

iTeach and iLearn with iPads in Secondary English Language Arts

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### Abstract

Tablet computers like the iPad seem to be well-suited for educational purposes, but no empirical research yet exists that examines its potential. This chapter shares the stories of Brett and Julie, two veteran high school English teachers who are integrating iPads into their classrooms for the first time as a part of a 1:1 iPad initiative at Hilly High School. We share an analysis of their practices, developed over the past year via weekly classroom observations, formal interviews and numerous informal discussions. From these risk-taking practitioners, we identify and discuss issues related to pedagogy, assessment, new media literacies, efficiencies, student behavior, engagement, distractibility, and academic integrity. Results indicate that the iPad improves the efficiencies of learning activities but also introduces new classroom management issues. Many teaching and learning activities with the iPad can be both engaging or distracting. Our findings may prove useful to districts, schools, and practitioners who venture to establish similar ubiquitous tablet-supported educational innovations.

### Proposed Audience Value

#### **Designers**

- Educational app designers will learn how apps are used in high school classrooms for teaching and learning, and adopted and adapted by a variety of teachers. Designers can picture everyday school practices, user preferences, and teachers' concerns, all of which factor into how a particular app is or is not used within the classroom.

#### **Teachers**

- Teachers will meet Brett and Julie, two risk-taking teachers using iPads and apps in their classrooms for the first time. You may learn successful integration strategies, set expectations for change, and predict potential pitfalls when using iPads in your class. Finally, teachers will identify strategies to help prepare for future mobile initiatives.

#### **Researchers**

- Empirical research examining the educative potential of iPads for use in PK-12 educational contexts is nascent (Banister, 2010). This chapter provides an ethnographic view of the ways teachers and students use ubiquitous iPads to facilitate learning in high-school English Language Arts. We focus on content-specific learning and classroom practices. Researchers will identify the high need for more disciplined research set within PK-12 education and across content areas and may generate significant and complementary research topics to investigate in future research.

#### **Twitter pullout**

- In 5 years, #mobilelearning will = #learning. @mrgsrussell @joan\_e\_hughes

## iTeach and iLearn with iPads in Secondary English Language Arts

In 2011-2012, Hilly High School (HHS) distributed an iPad to all of their junior and senior students, their faculty, and some of their staff. This chapter shares the stories of Brett and Julie, two veteran English teachers engaged in the first year of this initiative. From their examples, we can better understand how iPads are integrated into classroom practices in year one.

### Context

HHS is located in an affluent suburban area of the United States and serves 2,500 students (74% White, 11% Hispanic, 10% Asian, 4% Multi-Race, 1% African-American; 3% economically disadvantaged; 2% limited English proficiency) in a small district of about 8,000 students total. Hilly High is considered high achieving, as 96% of their graduates attend college, and their 2011 federal Accountability Rating was *Exemplary*. HHS and its district have invested heavily in digital technologies over the past decade. Most HHS classrooms have teacher desktop computers, digital projectors, televisions, and often have interactive whiteboards. In addition, students are also allowed to use their personally-owned digital technologies, including mobile phones, if the child and his/her parent sign a BYOT<sup>1</sup> Acceptable Use Policy.

In fall 2010, the HHS librarian obtained six iPads and the special education department purchased 30 iPads to use with students. The following spring, an additional 20 iPads and a few training opportunities were shared with high school department heads and instructional leaders. In May 2011, a bond levy passed, and the School Board approved a plan, submitted by the district and high school, to purchase 1,500 iPads in lieu of desktop computer replacements. This

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<sup>1</sup> BYOT refers to “Bring Your Own Technology” movement within educational settings that allow students and teachers to use their own digital devices during school hours.

iPad project plan focused on “innovation,” placing “learning in students’ hands,” and “transforming teaching and learning.”

As university researchers, we collaborated with district superintendents, the HHS principal, and the lead librarian to develop a mutually beneficial research project: an ethnographic research study that began in fall 2011. While many PK-12 schools/districts are adopting iPad technologies (Associated Press, 2011), there is no disciplined research to date that examines iPad-based teaching and learning in these contexts (Banister, 2010). Research on laptop programs (Bielefeldt, 2006; Knezek & Christensen, 2009; Swan, Van’t Hooft, Kratcoski, & Unger, 2005; Zucker & McGhee, 2005) suggests that iPads might affect student engagement, but there is little evidence of how teachers and students use the iPad or its apps to innovate subject-specific instruction and learning experiences. Although the larger ethnography has broader goals, our intention for this chapter is to address the following research question:

- How do iPads affect content-specific teaching and learning?

