

# iPads *in the* Classroom

From Consumption and  
Curation to Creation

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# Table of Contents

|   |     |
|---|-----|
| <b>Acknowledgments</b> .....  | vii |
| <b>About the Authors</b> .....  | ix  |
| <b>Introduction</b> .....   | 1   |
| The Surge of iPads in Schools.....  | 2   |
| Technology in the Service of Learning.....  | 4   |
| A Vision for Learning.....  | 5   |
| Computers and the Changing Nature of Work.....  | 6   |
| Computers and the Changing Nature of Schooling.....                                     | 8   |
| The Journey Ahead .....   | 10  |
| <b>1 Consuming Content on the iPad:<br/>Diverse Pathways for Diverse Learners</b> ..... | 13  |
| Universal Access .....  | 14  |
| Core Accessibility Features .....   | 16  |
| iBooks and Accessibility.....   | 18  |
| A Multimedia Curriculum .....   | 19  |
| Safari Reader .....   | 20  |
| Inkling and 3D Books .....  | 23  |
| Focused Versus Connected Consumption: Debating the<br>Future of Reading .....           | 25  |
| Active Reading .....  | 29  |
| Evernote Use at Montclair Kimberley Academy.....  | 31  |
| Conclusion.....   | 33  |

|          |   |    |
|----------|---|----|
| <b>2</b> | <b>Curation on the iPad</b> .....                               | 35 |
|          | Advantages of Curation on the iPad .....                        | 37 |
|          | Managing Files and File Types on an iPad .....                  | 39 |
|          | iPad PDF Collection Activity .....                              | 42 |
|          | Annotating and Notability .....                                 | 43 |
|          | Sharing PDFs and Other Files With AirDrop .....                 | 44 |
|          | Saving Documents as PDFs .....                                  | 45 |
|          | Using PrintFriendly .....                                       | 45 |
|          | Curating Websites With the Safari Browser and Home Screens..... | 46 |
|          | Customization.....  | 48 |
|          | Social Bookmarking on the Web and in the Cloud.....             | 50 |
|          | The Why and the How.....  | 53 |
|          | Joint Curation Between Teachers and Students.....               | 54 |
|          | Paperless Curation .....  | 55 |
|          | Conclusion.....   | 57 |

|          |   |    |
|----------|---|----|
| <b>3</b> | <b>Creativity on the iPad: Innovative Performances of Understanding</b> ..... | 59 |
|          | Student Creation: Moving From Goals to Apps .....                             | 61 |
|          | Movie Posters .....   | 62 |
|          | Video Trailers .....  | 64 |
|          | Video Talks .....   | 64 |
|          | Online Presentations .....  | 65 |
|          | iPad As .....   | 65 |
|          | One Screen.....   | 68 |
|          | Explain Everything: A Versatile Screencasting App for Creation .....          | 70 |
|          | Where to Start? Targets of Difficulty .....                                   | 71 |
|          | Backward Planning Toward Products and Process .....                           | 74 |
|          | Suggestions for Structuring the Student Process .....                         | 77 |
|          | Apps With Cloud-Based Services .....  | 78 |
|          | iPads and Video Feedback.....   | 80 |
|          | Willingness to Learn Alongside Students .....                                 | 81 |
|          | Examples of Student Creation Projects .....                                   | 82 |
|          | Teachers as Creators .....  | 90 |
|          | Conclusion.....   | 93 |

|   |     |
|---|-----|
| <b>4 iPad Professional Learning:<br/>Envisioning Innovation</b> ..... | 95  |
| Anatomy of an EdTechTeacher Technology Workshop.....                  | 96  |
| The Creativity Challenge: Explain Everything.....                     | 99  |
| Leading With Pedagogy.....  | 101 |
| Six Workshop Characteristics.....                                     | 101 |
| SAMR Model.....   | 104 |
| Programs for Teacher Professional Learning: The T21 Program.....      | 105 |
| Cycle of Experiment and Experience.....                               | 108 |
| Conclusion.....   | 111 |
| <b>References</b> .....   | 113 |
| <b>Index</b> .....  | 115 |

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# Introduction

If Eddie had just submitted the answer on a worksheet, his teacher, Jennie Magiera, would have simply marked it wrong and moved on with her grading.

