks emerged and promoted silent reading rather than oral recitation. She was very upset that her principal eliminated the oral recitation method altogether in 1930. To her, reading aloud was an essential communal activity in the classroom.

Interviewer: You mentioned that your grandmother, Bessie, taught during the Industrial Revolution of the early twentieth century. This coincided with the advent of some major communications technologies, including the typewriter, telephone, ballpoint pen, phonograph, photography, motion pictures, and radio. Did she use any of these in her teaching?

Grace: In 1923 Bessie wrote that the school board had “strongly recommended” she use radio and film in her teaching. But from what I can tell from her journals and photographs, she primarily used books, maps and pictures. She tells of her principal buying a film projector and announcing to all the teachers that it would single-handedly combat the otherwise “boring and lifeless” instruction in the classroom by “revolu-

tionizing” their teaching. Grandma wrote that she was required to attend a training day where a technician showed all the teachers how to introduce the film to their pupils, conduct follow-up discussions, and insert class activities in between sections of the film.¹⁴ She wrote, “I am somewhat consoled by the fact that motion pictures are considered supplementary and not a replacement for the teacher, as of yet.”

Interviewer: Did she ever use film in her classroom?

Grace: In her district they showed field trips, demonstrations, dramatizations, and in the high school, they showed recorded lectures—which is interesting since, according to the principal, teachers’ live lectures were “boring and lifeless.” Grandma says that only a few teachers actually used the films, and even then just to appease the efficiency-hungry supervisors. I think the students were probably awed by the new technology, but watching films did not necessarily help them learn the subject matter better or faster than using traditional methods.¹⁵ I did find a letter that Bessie received from a colleague in Chicago who was worried about being replaced by a film projector, as if the projector and the teacher were interchangeable. The goal at the time was to boost productivity and efficiency through the use of film, but Grandma Bessie told me that when she retired from teaching in 1931 she had not yet seen any real innovation in teaching as a result of using film in the elementary school classroom.¹⁶ Instead, she found that the more her students liked a film, the less they actually learned from it. I think Bessie embraced film as an instructional medium; however, I get the sense she was frustrated with the bureaucratic, top-down approach to implementing film as an instructional technology in schools. Technicians and politicians—not teachers—were driving the use of film in schools. She was more interested in studying film and radio programs as texts to be critically analyzed rather than celebrating the machines themselves. I found an old tattered copy of Walter Lippman’s *Public Opinion* with her notations in the margins. With the emergence of readership surveys, audience surveys, public opinion polls, and propaganda studies during the 1920s and 1930s, I imagine a lot of educators realized the importance of teaching students to think critically about the messages being conveyed to different audiences through film, radio, and eventually television.¹⁷ But there were definitely superfluous uses of technologies during that time.

Interviewer: Can you provide an example of what you consider “superfluous?”

Grace: My favorite example is the story Bessie writes about the teaching machines. Following World War II, the U.S. military had a huge surplus of machines that were used to train Air Force specialists. They renamed the machines *subject matter trainers* and put them in school classrooms.¹⁸ The local school board announced they would put one of these teaching machines into my mother's third grade classroom. She was livid at first. Until she realized that it was easy enough just to ignore. The machine was more like a piece of furniture. It was basically a punchboard that contained multiple choice test items and the machine would evaluate the student's responses and repeat the answers until the student selected the correct one. It was kind of like the Scantron forms that we used for testing, only the machine provided immediate feedback so individual students could drill and practice. The machines freed the teacher to do other things while the student received individualized instruction from the machine. If a student needed remediation or practice for a test, then (s)he could use the machine at the back of the classroom. My mother did admit at one point that the machine was valuable when it came to reinforcing spelling or teaching foreign language skills. But she frequently joked that her classroom was a "dumping ground for disposing of government scrap metal."

Interviewer: Your great grandmother, Beulah, was passionate about the Bible and *McGuffey's Eclectic Readers*. Was there a particular technology that your mother, Eloise, was passionate about?