The data guiding our analysis and the cases presented in this chapter includes weekly class observations, two formal interviews and numerous informal chats with Brett and Julie. It also includes interviews with the HHS principal, district superintendents, and both instructional and IT leaders. This data was collected between November 2011-August 2012.

### Brett

Brett is a 15-year veteran teacher at Hilly High School, beloved by his students, who often ask him to read their names at graduation. He is very personable and builds personal rapport with his students naturally, relying on this rapport heavily for classroom management purposes. For instance, he often is able to use humor with students while keeping the class focused on the learning task. Brett thoroughly enjoys his teaching position at this high-achieving

school, where he is one of the few non-AP-English 4<sup>2</sup> teachers. In addition to teaching English 4, Brett coaches for the football and baseball teams and is married and a father of two. Brett feels that he has been successful in the classroom, on the field, and at home by working hard and focusing on one thing at a time. For instance, he does not take work home from school to grade at night, preferring to complete these tasks before school or during his single preparatory period each day. However, by his own admission, Brett's busy schedule leaves him little opportunity to discover as many "cool" ways of using the iPad as he would like, especially since iPad-specific professional development opportunities provided by HHS conflict with both his lunch and his coaching after school, neither of which he is willing to sacrifice. As a teacher, Brett aims to be innovative and engaging, while providing his students learning experiences that will help them be successful in the future. All of these factors impact how he implements the iPad into his instruction, which tends to be teacher-centric.

### **iPad Practices in Teaching and Learning**

Over the course of the first year of iPad integration, Brett experimented with a variety of apps in his English 4 classes, some of which were integrated frequently, while others were used once and never again. In Brett's classroom, students usually chose which app to use for a given classroom activity, but at times Brett would promote the use of one app over another, such as when he required students to use *Celtx* for script writing. Brett often assumed that his students knew more about iPad apps than he did, and he learned more about apps from his students than from any other source. Brett rarely provided whole-class instruction on how to use any particular app, unless it was to specify formatting principles, like how to change the font size or style within an annotated text box. The most commonly used apps in Brett's classes were:

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<sup>2</sup> AP refers to Advanced Placement level course; English 4 refers to the senior-level English language arts class.

- Internet browsers (e.g. *Safari*);
- PDF<sup>3</sup> annotation tools (e.g. *NeuAnnotate*);
- *Dropbox* (a cloud-based shared storage service);
- word processing apps (e.g. *Pages*, *Notes*);
- subject-specific apps (e.g. *Aesop's Fables*, *Celtx*).

In Brett's classes, students used their iPads as e-readers on a daily basis. E-versions of required texts were read via *iBooks*, a PDF annotation tool, or HTML based version. Most of these texts are currently in the public domain, like *The Canterbury Tales*, and available for free from multiple sources. Students rarely consumed online materials *other* than e-texts in Brett's classes. On the other hand, a great deal of classroom materials, like teacher-created handouts and assignments, were distributed as PDF files online and accessed via *Dropbox* by students who could then annotate the documents using apps like *NeuAnnotate* or *iAnnotate*. Students were frequently asked by Brett to take notes or complete writing tasks with their iPad during class time, for which they used a variety of apps, including native apps (e.g. *Notes*), handwriting apps (e.g. *Penultimate*), note-taking apps (e.g. *Notability*), and common productivity apps (e.g. *Pages*). A few students used styluses to interact with the iPad's touchscreen, but most used their fingers to click, drag, and use other touch-gestures to control the device.

Besides reading and writing, students in Brett's class used their iPads to produce multimedia projects that were easily shared. In these multimedia projects, students used the iPad to produce, edit, and publish multimedia artifacts in order to demonstrate their learning. For instance, after reading *Beowulf*, students worked in groups to:

- develop a script for a unique, short film that embodied one of the text's multiple themes;

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<sup>3</sup> PDF is Portable Document Format, a product of Adobe.

- create a professional quality movie poster for their film;
- film, edit, and publish movie trailers for their film.

