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TWO BROTHERS ARE
DISCUSSING how they
have "hacked" the
school's computers in the
technology lab adjacent
to the school library.

Both boys say that the software firewall blocking access to the open Internet is easy to penetrate. They compare notes on their respective techniques for subverting the school's computer security software, and they discuss technical specifics such as command prompts, proxy servers, IP addresses, port forwarding, configuring client browsers, and a whole catalog of programs with names that mock Internet restrictions in schools, libraries, and workplaces.

The two brothers are particularly amused to find out that they have both used coconspirators successfully. Working in pairs, it is apparently relatively easy to have a friend distract the teacher in the computer lab while the other student finds the computer network's username and password, which is usually written on a sticky note at the teacher's workstation. The most common password and username turn out to be the name of the school itself.

The younger brother then praises a duo of female students who are particularly good at

getting the most sensitive password information and explains how these girls can spend an entire class hour supposedly devoted to computer literacy on surfing forbidden socialnetwork sites or playing online games instead. The older brother describes their figuring out that the assigned typing tutorial that they are supposed to be working on is incredibly easy to reprogram to automatically create personal high scores of typed words per minutescores that are high enough to please those grading the class work and yet low enough not to raise suspicion.

The brothers can't stop laughing about how gullible and unrealistic computer teachers are as the boys try to top each other's stories about exploits in the lab.

If you were to overhear this reallife conversation in your school, what would be the right way to react? Should the students be disciplined for their disrespect for authority and their flouting of school rules? Should the students be praised for their ingenuity and their ability to figure out how sophisticated security systems really work? What if both courses of action are both wrong and right?

Complexities of Participatory Culture

In this article, we suggest that this conversation between two students tells us a lot more about the complex

culture" in classrooms today than educators might want to hear. We argue that school librarians can help bridge the gap between the excitement of having students experiment with new forms of social learning and new digital-media practices, and meeting the obligations of institutions to promote responsible citizenship, respect for others, and a willingness to sometimes sacrifice immediate self-interest for the long-term common good.

If school libraries have long functioned as sites where students have less-structured and more unmediated interactions with large collections of information, these experiences with traditional media may present good models as educators consider how to approach digital literacy education in new ways. We also assert that laws and regulations mandating that schools be cut off from potentially subversive content on the Web based on "the predator panic," "the bullying panic," or "the distraction panic" should be challenged by anyone who cares about access to information and the learning that it promotes. Librarians have historically been champions of intellectual freedom and have often been the last line of defense when the community has sought to cut young people off from meaningful engagement with the online world.

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Over the past fifteen years, we first wired the classroom and then hobbled the computer, leaving teachers and students alike unable to meaningfully engage with the rich resources of the Web as a consistent element in the educational experience. The news media criticize countries like Iran for blocking the access of their citizens to resources on the Web, and yet those same media outlets tolerate much stricter forms of control very close to home.

Policies Hampering Instruction

Working with schools in Los Angeles, researchers from Project New Media Literacies (NML) discovered that teachers could use passwords to work around the restrictions on accessing core sites, but the passwords worked for only twenty to thirty minutes at a time. As a consequence, at the start of the period teachers were unable to set up the YouTube videos they needed, but rather had to stop the instruction to punch in codes. The result was a highly stilted set of exchanges that actively discouraged the instructional use of web-based materials.

NML staffers also found while working on a project concerning Herman Melville that district filtering software in Indiana blocked access to many key sites because the title of his best known novel includes the word "dick."

Beyond issues of basic access to resources, many schools and school systems block access to some of the key platforms, such as YouTube, Facebook, Twitter, or LiveJournal, where participatory culture takes place. Even materials created for social media platforms by the White House or other government entities can't be accessed from many school libraries and classrooms.

Ironically, we might overhear two teachers having a conversation very similar to the one described at the beginning of the article. To complete their pedagogical mission, these teachers also must hack the computer and route around certain constraints on their ability to access core sites. The key difference may be that the teachers are apt to be less well-informed about how digital media work and less accustomed to seeking the shared expertise of the participatory culture around them. Research suggests that teachers are less likely than many of their professional peers to have had formative experiences playing games or exploring the Web; they are often creatures of print culture, which is a good thing in many ways, but leaves them less than fully prepared to integrate digital media into their instruction or to be able to advise their students about safe and ethical engagement with the online world.