Grace: Definitely television. But more for its program content than the technology itself. When she was a teenager, her grandfather took her to the 1939 World's Fair in London where the television made its debut. She remembers how initially unimpressed she was with what she described as "just a big radio with a window on the front."¹⁹ But as a teenager in the 1940s, she was glued to the television watching *Ozzie and Harriet* and the *Ed Sullivan Show*. She told us about family dinners where they would eat from trays while watching TV in the living room. You can see in her old photographs how all the living room furniture is arranged around the TV set like a shrine. Now that I think about it, I bet most living rooms are configured that way even today.

Interviewer: Did Eloise use any television in her teaching?

Grace: Not as much as you'd think. In 1951, a local dealer donated TV sets to her school as part of

a research project. And my mother was one of the teachers later surveyed to find out how they were using TV in the classroom.²⁰ She admitted that at the time, she didn't really care about the research project or even using TV in any systematic way to teach. She just wanted to have a television set in her classroom because she considered it a "window to the outside world."²¹ However, the educational TV programming for the classroom was very limited during that time. They consisted of musical recitals, short talks, recitations, and skits. My mother wrote about two programs in particular from 1959. In one, an instructor demonstrated the correct method for brushing one's teeth. The other illustrated correct lip and tongue movement for pronouncing French words. I imagine it was a far cry from *Ozzie and Harriet* during supertime, but this is understandable, given that the educational programs during the 1950s and 1960s were created by technicians to further develop television technology rather than to serve education.²² Along a similar vein, my mother did notice an increased pressure to use TV after the Soviets launched Sputnik in 1957. With this increased emphasis on the technology itself, there was a lack of emphasis on how to teach with television. It was just assumed that all students watch and take notes and that's how learning occurred. Yet most of the elementary school teachers in her district not only enjoyed using television, but they also came to depend on it.²³ Strangely, my mother couldn't locate a single piece of research during the 1960s that showed any learning advantages in using televised rather than live instruction.²⁴ She did notice, however, that her students' overall interest in reading increased, but she couldn't attribute it to their TV viewing.²⁵ At one point, her superintendent argued that a televised lecture would give a more "personal touch." This infuriated my mother. She sent a memo to her principal dated October 1961 asking, "How can you compare something so spontaneous with something so scripted? How is a television going to stop and answer when a student has a question?" I think she felt her principal was trying to put a different spin on the same efficiency-oriented model that my grandmother rejected back in the 1920s. Beulah Mae and Bessie both rejected the simplistic notion that knowledge could be transmitted from radio, film or TV directly to the student's mind as a blank slate.²⁶

Interviewer: To be fair, hasn't TV programming evolved quite a bit since the 1950s?

Grace: Sure. And growing up on television, I myself am a product of that evolution. My family was the first on our block to subscribe to cable television and I can recall the exact summer day in 1981 when my brothers and sisters and I watched MTV debut its first music video, *Video Killed the Radio Star*, by The Buggles. I still remember the words and music to that song. When I wasn't playing on our Atari console, I loved to watch *You Can't Do That on Television*, on Nickelodeon. But it was a few years before that—when my father brought home our first VCR in 1979—when my mother started taping news broadcasts and movies to use in her classroom teaching. At that time she was teaching sixth grade and I recall her doing basic things like taping the first 15 minutes of a news broadcast and having students map out what was considered newsworthy for that day. She also required students to critically view and analyze McDonald's commercials for their persuasion techniques. My mother used to say that the remote control was the “best thing ever invented” because she could skip through the commercials or pause a clip for class discussion. I think my most powerful memory of her use of TV is from much later. In 1990, she had students watch an episode of PBS's documentary series *American Experience* about the Massachusetts 54th Colored Infantry. After this, she had the students watch the Hollywood film *Glory*, and then she had them analyze these different depictions of the Civil War. I was completing my student teaching at the time and I recall her asking students, “Whose stories are told? And whose stories are left untold?” It really drove home for me that TV and film—both as technologies and as media—are powerful agents of history, politics and society at large.²⁷ In fact, during the 1980s there was a lot of criticism of television being too powerful of a cultural agent.²⁸ So while my mother skillfully used TV in the classroom, she also rejected the assumption that TV was more pedagogically exciting or more effective than a live teacher. Similar to her mother, my mother believed the success or failure of a technology in the classroom depends entirely upon the teacher.²⁹ In that sense, my mother was a pioneer of media literacy even before it appeared in the English language arts textbooks.³⁰ Unfortunately, I know many teachers that use TV programs as a time-filler or show a movie as a reward for good behavior rather than use it as a text for critical analysis.³¹

Interviewer: Did your mother feel the push to use TV in her teaching like your grandmother felt with film and radio?