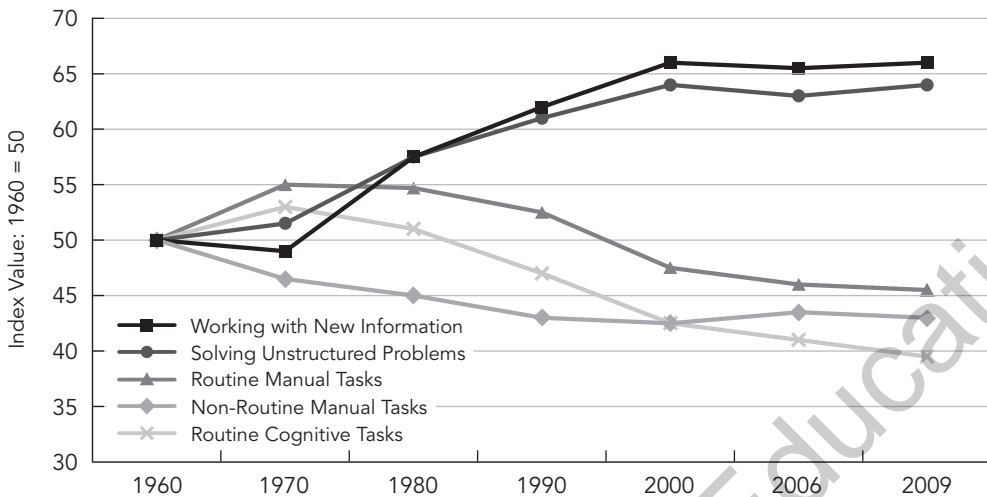
The question was, “Which bag of cheese is the better value?” Eddie’s answer was not missed-a-decimal-point wrong or forgot-the-negative-sign wrong; it was off-the-wall, how-could-you-possibly-come-up-with-that wrong. His answer was “\$16.”

Just like many of Jennie’s students in the urban heart of Chicago, Eddie was a bright child from a challenging home environment. And as much as the fourth-grade teacher loved all of her students equally, some tried her patience more than others.

Fortunately, Eddie did not turn in this assignment on a worksheet. He submitted his answer through Google Forms, along with a link to a screencast of himself working through the problem, created by using the Explain Everything app on his iPad. When Jennie saw the bizarre answer that Eddie had turned in, she was able to pull his video out of her Dropbox folder and view the process that led to his incorrect submission.

Jennie’s class was working on ratios and proportions, so on a recent grocery trip she had used her smartphone to make a short video from the dairy aisle in which she showed students several different products with competing sizes and prices. She then projected the video in class and asked the students to use the data from the video to create and solve their own unique math problems. Since Eddie had created the question himself, it was very strange that he would come up with such an off-the-wall answer. It was lucky for Eddie that Jennie had also instructed her students to use the screencasting app to both write out their process and talk it through out loud.

As soon as Eddie’s video started, Jennie realized that he had decided to round all the  $\$.99$  prices to an even dollar amount to simplify the task. He was one of only two students out of ninety-seven to use that sensible strategy, which was one reason that his answer looked different from the ones submitted by his peers. Jennie watched further into the video as Eddie talked through his strategy, and after about forty-five seconds, she noticed that he made a simple but critical error: when moving

**Table 1.1: Index of Changing Work Tasks in the US Economy 1960–2009**

*Note:* Adapted from Frank Levy and Richard Murnane, “Dancing with Robots: Human Skills for Computerized Work,” <http://www.thirdway.org/publications/714>.

## Computers and the Changing Nature of Schooling

So, how do changing workplace demands relate to teaching and learning with iPads?

In our minds, schools should be leveraging iPads as “hubs of innovation” that teachers can use to nurture the types of learning skills, competencies, and habits of mind that help students develop skills for the jobs that computers cannot do. With iPads, students can research any topic that can be explored through the Internet and they can perform their understanding in a wide variety of media. These devices offer students a powerful and flexible way to solve problems and communicate their approaches to these problems. Just like in Olivia’s Japanese class, students might be encouraged to create a cooking show, a public service announcement, a documentary, a video tutorial, a virtual tour, or an app. Students can research new problems and create solutions using iPads—and they can do so anytime and anyplace.

Yet in many ways our schools are still educating students to automate or out-source their learning. For example, we often assign homework questions with answers that can easily be googled. Students look up answers to our math problems, our grammar exercises, our map activities, and our lab questions on their computers without ever having to think critically at all. In short, our homework activities too often ask students to complete the rudimentary kinds of tasks that computers can be programmed to do.