To complete these projects: students used the iPad's camera to film video and capture photographs; they edited the video, audio, and pictures using apps like *iMovie*; and they shared their final products with their peers inside and outside of the classroom and sometimes publicly online via *YouTube*. Additionally, one student from each group wrote the final draft of their script using *Celtx*, an app that scaffolds the proper formatting of scripts, which was purchased using discretionary funds from the English department. Brett also supported these group projects with explicit instruction on design principles and formatting standards and used a rubric for assessment.

During the more common instances of whole-class instruction, Brett encountered more difficulties managing students than during other small-group or individual activities. Although Brett believed that off-task behavior had not increased since the introduction of the iPads into class, he was very aware that it occurred, and sometimes frequently. At times, he called upon students who were obviously (because of their physical movement) playing video games, to re-engage them with the lesson, but he was unable to eliminate off-task behaviors entirely. He spoke of, but had not yet tried, positioning himself at the back of class, which might enable him to better view the students' iPad screens and thereby spot less noticeable off-task iPad behaviors such as movie-watching, Internet browsing, online shopping, and social networking. But Brett was not discouraged by these off-task instances, and he continued to incorporate the iPad into his instruction on a daily basis.

## Pedagogy

Whole-class, direct instruction was the most common teaching strategy enacted in Brett's classroom. On a regular basis, Brett began a whole-class reading session by introducing and lecturing about an English concept with support from a *Powerpoint* or *Prezi* lecture. The students then listened to Brett lead directed reading, in which he read and analyzed the text aloud in front of the entire class. Students were asked to follow along and annotate their e-text on their iPad; however, students were only infrequently observed annotating texts at these times. Throughout these activities, Brett constantly reminded students what material would be covered on their upcoming quiz or test.

### **Assessment**

The phrase, "This will be on your quiz," was omnipresent in Brett's daily classroom. Brett's approach to assessment involved the use of weekly reading quizzes with multiple choice, fill-in-the-blank, and short answer questions, and summative tests, both of which were completed by students on paper. Brett felt students needed to perform well on these types of assessments in college, and therefore they were important to his instruction in high school. Like other teachers at HHS, Brett initially attempted to administer quizzes and tests via the iPad, but a "culture of cheating" developed at Hilly High with these types of electronic assessments via the iPad. Although Brett (and other teachers) attempted to work around these cheating issues via various web-based strategies and apps, Brett ultimately returned to paper quizzes and tests to ensure student fidelity. Although the aforementioned multimedia projects were graded with descriptive rubrics, the same learning and content assessed by these projects were *also* assessed via the aforementioned quizzes and tests.

**Julie**

Julie is a 17-year veteran teacher at Hilly High School, where she is respected by her peers for both the quality of her instruction and for her innovative integration of the iPad into her teaching. Julie teaches AP English 4, leads the student council after-school, and is married and a mother of one. In four of her AP English classes and in response to student and parent preferences, Julie utilizes direct-instruction pedagogies, such as lectures independent practices, quizzes, and tests. In her two other AP English classes, Julie utilizes more student-centric learning approaches, which she prefers, to engage students with the course's content. Students in both sections maintained a positive working relationship with Julie, constantly engaging with her in witty conversations that employed humor, insight, and wordplay. Julie is an avid supporter of the iPad initiative. Although she felt that the iPad should not be the focus of any given lesson, she tried to incorporate the technology into all of her classes in order to facilitate learning opportunities that were previously less feasible, such as the annotation of images as artifacts of learning. Throughout our observations and interviews, she consistently reflected upon her practices and sought out iPad assistance with iPad integration into her teaching practices.

### **iPad Practices in Teaching and Learning**

Students in Julie's classes used their iPads as e-readers on a daily basis, accessing texts, like *Hamlet*, via apps like *iBooks* or from free online resources. Besides using Internet browsers to access free e-texts and the World Wide Web, students accessed the class's online shared folder via the school website, where they downloaded classroom documents posted by Julie. Most often, these classroom documents were PDFs, which they annotated using apps like *NeuAnnotate*. A common assignment involved students downloading a worksheet document from the class shared folder, annotating it as instructed, and emailing the completed document to the teacher. The native email app, *Mail*, was used daily by both students and Julie as a simple

means to submit short writing assignments, like poetry reflections, and for Julie to constantly assess student learning. However, these emails also posed organizational challenges for Julie, who tried, unsuccessfully in her opinion, to use email filters and folders to manage the onslaught of student materials. Julie allowed students to choose their preferred apps, but she considered requiring students to sometimes use more powerful and reliable apps (e.g. *iAnnotate*) to alleviate technical problems that occur with free alternatives (e.g. *NeuAnnotate*). Content-specific apps were occasionally used to provide opportunities for assessment via multimedia (e.g. *Fotolr PS HD*) or to discover materials of personal interest (e.g. *Poetry*).