Grace: In the case of *Channel One* programming, she didn't have a choice. The program debuted in 1989 as a twelve-minute current events program broadcast to middle schools and high schools across the country. Two of those minutes were commercial advertisements for candy, soda, video games, and pretty much anything else marketable to teenagers. It was billed as a solution to high dropout rates, low-test scores, and lack of resources. The middle school in my district was one of the first schools to sign a contract with Whittle Communications in 1990. In exchange for a satellite dish, wiring and a TV and VCR in every classroom, our principal had to make sure that all students watched the program (including the commercials) at least 90 percent of the time. My mother sat on the school committee that eventually voted to sign a three-year contract with Whittle, but it was a highly controversial decision. The big issue was whether or not it violated students' civil rights by forcing them to watch commercials since school attendance is compulsory. Parents, teachers, administrators, and community members were both for and against it. It sure generated a lot of controversy.

Interviewer: Did *Channel One* help students learn?

Grace: That's an interesting question. The research that the principal circulated among the teachers reported an average of 7-percentage points difference in test scores of students who viewed *Channel One* and those who did not watch the program.³² So for a lot of teachers and parents, it didn't seem a significant enough difference in test scores, given the trade-off of having students view the commercials during the school day.

Interviewer: What did your mother think of *Channel One*?

Grace: At first she was impressed. She liked the fact that the news anchors were well-spoken teenagers. And it was glitzy, like MTV, with fast-paced music and colorful graphics. But beyond the aesthetic, she was skeptical. She retired the year they implemented it in the district. It was broadcasted from our school library through a closed circuit system. When I started teaching at the middle school, I was frustrated that the contract with Whittle wouldn't allow me to stop or rewind it to discuss some of the news or commercials with students. Essentially, we had no control over the programming and couldn't really use it as part of the

classroom curriculum. So, we just let it play. Being a new teacher, I didn't say anything. I just let students do their homework and I took attendance during the broadcast. I think the tenured teachers tolerated *Channel One* because they thought the students might be able to use the video equipment for other things like recording their own morning announcements and playing them in every classroom through the school system, but that never happened. The satellite feed and TV network in the school was so customized to the *Channel One* set up that teachers did not find it easy to adapt to other forms of teaching. And honestly, I just didn't have the time or energy to figure out how to do it. Anyway, the Board of Education did not renew the contract after the original three years anyway. The official response was that they were tired of the internal strife that it generated, but I think the superintendent realized that the contract didn't offer much for them, except the "free" equipment. By that time, TVs and VCRs were no longer considered innovative technologies. The official story in my district was that the superintendent wanted instead to invest in microcomputers.

Interviewer: Did your mother use computers in her teaching?

Grace: Yes, actually. But I need to preface this by saying that my family was outside the norm when it comes to computer technology. My father worked for IBM in the 1970s and early 1980s and so our household was exposed to computer technology much earlier than other families. I think our first personal computer in our household was in 1978. It was the TRS-80 and it ran off cassette tapes, if you can believe it. Then in 1981 we begged my father to buy us an Apple IIe and my mother used it to record her grades and create assignment sheets and quizzes for her students. She was way ahead of the learning curve when it came to personal and professional uses of the computer. In 1989 she even wrote a grant that awarded her five Apple computers for her classroom. This was huge deal in the district, since hardly anyone was using computers with students in the classroom. She had a couple of years before she retired to figure out how to use them as part of the curriculum. Although she was familiar with how to use the computer on a personal and professional level, she was stumped when it came to using it with a group of students. There was no money for professional development.³³ At the time, I was doing my student teaching in the same school, so she would occasionally ask me to help

her do something on the computer. I helped her organize groups of students around the computer cluster to word process essays. She thought that the cutting and pasting method was very powerful because it allowed students to think conceptually rather than be confined to the traditional linear format of storytelling like on a typewriter. Quite possibly word processing surpassed the remote control as my mother's most used technology in the classroom.

