Chapter 20
Tackling Trouble in the Tablet Classroom

20.1 Introduction

This chapter examines how learning designers and teachers at all levels in tablet classrooms can approach some key Digital Age challenges that can spell trouble. The challenges are widely varied and not inconsiderable. But a few important ones are worth addressing in this final chapter. Overcoming these challenges will permit learning designers to create optimal conditions for teaching and learning.

The clearest path may be to consider these challenges from the systemic to the specific. Systemic challenges tend to involve school (usually district) infrastructure and are least amenable to direct solution by learning designers. However, those responsible for designing and delivering learning opportunities can articulate technology-related educational needs that must be addressed through policies and procedures at the system level and thereby influence policy outcomes.

More specific trouble spots can be parsed in general into devices and their use. Device challenges center on the tablet and its software—how they work (or don't work). In this arena, learning designers and other practitioners need to learn both how to prevent device issues from arising and how to address them when they occur. In earlier chapters, I suggested that a tablet computer is a toolbox. Sometimes the box (the tablet device) itself needs fixing, and sometimes problems surface that involve specific tools (software and apps).

Usage challenges offer a third arena that must concern learning designers. In any computer-mediated learning environment, whether the computers are desktops, laptops, or tablets, there is potential for abuse and misuse. Consequently, this portion of the discussion will focus on commonly troublesome use issues, such as plagiarism.

Knowing the types of trouble that might arise and having a proactive plan for addressing problems can help learning designers avoid or solve problems that get in the way of effective teaching and learning.

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20.2 Systemic Challenges

Issues that arise at the school or district level tend to involve either policy or capacity, sometimes both. Policy issues range broadly, but many touch on matters of security—security of devices, security of personal information, security of the network, and so forth. For example, as devices proliferate and include not only school-issued computers but also personal devices brought to school by educators and students alike, school district concerns often arise over network security. In a "flat" network, all users have the same level of access. This sounds equitable, but it can leave the network vulnerable to misuse. Consequently, many districts are moving to a "user-authentication" network, in which different types of users are granted differentiated levels of access. A log-in system also can be set to give users time limits for access. For example, a principal's log-in might last a week, a teacher's a day, and a student's a class period (Roscoria, 2011).

Access, or connectivity, issues also can surface when schools use filtering to block or attempt to block certain portions of the Internet, usually as a way to limit students' access to potentially dangerous or unsavory websites (see also Chap. 5). From a technological standpoint, such policies tend to be problematic. Students who are determined to find a way around such filters usually can. Recall the example in Chap. 2 about the MIT experiment in which a group of elementary-age Ethiopian students taught themselves using Motorola Xoom tablets, having never been exposed to computer technology beforehand. One of the children, an 8-year-old, went so far as to figure out how to turn on the device camera, which had been disabled to conserve memory space (Associated Press, 2013a). High school students in Los Angeles, with similar ingenuity, managed to find a way around their school district's iPad security less than a week after receiving their devices and were then able to surf the Internet freely (Bloom, 2013).

From a curricular standpoint, filtering often obstructs learning and is more likely to be an unnecessary nuisance than a useful approach to keeping students away from the seamy side of the Internet, which most students, frankly, are capable of finding on their own. For learning designers, implementing a policy of teaching students how to use online access productively and encouraging on-task behaviors are more likely to yield positive results. See Chap. 14 for another aspect of this topic and two more useful resources for learning designers and policy makers, namely, a study by Grunewald Associates (2013) and a report from the American Association of School Librarians (AASL, 2012).

Capacity is the second major systemic challenge. Does the school or district have sufficient broadband capability to support the simultaneous use of, in many cases, hundreds of Internet-connected devices? Other than using their bully pulpit to advocate for necessary upgrades, learning designers may have little direct influence on capacity issues. Two current movements, however, are helping districts meet the capacity challenge. One is the implementation of the Common Core State Standards (CCSS), which has a computer-delivered testing component. Tryouts in 2013 proved less than satisfactory in some areas because of technical glitches, at least some of

which were tied to capacity limitations (see Davis, 2013). While CCSS is problematic in some other ways, many school districts are actively engaged in upgrading their capacity to meet the demands of the testing component of CCSS. Such upgrades also bode well for increasing robust access to the Internet for teaching and learning.