### **Pedagogy**

In Julie's classes, students were consistently engaged in discussions about the text they were reading. In the student-centered classes, these discussions were entirely student-led. For example, during one unit, students chose from a collection of books and organized literature circles for each individual book. These groups would most often read independently at home and then discuss their thoughts and reactions to the text with each other during class time. In addition, some groups included students from other class periods in their literature circles and would hold part of their discussions asynchronously in the class's online forum. Julie monitored both the in-class and online discussions carefully, ensuring that groups were on-task, and helping them address the critical themes and content of each text. Students rarely used their iPads during literature circle time, but when they did, they consulted the e-text, completed an Internet search on a related topic, or went off-task (e.g., playing a video game app like *Jetpack Joyride*). As the facilitator, Julie listened more than she spoke, but she held students accountable for their discussions by requiring students to email her a discussion summary and a personal reflection.

In the direct-instruction classes of Julie's AP English 4 course, teacher-directed guided reading sessions and discussions were prominent, while student-led discussions were rare. During guided reading, students most often listened to audio versions of the text via a speaker system or to other students reading the text aloud, and intermittently Julie would pose comprehension or analysis questions. Although a few students were regularly observed annotating their texts and posing questions to Julie and each other, most did not. Julie felt compelled to utilize direct-instruction strategies in these classes even after the iPad initiative due to pressure from certain parents and students. She spontaneously and frequently apologized to researchers for these instructional practices, which connotes some level of discomfort with direct instruction.

### **Assessment**

Students' emails, discussion summaries, and in-class and online discussions served as evidence of student learning, but Julie's main formal assessment strategy for both types of classes relied on quizzes and tests. Initially, Julie encountered cheating and plagiarism when administering quizzes and tests via the iPad, just like Brett and the rest of the school. However, most of Julie's quizzes and tests used open-ended questions, which tend to make cheating more difficult than for closed questions. Toward the end of the year, Julie began experimenting with Google Apps to create alternative digital versions of quizzes and tests. With the use of Google Forms, she was able to produce multiple forms of each test or quiz, which were easily distributed to different class periods and to absent students. Julie felt confident the open-endedness of the questions and the multiple versions of each assessment reduced the amount cheating from earlier in the year, though she continues to hope for better solutions.



Figure 1. Some of the most commonly used apps by students in high school English Language

Arts courses at Hilly High.

### Discussion

In this section, we discuss several insights that arose from Brett's and Julie's experiences, which may prove useful to districts, schools, and practitioners who venture to establish future ubiquitous tablet-supported educational innovations.

### Efficiencies

The iPad afforded vast efficiencies in Brett and Julie's classrooms, especially by expediting classroom activities and electronic communications. Email facilitated timely feedback between peers and with the teacher. The organization and distribution of learning materials via

cloud-based storage spaces (e.g. *Dropbox*) and QR codes<sup>4</sup> minimized the need for teachers to print resources or make photocopies and made documents accessible to students anywhere at any time (albeit with Internet access). Students spent minimal time in class searching for learning materials like pens, pencils, paper, or past assignments. The paperless nature of these classrooms meant that absent or forgetful students could easily access important documents again via their iPads, which tended to help students organize digital materials. In addition, students were able to quickly access just-in-time information from the Internet via a variety of apps (e.g. *Safari* or *Dictionary*). All of the time gained via these efficiencies may have led to increases in learning time. However, it is unclear if any of these efficiencies were more efficient than if students were using other computing devices.

App-specific activities also facilitated new, efficient classrooms. Annotation apps like *NeuAnnotate* allowed students to quickly annotate e-texts, whereas annotating similar school-owned texts or textbooks would be cumbersome or prohibited. Content-specific apps also helped students focus their learning, such as how the *Poetry* app organizes poems by keywords and styles thereby enabling students to quickly find poetry of interest to them. Still other apps scaffolded student's task completion, such as the *Celtx* app that provided an organized structure for students to learn how to format and write effective screenplays.