Interviewer: How have your own experiences with technology influenced your teaching?

Grace: I completed my student teaching the year before my mother retired from teaching in 1991. I taught third grade and basically used whatever my mentor teacher used: textbooks, pictures, manipulatives, and audio cassette players. I also had an old upright piano in my classroom, which I played frequently. The students loved that interaction. I think I was the only one in the school other than the music teacher who knew how to play. The library also had computers and TV/VCRs on carts that I could roll to my classroom when needed. I pretty much did what my mentor teacher did: you know, the standard reading and handout approach. I would assign some sort of reading—either in the book or show them a video or chalkboard presentation—and then they would answer questions on a worksheet. When it came time for them to finish their essays, I allowed students go to the library to type up and print out their papers.

Interviewer: Did your principal push the use of computers in the classroom?

Grace: Honestly, I don't think the principal cared that much if we used technology in our teaching. It wasn't really an issue then. It became more of an issue when I moved to the middle school to teach seventh grade in 1994. Like I said, we had *Channel One* during homeroom in the mornings, and in 1995 the district superintendent installed computer labs in all the schools and libraries. It was great because they were Apple computers with multimedia capabilities and our librarian—now referred to as a "library media specialist"—ordered a lot of CD-ROM software like *Encarta* and *Grolier's* encyclopedias. *Oregon Trail* was one of the most popular games among the students. There was also a *Human Body* virtual anatomy program that students liked. I remember the students tried to remove the digital fig leaves from the private parts of the bodies. I think Great Grandma Beulah would be amused at the biblical allusion of fig leaves in an otherwise clinical and scientific portrayal of the

human body. I thought the software programs were really innovative in terms of the integration of multimedia. The interactivity of text, images and audio were increasingly sophisticated at the time and appealed to different modalities of learning which really helped my struggling students. Overall, the software was little more than “edutainment.” I also felt we were unwisely spending money on computer equipment and software at the expense of some of our more basic needs. Our school didn’t have money for a bus contract to transport the student athletes to games, ceiling tiles were falling in some of the classrooms, and there was supposedly no money available for an after school program. I don’t think it is an appropriate message to send to our students—that if they complete the “boring” schoolwork then they can play “fun” video games. I think that is a false dichotomy. What I have learned is that media interactivity does not guarantee interactive learning or even innovative teaching. And ultimately, a lot of those software programs just sat on a hard drive somewhere. Like the use of TV, the software was used mainly for entertainment or reward. I don’t think software is a line item in the school budget this year, since many of the applications we now use are Web-based.

Interviewer: Speaking of the World Wide Web, what is your take on the impact of the internet on schooling?

Grace: When it comes to schooling, I think there are a lot of opportunities and challenges on two levels. First, on an information level, the internet affords us access to limitless amounts of information. I think as educators we need to determine the purpose of schooling and ask ourselves why we all convene in the same building on a daily basis if more information currently exists outside of schools than inside schools. I also think we’re kidding ourselves if we expect our students to automatically log onto discussion boards to interact with eminent scientists, business and academic leaders, and to access extensive databases of information without scaffolding their learning. I’m not so much concerned with students’ ability to access information as I am concerned about how much of it they actually understand, whether it is through a book, video, or web site. With all the hype surrounding the internet, we’ve placed too much emphasis on students reaching out to sources for information and expertise at the expense of looking inward to assess and evaluate that information. If we focus on how students learn, the internet provides a means that is more con-

ceptual, non-linear and authentic.³⁴ Last week I asked my seventh-graders to look up the ways in which Shakespeare uses the concept of sorrow throughout his sonnets. They easily searched through all of his works online.³⁵ And one day when the network was down, they used the *Complete Works of Shakespeare* CD-ROM.

Interviewer: You mentioned two levels of opportunity and challenge. What’s the second level?