Challenges Facing Students-and Teachers

Outside of school, students and teachers confront the double challenges of the digital divide-relating to access to technology-and the participation gap-relating to access to core skills, competencies, and experiences needed to become a meaningful participant in the emerging culture. The digital divide and participation gap would be less significant if the online world was purely recreational-another way of young people getting into trouble or just killing time, as is often implied by advocates of anti-access policies. But a growing body of research, much of it coming from the MacArthur Foundation's Digital Media & Learning initiatives, is finding that online communities have become powerful sites of informal learning and operate according

to principles very different from those mandated by our current era of high-stakes testing.

"Affinity spaces," as James Paul Gee (2005) has labeled them, are critical sites of important kinds of exploration, experimentation, and play, where at least some young people are developing and deploying their own expertise in the service of their own passions and interests.

Researchers are telling us how some young people are developing programming abilities through engaging with game modding sites (Taylor and Witkowski 2010); research and writing skills through Wikipedia (Forte and Bruckman 2006); math skills through participation in fantasy baseball leagues (Halverson and Halverson 2008); global connections through engagement in fan communities around Japanese anime, manga, and cosplay (costume play) (Black 2008); historical research through discussions around games like Civilization III (Squire 2011); and writing skills by producing fan fiction and receiving feedback on their work (Jenkins 2006), just to cite a few of the examples that have been closely researched. Participatory culture has many mechanisms to support peer-to-peer learning as young people enter interest-driven and friendship-driven networks.

The benefits of these experiences, though, are unevenly distributed. Some youth have strong adult support as the young people identify and engage with activities that are meaningful for their personal growth and development, while others engage in practices without the kind of mentorship that might allow them to meaningfully link these activities to other kinds of educational opportunities. Many young people lack the background

to know how to find the space online that would be most rewarding for them. Even many who have access to digital technologies are not using them in ways that will be valuable for their futures.

Connecting Instead of Disconnecting

In each of the cases described above, schools have a central role to play in connecting what takes place outside the classroom with the kinds of assessments and certifications that will create future educational, economic, civic, and creative opportunities for students. These opportunities connecting what students are learning outside of school with what happens within formal education have been described by Mimi Ito and her colleagues as "connected learning." At their Connected Learning website, they explain how problems occur when there is a strong disconnect between formal education and learning outside school. Each time a teacher tells students that what they care about the most, what makes them curious and passionate outside of school, does not belong in the classroom, that teacher also delivers another message: What teachers care about and what is mandated by educational standards have little or nothing to do with learners' activities once the school bell rings.

What Can We Do-and Not Do?

So, let's be clear about several things: First, in suggesting educators need to find new ways of engaging with digital media in their instruction and of recognizing the value of participatory culture and connected learning, we are not suggesting that educators should ignore some very real risks and challenges concerning the ways that young people are using new media

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should be centrally concerned with helping young people acquire ethical standards and skills in critical judgment, helping them avoid some of the risks and achieve some of the opportunities associated with new media platforms and practices.

At Harvard, the GoodPlay Project <www.goodworkproject.org/research/</pre> goodplay>, run by Howard Gardner, has conducted extensive interviews with young people about their online lives and has consistently found that they lack the kind of formal mentorship that we might take for granted in school-based activities. Gardner's team (Davis et al. 2010), for example, describes the role of faculty advisors on student newspapers; these advisors help students think through ethical issues around how they are choosing to cover their communities as well as provide feedback to help students raise their writing to professional standards. By contrast, many more young people today reach far larger audiences via blogs and social media, yet lack mature and knowledgeable mentors who might be able to give them advice on how to navigate the largely uncharted waters of online social relationships.

So much of current educational policy relating to Web 2.0 tools is restrictive, seeking to limit learners' choices, rather than providing them

with the mentorship they need to make smart decisions now and into the future. Seeking to respond to this gap in mentorship, the GoodPlay project partnered with the New Media Literacies project to develop an ethics casebook Our Space, designed to give educators and students reflective tools for working through some of the challenges they confront as participants in online communities, and as creators and circulators of media content. The casebook is available at <www.goodworkproject.org/ practice/our-space>. (Be patient when downloading; it's a big file!)

Young people may not need adults snooping over their shoulders, but they certainly need adults helping to watch their backs. Existing policies often assume young people will act badly when using new media; instead these policies should encourage educators to model ways that students might act responsibly. For example, NML worked with a school in Indiana that had banned the use of Wikipedia, not because of the debates about its accuracy, but because many young people had been caught vandalizing sites. NML sought special permission to incorporate Wikipedia into instructional activities and worked with teachers to help students understand the core ethical pillars of the Wikipedia community, and

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learn how to make meaningful revisions in the context of what they were learning in their classes. The young people were able to make and defend contributions to the site's coverage of Herman Melville, in the process gaining a greater sense of the importance of taking ownership over the accuracy of the information they transmit to the world (Jenkins et al., In Press). This lesson was valuable not only in terms of what students learned about 19th-century American literature but also in terms of what they learned about cybercitizenship.