Observation data indicated teachers and students were able to use their iPad and its apps instantly and as desired, because of the iPads 'instant on' feature and quick processing speeds. There were no observed instances of IT support or technical issues arising with the iPads. Any concerns about viruses or malware were also not observed. Furthermore, the iPad's touchscreen interface allowed students and teachers to use the device anywhere, not just on a desk. All in all,

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<sup>4</sup>Quick response (QR) codes are two dimensional matrix barcodes that allow smart devices to scan them in order to access various types of encoded information.

the daily, instantaneous use of numerous apps with the iPads seemed to greatly increase, and at times transform, the efficiencies of certain classroom activities.

Many of these efficiencies were developed over time. Due to time constraints and budget cuts (that eliminated most of the district's technology integrationist positions), there were limited professional development opportunities for teachers prior to and throughout the school year. Teachers and district IT staff were often forced to discover solutions on the fly. For example, without a content management system, teachers decided to use email to communicate with students. However, teachers quickly learned that they needed to organize the mass influx of incoming messages so as not to become overwhelmed. File storage and sharing was also a challenge at the beginning of the year, until students and teachers became comfortable using either *Dropbox* or their school's shared folder system as a solution.

In response to these challenges, the district researched content management systems that the iPad could support seamlessly, and are planning to implement the use of one in 2012-2013. They also purchased unlimited access to *Wikispaces* for classroom use. Districts must consider their available digital infrastructure and resources when deciding how to support and lead teachers and students toward iPad-friendly communication, file sharing, and collaborations that have adequate and flexible privacy controls. To make full use of these capabilities, a *robust* wireless Internet infrastructure is required.

### New media literacies and the 4Cs

Our data reveals that iPad activities seem to engage students in becoming new media literate. For example, the iPad's hardware and apps facilitate students' creation of individual and collaborative multimedia expressions of learning, like when students used photographs to support their writing or filmed video responses to discussion questions. Students were constantly

asked to apply their information literacy skills in a variety of ways. For instance, in Julie's class students were asked to find an image from the Internet that represented a theme from a particular poem. Then, students used critical thinking and creativity to alter and annotate the image, with an app of their choice, so as to make connections between the image and the poem explicit and to provide analysis on multiple levels.

Additionally, the sharing and publishing process was authentic because students easily shared their expressions with their peers, a meaningful audience. Students in Brett's class often shared their multimedia projects with each other before and after each class period, facilitated by the iPad's mobility and screen size. Other students published their work to appropriate online spaces, which expanded the audience beyond the school community, but also introduced issues of privacy, safety, and control. Nevertheless, activities that employ new media literacies are critical for young learners (Jenkins, 2006), because these opportunities provide forums for students to discuss issues related to social media, information literacy, authenticity of online materials, plagiarism and copyright, and appropriate online behavior or digital citizenship. Students would benefit classroom practices and apps that utilize both new media literacies and digital citizenship skills.

### **Student Engagement**

The iPad is a highly capable computing device that can facilitate numerous learning activities that may increase student engagement. Today's high school age students expect the use of digital technologies for learning (Berryhill & Durrington, 2009), and its usage can make learning be more authentic. Even the mere replication of 'off-line' assignments with the iPad can result in increases to both the quantity and quality of students' work, such as when Julie's students began to submit their responses to literature via email instead of paper. Furthermore,

with over 200,000 apps available, in addition to vast Internet-based resources, the iPad can provide students with access to contemporary, global, media-rich, and interactive content that is highly engaging. With the iPad, students may both consume and create content by listening to, writing, or recording songs; photographing, drawing, or manipulating digital images; and filming, editing, re-mashing, and publishing videos. iPad apps like *iMovie*, *Fotolr PS HD*, *Snapseed*, and *Comic Life* allow students to complete these types of engaging, multimedia projects with only one computing device, the iPad.