Grace: As teachers, we are definitely falling behind because many of our students know more about and do more with these technologies than we do. My seventh graders literally live on the internet and their cell phones. Their lives outside school are highly mediated through cell phones, billboards, TV, music, the internet, the Web, just to name a few. They are on MySpace, meeting people listening to music, watching videos and uploading their own videos, and continually text-messaging one another.³⁶ Yet my district currently bans the use of cell phones in the middle and secondary classrooms and students are not allowed to access their MySpace or Facebook pages from school computers. After one teacher in my district was fired last year over a controversial photo and message on her MySpace page, our district prohibits teachers to maintain any social networking site. So there is this cloud of protectionism and censorship that continually hangs over our heads.

Interviewer: Isn’t the main concern that students will access “inappropriate content” if they are allowed to connect to the internet at school?

Grace: Yes. That was the impetus for creating the V-chip, CyberPatrol, and NetNanny a little over a decade ago. It is interesting how technology perpetuates itself. Now there are also pop-up blockers and other safety features on search engines but I’ve learned the hard way that these filters are inaccurate and we cannot rely solely on them. We need to move beyond the fear and uncertainty of accessing information in school because, to tell you the truth, many of my students are accessing “inappropriate content” outside and inside of school.³⁷ How will they learn to make good choices and be responsible citizens if that is not part of the school curriculum? Wasn’t that a fundamental purpose of public schooling a few centuries ago when my great grandmother was teaching piety, pluralism and patriotism using *McGuffey’s Readers*? It’s no longer enough just to teach critical viewing skills like my grandmother and mother did. Students also need to learn to be critical *users* of these technologies. If teachers and our

students can't use the media technologies in schools, then how can we accomplish that? There is a real disconnect between what my students are doing with technology on a daily basis and what they encounter in the classroom. To me it's quite paradoxical that the law currently allows the Bible to be taught in secondary grades as part of literature class and yet teachers in my district are not allowed to require students to read *A Girl's Life Online* because of the book's graphic language about internet safety.³⁸ We may just be missing the forest for the trees on that one.

Interviewer: What do you think is the biggest stumbling block to teaching students how to be critical consumers and users of information?

Grace: I think it's the chronic push of bureaucracy and capitalism. The technology industry has been and continues to be both a blessing and a curse in the capitalistic society of the United States. Historically speaking, educating the masses has been quite a bureaucratic challenge. Combine the two and you've got quite a stumbling block for teachers. I think for the most part the teachers in my family were able to successfully navigate what they perceived to be the democratic ideal of education along with the push of the technology industry and the bureaucratic management of schooling. It was and continues to be an uphill battle. Due to an increase in state funding to my particular district, we have had every technology imaginable thrown at us. I have witnessed a blind spending cycle repeated for the past fifteen years. My district is in an endless upgrade mode. I recently read that the U.S. government has spent more than 40 billion dollars over the past 10 years to place computers in schools and to connect classrooms to the internet. Yet they rarely consult teachers about equipping schools with technology or providing them with professional development.³⁹ It looks very similar to how film and TV were bureaucratically implemented in schools in the early twentieth century. So I don't see how anyone expects the use of technologies in the classroom in any other way than extra-curricular, since it rarely intersects the professional life of a teacher. My particular challenge in 2009 is the federal mandate of No Child Left Behind. NCLB is a confluence of previous federal education policies over the past fifty years, so it's nothing entirely new. We test students in language arts, math and science. Last year "technological literacy" was added as a subject area to be tested. The state decided that each school district would create and administer an exam.

I was on the committee within our school district and we looked at the national standards to see what we can realistically test in a standardized format, which was basically reduced to basic keyboarding and how to locate information on the internet—nothing too creative or critically-minded. It reminds me of the efficiency-oriented factory model of schooling that my grandmother complained about in the early twentieth century. Don't get me wrong—there are some great information literacy activities that our library media specialist assigns to students using the depths of the internet to determine the credibility and authenticity of information, but I'd like to see other teachers integrate this type of critical thinking and a variety of technologies across subject areas. Despite our students' high exposure to new technologies outside of school, they desperately need adults to help them make sense of information and to understand the political, economic and social influences of the technologies themselves. I think it is a disservice to our students if educational policymakers take the "block it or ban it" approach. I think there are pockets of innovation happening, but we need to ramp up our efforts at media literacy education—teaching students to access, analyze, evaluate, produce and communicate through a variety of media forms.⁴⁰ When I started teaching in 1991 media literacy was not a part of the formal curriculum, although it was just starting to take hold in pockets around the country. It was basically buried within the English language arts curriculum standards. It took a decade of investing in technology infrastructure with little return on investment for educational policymakers to realize that technological literacy is not enough and that media literacy is essential.⁴¹

Interviewer: But what about the liability and risk associated with exposing students to inappropriate content at school?