External Influences

The second reality we acknowledge is that schools are being pushed into blocking access to many sites and Web 2.0 tools because blocking is the simplest and surest way of avoiding potential litigation. School principals worry about costly lawsuits involving privacy or harassment, and school boards dread hearing from offended parents who object to sexually explicit or religiously divisive content. Meanwhile, headlines and sound bites call for concerned citizens to protect children from all harms, real and imagined, and local PTAs are often quick to react too proactively. Restrictive federal legislation such as the Communications Decency Act (CDA) or the Deleting Online Predators Act (DOPA) has faced challenges from courts and constituents, hindering full

implementation. However, the Children's Internet Protection Act (CIPA), which requires schools receiving federal funds to certify that filtering software is used on campus, was upheld by the U.S. Supreme Court. State and local laws often go even further, by mandating that violators be disciplined or by focusing on the standard of "appropriateness" rather than on content that can be proven to be directly harmful to the young.

Shifting Focus to Solutions that Support Learning

Of course, we know that anxieties about young people's access to new media and new technologies have a long history that goes back at least to the debates between Plato and Aristotle. Even in the time of the ancients, people worried about the influence on children of depictions of sex and violence in the Greek theater. Over time we have seen moral panics involving women's access to novels in the late eighteenth century or links between comic books and juvenile delinquency in the 1950s.

We don't mean to suggest that contemporary fears about dangers on the Web are completely irrelevant; we simply want to encourage educators to take steps to ensure that access to a diversity of viewpoints is preserved and that young people are able to achieve the diverse literacy skills that they will need in the future. At Project New Media Literacies, we also want to help school librarians make effective arguments for less Internet filtering on school campuses. We believe young people will be safer if schools provide them with access to knowledgeable adults who can provide them with informed and meaningful advice about their online activities. In

the current situation, that role is most apt to fall on school librarians whose roles in guiding learners through the research process may extend to coaching young people on the best use of new media resources.

Young people are not rendered safer when schools block access to these sites; instead, blocking ensures that many kids will be forced to confront online risks on their own. Many young people lack opportunities to learn how to use new media tools effectively and appropriately. Reliance on blocking sends the message that sites and tools important to students have little to nothing to contribute to intellectual pursuits.

Instead of focusing on gatekeeping with relatively "dumb" technologies that can't distinguish intelligently between harmful and meaningful Web content and tools, let's focus on ways young people can learn from "smart" librarians. Specifically, let's focus on how school librarians can help young people interact with human mentors and peers as students learn to observe norms and respect boundaries.

Importance of Infomediaries

Understanding the role of what have been called "infomediaries" in that process is also important. A global impact study team of researchers funded by the Gates Foundation in the Investigating the Social & Economic Impact of Public Access to Information & Communication Technologies project have examined public computing practices all around the world. Rather than assume that information literacy and fluency depends on access to a particular high-tech device, such as the XO computer or the iPad, members of this team have focused on how the dynamics of cultural groups and the social

roles of individual human actors shape public access. According to their research findings, people in many countries-from Bangladesh to Lithuania to Chile-often rely for advice on others who might be considered to be the local experts on how to use the Web. Whether responding to a question about crop rotation or explaining a symptom of a medical condition, an infomediary is trusted to help find the answer. School librarians are also infomediaries, but they need open Internet access to perform effectively this important service to younger members of society.

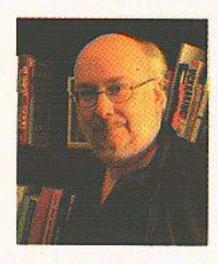
The Two Brothers

The two brothers at the opening of this story may have been antagonists of the computer teacher whom they saw as a blind and arbitrary gatekeeper, but they loved their school librarian. They felt quite differently about their school librarian, because she was an artist with a loft downtown and ran a popular "comics club" in the library. Under the librarian's supervision kids enjoyed drawing comics and developing their creative abilities while hanging out with a group of peers. This school librarian also was successful at reaching socalled "slow" or "late" readers, who were often boys, by offering them enticing summaries of both new and classic books. The brothers saw in their school librarian a warm and caring person who opened up a world of "content" to them by telling them-more quickly than any computer could—what was inside the books on the shelves, making recommendations that appealed to their personal interests much more efficiently than Google's customization algorithm, and truly encouraging meaningful activity in a vibrant participatory culture defined by a supportive and engaging affinity group.



Elizabeth Losh is the author of "Virtualpolitik: An Electronic History of Government Media-Making in a Time of

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