Another positive movement is the proposed reform of E-Rate policies and procedures. The Federal Communications Commission (FCC) has engaged in discussions regarding modernization of the Schools and Libraries Program of the Universal Service Fund, known as the E-Rate, which is the subsidy program most responsible for helping schools and libraries affordably access high-capacity communication networks (see Waters, 2013). Updating and expanding the E-Rate would be a boon to districts struggling to increase their capacity to address both current and future learning needs.

Various entities have published thoughtful discussions of systemic issues, often with suggested guidelines that can be adapted for location-specific circumstances. For instance, readers may want to consult the Center for Digital Education issue brief, *Is Your K-12 Network Ready for Next-Generation Learning* (2013), or the organization's strategy paper, *Expanding Wireless in Education* (2012). The latter will be of particular interest to learning designers working in tablet classroom environments.

20.3 Device Challenges

A friend (who shall remain nameless) recently introduced me to a techie acronym: PICNIC. It stands for "problem in chair, not in computer." Most common device challenges stem from user errors: accidental touches, mistyped commands, simply trying to go faster than the device software will permit, and so forth. Tablets, given their small size and sensitive touchscreen, may be more prone to user errors than laptops or desktops, especially for less experienced users.

Simple knowledge often is the key to preventing problems. Tablet devices in particular seem to encourage unreasonable expectations of instantaneous responses across multiple, simultaneous applications. In short, expecting the tablet to do too much too fast can lead to problems, such as screen lockups and apps that suddenly close. When something doesn't work, the first response—easiest and most often effective—can be summed up in two words: try again. If an app closes unexpectedly, open it again. If the device locks up, turn it off and restart.

But what about device issues that can't be fixed so easily?

A first line of approach can be the online help site for the device in question. Every tablet manufacturer maintains a website with solutions to common problems with their devices. For example, users who experience problems with Apple's iPad can use a different computer and access the iPad Support website at http://www.apple.com/support/ipad/. There's also iPad Help at http://ipadhelp.com. And users can install an iPad Forums app (http://www.ipadforums.net) that is free from the App Store. Participants in the forums discuss problems and offer suggestions.

Google's Nexus 10 tablet users will find similar help with problems at Google's official Nexus 10 Help Center at https://support.google.com/nexus/10/?hl=en. For Android devices in general, a couple of forum sites include Android Tablets.net (http://www.androidtablets.net) and Android Central (http://www.androidcentral.com). All of these examples merely scratch the surface. An Internet search of the device name plus "help" or "support" will yield useful results.

In fact, sometimes results can be obtained simply by searching on a question. For instance, keying "Why won't my iPad turn on?" into a search engine will yield several pages of websites with possible answers to that question.

A similar approach can be used when a particular app does not work as expected. Check the app developer's website for support. If that doesn't yield results, do an Internet search on the app name plus "help" or "support," and more often than not there will be a wealth of helpful sites to consider.

These are strategies for tackling device challenges that learning designers need to know and, moreover, need to ensure that students know.

When all else fails, it's time to contact the school's instructional technology (IT) support person. If that individual cannot provide the necessary help, he or she likely can authorize contacting the manufacturer, make such contact directly, or swap the nonworking device for one that works. Virtually all school districts have an IT person, who may be a school district employee or someone from a contracted service provider.