Many of these engaging activities would not have been possible without the freedom provided by the HHS and district administration for teachers and students to individualize their iPads. By allowing individuals to control and personalize the apps and information on their iPad, administrators increased students' control of and engagement with their learning device and, in turn control and engagement with their learning. For instance, during a regular classroom activity such as note-taking, students were observed to use a wide variety of apps, including: *Camera*, *Notes*, *Notability*, *NeuAnnotate*, *Pages*, and *Penultimate*. Some students used styluses as input devices, and others used stands to change the iPad's viewing angle. They directed their own Internet searches, shared files with their teacher, communicated using their own online accounts, and were self-reliant learners (at times) with their iPads. These activities would not have been as effectively integrated without control over the iPad and its apps (the relatively low cost of iPad apps was also importnat). On the other hand, while the rich content, the variety of apps, and the iPad's unique features might engage students with learning, these same factors may also draw students toward distraction.

### **Student Distraction and Academic Integrity**

From cheating to video-games, managing students' iPad use is challenging because the iPad provides multiple opportunities for off-task behaviors. Concerned stakeholders, like parents, teachers, principals, and politicians worry that students may only partially attend to learning tasks because iPad apps are quick to load and close, making it easy for students to access apps that can distract from the academic task-at-hand.

Our data suggests that iPads do not increase the overall quantity of off-task behavior, though iPads may make these behaviors more *visible*. Non-digital off-task behaviors like dawdling, drawing, note-passing, or daydreaming are simply harder to observe than some off-task behaviors with the iPad. For instance, fast-twitch hand gestures and the use of the iPad's gyroscope during video game play are easily observable. Like many schools, Hilly High School utilizes an Internet firewall to limit student access to pre-determined 'distracting' sites like YouTube and Twitter, but students were (on rare occasion) observed accessing these sites or apps, most likely via proxy servers. On the other hand, according to Brett and Julie, students who were consistently off-task on their iPads were the same students who were likely off-task before iPads. Brett and Julie were more concerned about their students' academic integrity than about any occasional off-task behavior.

Issues of academic dishonesty became prevalent at Hilly High with the iPad initiative. Teachers and the administration discovered students were accessing the Internet, snapping photographs and screenshots of exam materials, and communicating electronically with each other during formal assessments. Teachers experimented with multiple solutions to these problems, such as using alternative assessment strategies and a variety of different apps, but they were unable to find complete solutions. Alternative or open-ended assessments were time-consuming; Brett referred to one multimedia project as a "black hole" that consumed much more

time than he anticipated. Eventually, both Julie and Brett came to rely mostly on pen-and-paper for formal assessments, whereas the majority of the rest of their assignments were digital. Still, they continued to experiment with different solutions, and they hoped to overcome these challenges in the future as solutions to these problems are developed by peer practitioners, app designers, and researchers.

### **Conclusion**

We suggest that districts anticipate the challenges of technology integration and proactively build a knowledge base, develop personnel, and provide resources that address these challenges, including: instructional technology leadership, file management systems, acceptable-use policies, tools for digital assessments, and content-specific professional development with the technology itself. Teachers will also require new media skills and have access to rich curricular knowledge and resources that they can utilize within their subject-specific activities. There is a great need for the effective design of apps to support iPad implementation and multiple approaches to pedagogy and assessment.

This chapter describes the practices of two teachers, but it also illustrates the potential impact of iPad interventions on teaching and learning within formal learning environments. As similar initiatives emerge across school districts, it is critical that we learn more about the unique affordances and challenges presented by using iPads and apps for learning in schools. For that reason, we continue our ethnographic research study at Hilly High School, and we encourage other risk-taking practitioners, designers, and researchers to address related gaps.

We urge great professional care in the reading and any formation of practical or research-based implications from these two teachers' stories. This district and its high school staff are risk-takers who aim to innovate and change teaching and learning, yet we know that true

educational change requires shifts in practices, beliefs, *and* materials, a change process that typically yields only slight accomplishments beginning in an initiative's **third** year of effort (Fullan, 2007). We shared two stories from the **first** year of an educational change effort. While we do not expect "true meaningful change" to have occurred during the first year, the potential to learn from practitioner risk-takers, who traverse one-step-ahead of other schools is immense. As researchers, we feel ethically bound to share these insights in their nascent stages with practitioners and researchers, because we believe they are valuable. We simultaneously urge readers to remember that these stories reflect two, real practitioners who not only took risks in discovering how iPads might be useful for teaching and learning in their content area, but also took risks by consenting to share their perspectives with us, researchers external to their organization.



Figure 2. Summary of this chapter's findings.

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