Grace: Undoubtedly it's a reality. It's been a reality since my great grandmother witnessed the battle over "inappropriate" religious content in *McGuffey's Eclectic Readers*. I think educators need to work through it. For example, this coming school year my principal has decided to explore a different route that is more socially responsible and integrates media and technology literacies. We now require at the beginning of every school year that every student sign a Responsible Computing Agreement that says they will neither download nor upload inappropriate content. Our media specialist talks about what it means to access information on the Web as well as put it up there for

the entire world to see. The computer teacher, technology coordinator and media specialist are currently meeting on a regular basis with the principal to work with our twelfth graders to create a MySpace page that is socially responsible, appropriate, and even attractive to college admissions officers. There are still a number of concerns about student safety that we need to work through that necessitate a communal dialogue with parents, community leaders, administrators, technology coordinators, and teachers. The fact that we are addressing these issues head on is promising.

Interviewer: What do you see currently as the most promising aspect of technology in schools?

Grace: Definitely Web 2.0, which refers to the second generation of the World Wide Web characterized by software and data residing on the web and on demand. This means all one really needs nowadays is a computer terminal and internet access. This is not only a boon for those on the lower end of the economic ladder, but also for all users to generate content and then circulate that content throughout the world. So my students post their English essays—and other multimedia content—on their blogs and get feedback and comments from all over the world. They also create and subscribe to podcasts, or web casts, of period-specific news from their History curriculum. They can also collaborate on a math problem at any time in real time through Google Docs. Web 2.0 can also support professional learning communities for teachers. Collaborating with other teachers on curriculum documents online through Google Docs, learning the basics of using a SmartBoard by watching a TeacherTube video clip, and defining district curriculum standards by contributing to a wiki are all examples of how Web 2.0 transforms and democratizes teacher development. Essentially, Web 2.0 provides the means to achieve the entire media literacy cycle—to access, analyze, evaluate, product and communicate using a variety of media forms. Since we can create online communities of learning, our students can explore through context and community.⁴² Interestingly, I don't think this is too far removed from my great grandmother's belief in school as a communal place to enact one's belief in God, neighbor, and country. As Neil Postman argues, our gods may have changed, but the basic need for schooling as a place for deliberation in an increasingly diverse society in the United States has remained constant. As a teacher within an urban school, nearly two-thirds of my students are non-native speakers of English. This creates an additional layer of chal-

lenges in addition to the socio-economic diversity of the student population. If many of my students only encounter diversity through media technologies then we know that such experiences are stereotypical, lack depth and present a biased truth that is more difficult to unpack without assistance. As educators, we need to cultivate more social awareness and civic-mindedness among our students.⁴³ I am also concerned that my students don't feel that their voices are important or significant within their school or community or even the world at-large.⁴⁴ I constantly hear from them how changing the world is not their responsibility, but rather the responsibility of adults. Here is where Web 2.0 technologies function to facilitate a shift from young people as consumers of information to young people as responsible and participatory citizens.

Interviewer: What, if anything, have you learned from researching the history of teaching in your family?

Grace: I have learned that despite the dramatic developments in media and technology, schooling has remained very much the same in terms of the bureaucratic drive for efficiency through curriculum standards, testing, and protectionist policies combined with the need to inculcate young people into a social and political democracy. I've also come to understand that access to high-speed computer networks is just the tip of the iceberg in this new millennial age. As a teacher, I realize my goal is to help build and maintain social networks of knowledge.⁴⁵ Achieving technological literacy is just one set of skills. Media literacy education affords a more critical and creative way to use technology to connect with information and each other in ways that are socially responsible. And in that sense, I think Great Grandma Beulah Mae would embrace the notion of her students podcasting their thoughts on *McGuffey's* across the western frontier.

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