As technology becomes integral to the total operation of schools, from boardroom to classroom, many districts are mirroring business and industry by employing a chief technology officer (CTO), who is charged with overseeing technology integration overall, including ensuring effective IT support when problems arise. National Center for Education Statistics data show that about 42 % of districts with fewer than 2,500 students employ full-time CTOs. About 70 % of midsize districts do so, and the figure rises to 83 % among districts with 10,000 or more students (Cavanagh, 2013)

20.4 Usage Challenges

Learning designers can anticipate some fairly common problems when it comes to students using tablet computers because in many ways the problems are Digital Age variants on timeworn themes. Playground bullying has moved online as cyberbullying, for example. A section on safety in Chap. 14 discusses cyberbullying and so it would be redundant to include it in this section, except incidentally. Following are two other common challenges: cheating and chatting.

Cheating. The Digital Age has made it easier for today's students to cheat on classroom tests than it was for their predecessors. It's surprisingly simple for students to snap a quick photo of a test and send it to their buddies or to text a few key answers. Most tablets do not readily support the latter (texting), though there are a few apps that could be adapted to that purpose; but the camera built into many brands of

tablets could facilitate the former. Learning designers might be best advised to look toward designs that encourage independent thinking and creative engagement, where there is less potential for cheating.

The idea of cheating extends to plagiarism. In the past, students copied passages for their reports verbatim from an encyclopedia; now they lift sections from Wikipedia and other websites. However, the Digital Age also has given teachers new tools for catching cheaters, such as Turnitin (http://turnitin.com), which analyzes text to identify unoriginal writing and provides teachers with an "originality report," among other services. Turnitin is available as a free iPad app.

Turnitin is one among many plagiarism checkers. Another example is Plagtracker (http://www.plagtracker.com), which is touted for students, teachers, publishers, and website owners. However, it is an online-only tool, which may make it cumbersome for tablet use except in some cases of fairly small amounts of text. It may be more useful as a teaching tool, as students can check their own writing, for example, to see whether a paraphrase is too close to the original wording of a reference passage of text.

Chatting. The teacher's lament, "I can't get the kids to stop talking so I can teach," has become "I can't get these kids to stop texting so I can teach." The ubiquity of cell phones has made texting a primary means of communication. Recall Fig. 1.1, which indicated that texting is preferred over e-mail by the under-25 age demographic. Tablets are not cell phones, of course, but they are extraordinarily like smartphones minus the phone. However, there are social networking apps that can make an actual phone function superfluous. For learning designers, the key is not to ban social networking but to turn it into an educational tool.

For example, the popularity of Facebook makes it an attractive tool for educational networking. Students can use it to share information and questions, post photos of projects, and so on. Mentoring relationships can be facilitated using the Facebook social networking platform. Researchers Pollara and Zhu (2011) found that a Facebook group that linked high school mentees and university mentors for a science project "was seen to positively affect their relationship both online and offline" (p. 3337).

A vast array of information about using Facebook in education can be found in the blogosphere, written mainly by practitioners for practitioners. A starting point for learning designers who want to incorporate social networking into teaching and learning situations is a 2009 post titled, "100 Ways You Should Be Using Facebook in Your Classroom," at http://www.onlinecollege.org/2009/10/20/100-ways-you-should-be-using-facebook-in-your-classroom/. An updated version was made 3 years later, in 2012, and can be found at http://www.onlinecollege.org/2012/05/21/100-ways-you-should-be-using-facebook-in-your-classroom-updated/. Probably needless to say, there is a Facebook page devoted to sharing information about using Facebook in education; it's at https://www.facebook.com/education.

Returning momentarily to concerns about social media and cyberbullying, Facebook took steps as of fall 2013 to provide users with a streamlined channel to report potential cyberbullying. The Facebook pilot project in Maryland was announced by that state's attorney general Doug Gansler (Associated Press, 2013b).

An alternative social networking vehicle, this one designed specifically for schools, is Edmodo (https://www.edmodo.com). This software works with a variety of computers, including iOS and Android tablets, and includes many useful, teacher-friendly features in addition to moderated social networking.