The United States has a standards-based assessment education system that places great emphasis on core-knowledge acquisition and little emphasis on creative problem solving. Certainly content knowledge is important—one needs to know history

# 1

## Consuming Content on the iPad: Diverse Pathways for Diverse Learners

In the apocryphal photo of the iPad launch, the tablet rests in the lap of Steve Jobs, as he reclines in a leather chair on the stage of the iPad release ceremony. The iPad is a device that was made for reading and watching, for sitting back, for consuming media. While we certainly want our students to read for pleasure, we certainly don't want to craft learning environments modeled on a figure who sits in a reclining posture.

Teaching and learning involve the consumption of media, sometimes from a leisurely posture where a love of media can be nurtured and sometimes from an active posture with a forward lean, sharp eyes, and readiness to pounce and engage a piece of text or frame of video. That said, far too much of our classroom time is spent delivering content and not nearly enough of it is spent empowering students to be producers and publishers. So while we will start our journey into iPad integration by looking at using tablets for collecting ideas, we hope that no one gets stuck at this stage.

One of the signature challenges presented by the surge of interest in iPads is helping educators look beyond the simplest use of iPads in classrooms and to experiment with the most transformative. Instead of using iPads as a library of books or a Rolodex of apps, teachers should imagine the possibilities of an iPad as a flexible, mobile platform for creating multimedia performances of understanding.

One framework that educators often find helpful in thinking about technology-mediated learning environments is the collect-relate-create-donate (CRCDD) framework proposed by human-computer-interaction expert Ben Shneiderman (2003) in his book *Leonardo's Laptop*. Shneiderman suggests that rich technology projects be designed along a pattern. Students start by collecting information, either from their own research or from teacher-curated readings, lectures, and materials, and then collaboratively work in teams to create a performance of their understanding. This can be a paper, poster, presentation, play, diorama, computer program, website, or anything else that allows them to make their learning public. Students then share their work with a larger audience by presenting it to a specific group or publishing it

on the web. This chapter offers some ideas for the collecting phase, in the hope that this kind of learning is a launching point for creating performances of understanding.

## Universal Access

Assistive Technology Specialist Karen Janowski bought an iPad the first week it launched. As she explained it: “I saw the potential the minute it came out. I said to myself, I have to get one because this is going to be a game changer for the struggling learners with whom I work.”

Since purchasing that first device, she has motivated her school to purchase them for the students and seen the multiple ways the iPad benefits them, specifically in the areas of organization, repetition and review, visual support, communication, and reading to make their learning public.

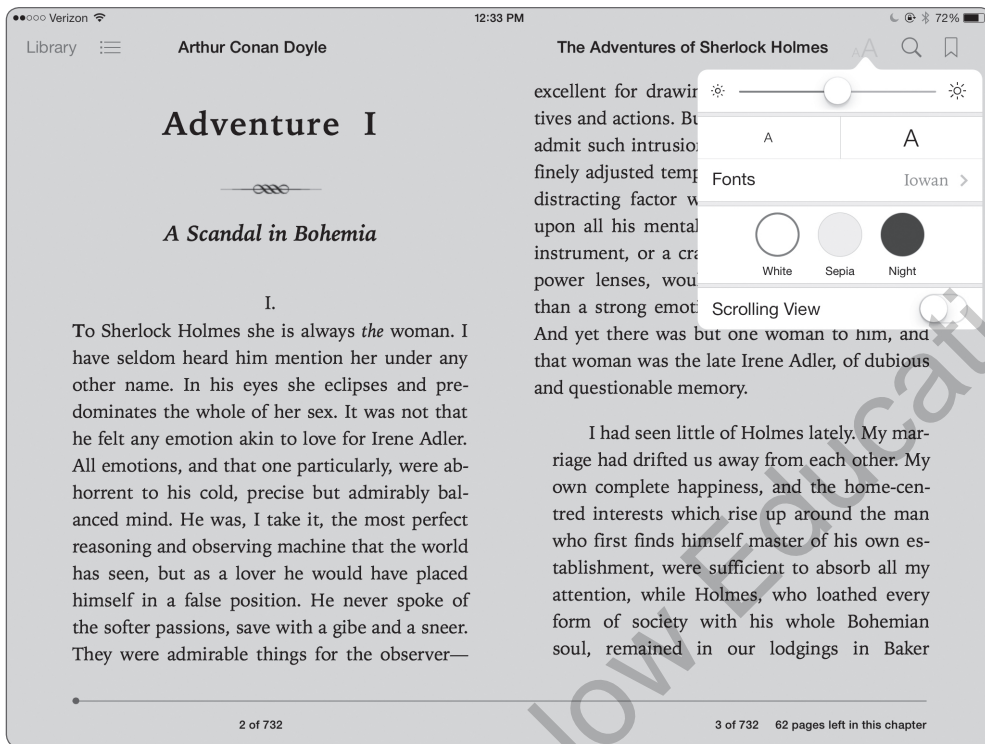
One of Janowski’s students is a fourth grader who has cerebral palsy in addition to a learning disability and visual tracking issues, so not only is holding a book and turning pages difficult for him but so is comprehending and following fourth-grade-level book text. The teacher, along with the school district, gave this student an iPad and purchased Voice Dream Reader (an app Janowski lauds as “phenomenal”), which brings in text from places like Google Drive, Bookshare, and other locations on the web, and allows students to listen to it read aloud with a customized a visual presentation. Within a week, Janowski explained, “his mother said he was reading the books his friends were reading that, up until that time, he was unable to do . . . . Now he was devouring books.”