20.5 Summary

This is not a typical Q&A troubleshooting chapter because the number and variety of problems is too vast to take such an approach in any meaningful way. Rather, my hope is that learning designers understand that "trouble"—challenges and issues—are situated within the infrastructure or the device or merely in the way the device is used. The situation is key to finding appropriate solutions to the various problems.

Perhaps the best piece of advice anyone can give regarding potential challenges is to be proactive: to anticipate issues and work to avoid them. Learning designers can help schools craft sensible policies that support tablet-mediated learning and ensure that tablet classrooms are effective environments for teaching and learning. They can help schools think about capacity needs and plan accordingly.

Learning designs clearly need to incorporate time and attention to device features. In the past, effective teachers introduced their students to books: how to open them without cracking the binding, how to examine the table of contents, and how to use indexes and glossaries. Similar strategies apply to Digital Age tools, and such foreknowledge can prevent many typical device issues from arising.

Finally, the problems that arise in using tablets (or other computers) are often merely Digital Age versions of typical student management issues. It is a new age in schools, and educators are still learning—as are students—about the ins and outs of technology. Bullying, cheating, copying, and disruptive talking—all have counterparts in technology-mediated classrooms. These are not device-driven issues. They are the same old "discipline" problems schools always have faced; only the media have changed. That surreptitiously passed note is now a surreptitiously texted message.

References

AASL (American Association of School Librarians). (2012). *2012 School Libraries Count Supplemental Report on Filtering.* Chicago, IL: AASL. http://www.ala.org

Associated Press. (2013a, January 18). Ethiopian kids teach themselves with tablets. *Washington Post*. Retrieved November 13, 2013, from http://www.washingtonpost.com/lifestyle/kidspost/ethiopian-kids-teach-themselves-with-tablets/2013/01/18/7f343a3a-4a1d-11e2-b6f0-e851e741d196_story.html?tid=wp_ipad

Associated Press. (2013b, October 3). *Maryland attorney general launches pilot project with Facebook to address cyberbullying*. Washington Post. http://washingtonpost.com

Bloom, H. (2013, September 24). L.A. Students breach school iPad's security. *Los Angeles Times*. Retrieved November 13, 2013, from http://www.latimes.com/local/la-me-lausd-ipads-20130925,0,906924.story

Cavanagh, S. (2013, September 30). Many districts go without a chief tech officer. *Education Week*. Retrieved October 8, 2013, from http://www.edweek.org/ew/articles/2013/10/02/06el-cto.h33.html?tkn=VTCCBsCTQUvzbp18vh2voaZCOWRtdMguDe4D&cmp=clp-sb-ascd

Center for Digital Education. (2012). *Expanding wireless in education: Scalable network options address today's learning needs.* Folsom, CA: Author. http://www.centerdigitaled.com

Center for Digital Education. (2013). *Is your K-12 network ready for next generation learning?* Folsom, CA: Author. http://www.centerdigitaled.com

Davis, M. R. (2013, October 7). States' online testing problems raise common-core concerns. *Education Week*. Retrieved October 7, 2013, from http://www.edweek.org/ew/articles/2013/05/03/30testing.h32.html

Grunwald Associates. (2013). *Living and learning with mobile devices: What parents think about mobile devices for early childhood and K–12 learning*. San Francisco, CA: Author.

Pollara, P., & Zhu, J. (2011) Social networking and education: Using Facebook as an edusocial space. In *Proceedings of Society for Information Technology and Teacher Education International Conference 2011* (pp. 3330-3338). Chesapeake, VA: Association for the Advancement of Computing in Education. Retrieved October 9, 2011, from http://www.editlib.org/p/36833

Roscoria, T. (2011, December 19). Mobile devices prompt districts to consider security measures. Center for Digital Education. Retrieved October 7, 2013, from http://www.centerdigitaled.com/infrastructure/Mobile-Devices-Prompt-Districts-to-Consider-Security-Measures.html

Waters, J. K. (2013). The FCC must catch up with schools' needs for more and faster broadband. *THE Journal 40*, 14–19. http://thejournal.com