In another case, Janowski pointed to a ninth-grade student who, despite “intensive remediation,” still struggled with reading, decoding, and fluency. He took to Audiobooks.com, a free app that offers high-quality human narration of classic books in the public domain. “We gave [the iPad] to him on Friday, and when I saw him on the following Friday he had almost completed *The Invisible Man* by H. G. Wells, a book he would never, ever have been able to tackle independently,” Janowski said.

“Now, students are able to read the curriculum and content independently,” Janowski said. “In the past, they may have had to depend on another adult or a parent at home. I’m passionate about this [the iPad] because it makes such a huge difference for kids.”

Among the first groups eager to explore new possibilities of the iPad have been educators working with populations on the margins: special educators, teachers of English language learners, reading specialists, and their kindred colleagues. The iPad offers new hope for these students who have been poorly served by the shape of our traditional curriculum to bypass some long-standing obstacles to learning. Fortunately, every time special educators develop new strategies for working with





**Figure 1.2:** When reading *The Adventures of Sherlock Holmes* in iBooks, you have the option to change the font size and change the background color.

pathways for learning for students with special needs. At the same time, these features have the potential to benefit all learners by making reading more comfortable, supporting endurance for longer reading sessions, and providing in-text scaffolds to understand difficult words or passages. Over time, many readers will make a habit of customizing their reading platform to suit their own needs, the text, and the situation.

## A Multimedia Curriculum

It may seem simple, but one of the first things that we do in our iPad classroom workshops is remind people that every tablet has a web browser. For a variety of reasons, apps dominate the discussion around iPads, which is somewhat unfortunate. Sure, there is a boatload of educational apps, but while a few are good, most are wanting. The most extraordinary learning resource ever created, however, is the World Wide Web—and portable, instant-on/instant-off access to the Internet is one of the signature benefits of using tablets in the classroom. Tablets with Internet connections also allow teachers to use much more than printouts and textbooks and access diverse sets of resources in their curriculum.

## Explain Everything: A Versatile Screencasting App for Creation

It's easy to fall prey to app chasing when you have neither a clear learning goal in mind nor a grasp of how one app could be used to unleash a myriad of active learning possibilities. Imagine for a moment that your superintendent suddenly dictates that you can only use one app on your iPad for teaching and learning. What would you do?

Well, consider that one app enables your students to do all of the following:

- Handwrite
- Type
- Draw
- Create images
- Create audio
- Create video
- Create animation

What could students do with one app that had all these capabilities? Quite a lot. They could write or type papers or reports. They could draw pictures and illustrate stories. They could make graphs or charts. They could make videos, including video tutorials. They could show others how to solve math problems. They could make slide shows and virtual posters. They could record themselves speaking a foreign language or playing the guitar. And the teacher could do all these things as well.

Explain Everything is an example of a screencasting app that can do all of this and more. Visit [www.youtube.com/watch?v=ugMztuJyKyU](http://www.youtube.com/watch?v=ugMztuJyKyU) for a video of middle school science students showing their understanding of plate tectonics in multiple ways using Explain Everything.

Screencasting apps (Educreations, ShowMe, and ScreenChomp are others) create a digital recording of a computer or tablet screen output and often contain audio narration. A screencast is essentially a movie of the product a user sees on a computer screen, enhanced with audio narration (the Khan Academy math video tutorials are perhaps the best-known example in education).

If we had our druthers, every iPad program in schools would begin with teachers only being allowed to use Explain Everything (or a similar app)—and nothing else—for the first month of classes. The idea is that if every teacher were to concentrate on maximizing the potential of one powerful and versatile app, his or her intellectual energies would be focused on nurturing active learning activities—instead of