HOW TECHNOLOGY
Can Jumpstart
the Inquiry-based
CLASSROOM

35 Projects that Align with National Standards

ASK A TECH TEACHER

How Technology Can Jump-Start

the Inquiry-based Classroom:

35 Projects That Align with National Standards

by The Structured Learning IT Team and Ask a Tech Teacher

Introduction

Today's classroom is all about authentic lessons that are inquiry-driven, student-centered, with technology that is critical but invisible—just another part of the lesson. They must scaffold current knowledge with new so students are comfortable as risk-takers whether they are digital natives or newbies. The new educational mandates require users to share, show evidence of learning, collaborate on outcomes, and publish their work.

The question we get often from teachers—both new and seasoned—is: How do you teach technology skills (i.e., the use of foundational programs like word processing and keyboarding) while integrating it into classroom units AND keeping student interest?

With the right resources, that's easy. We've put thirty-five of them together in this book for you.

Teachers, you're going to love these lessons. They're easy to understand and implement, fascinating to the K-6 audience you teach, and quick to accomplish what might seem to be the impossible goals of integrating and sharing.

If you own the [Structured Learning K-6 technology curriculum](#), this book will be a favorite addendum. These lessons are practical strategies for 1) extending the 32-lessons contained in that seven-year curriculum, 2) differentiating instruction so it suits your unique group, and/or 3) focusing on web-based programs rather than installed software.

If you haven't committed to a K-6 technology curriculum, this book will provide lessons that help you comply with state and national education standards by 1) integrating technology into your school's K-6 classroom, and 2) providing methods to publish and share student work.

These 124 pages, thirty-five projects, show you great ways to **align** your technology curriculum with ISTE national standards, **integrate** technology into class units of inquiry, and **teach** critical skills—here's the important part—*when students are ready to learn them* without taking your focus off the organic needs of your school's educational standards.

You'll also find resources to fulfill the needs of an after school technology program.

Who Needs This Book

You may be the Technology Specialist, the Coordinator for Instructional Technology, IT Coordinator, Technology Facilitator, Curriculum Specialist, Technology Director or the technology teacher for your school—tasked with finding the right computer project for each K-6 classroom unit. You have a limited budget, less software, and the drive to do it right no matter the roadblocks. How do you accomplish your job?

Or you are the classroom teacher, a tech enthusiast with a goal this year— and this time you mean it—to integrate the wonders of technology into lessons. You've seen it work. Other teachers in your PLN are doing it. And significantly, you are trying to comply with the requirements of Common Core State Standards, ISTE, your state requirements, and/or the IB guidelines that weave technology consistently into the fabric of all units of inquiry as a method of delivering quality education. How do you reach your goal?

Whoever you are, you've made a great start in purchasing this book. There are thirty-five lessons, broken down by grade level as follows:

- *Kindergarten—7 lessons*
- *First Grade—10 lessons*
- *Second Grade—10 lessons*
- *Third Grade—12 lessons*
- *Fourth Grade—16 lessons*
- *Fifth Grade—17 lessons*
- *Sixth Grade—12 lessons*

Did you count eighty-four lessons? That's because many lessons are appropriate (with some adaptations) for multiple grade levels. So many, in fact, that it's like getting twice as many lessons.

Each of the K-6 lessons in this book includes practical strategies for integrating technology authentically into core classroom lessons. They are easily adapted to any number of subjects be they science, literature, history, math, reading, writing, critical thinking, or another. The focus is on easy-to-use online tools (with some exceptions) that are quick to teach, inquiry-driven, intuitive, and free. You introduce the tool, demonstrate the project, answer clarifying questions, and let students' curiosity loose.

Do you need this if you bought the **K-6 Technology Curriculum** with its 32 lessons for each grade level or if you invested in Structured Learning's 110-

lesson Technology Toolkit for K-8? In fact, this book was originally intended for you. The hundreds of schools across the country that use that curriculum contacted us and asked for it. Why?

1. Their school didn't have some of the software suggested in the textbook (say, MS Publisher)
2. Their classes finished a lesson earlier than planned.
3. They needed 34 lessons instead of 32
4. Their school aligned with Common Core State Standards, which meant they needed more lessons that allowed for publishing and collaborating
5. They had a particular unit of inquiry that wasn't addressed in either the curriculum or toolkit
6. They wanted more web-based tools
7. Some had been using the curriculum for several years and simply wanted change.

This book is for you.

How to Use This Book

For each lesson, the organization is clear and intuitive, with sections to address the most important parts of what you need to deliver a comprehensive, clear, tech-integrated project. Here's a sample:

1. **Skills Learned**—*This lists the primary skills learned through this lesson. These are technology skills and also skills best learned through the use of technology.*
2. **Replacement for**—*If you're using the Structured Learning technology curriculum, this box tells you which of the thirty-two yearly lessons for that particular grade level can be replaced by this one and still deliver the goals of the K-6 Scope and Sequence (listed in the front of each textbook)*

3. **Collaborations**—This lists which classroom subject(s) can be supported authentically with this lesson.
4. **Time Required**—This provides an estimate of time you should set aside to complete the lesson. If noted as 'repeat', do this lesson several times to reinforce learning.
5. **NETS-S Standards**—This highlights which ISTE standards are delivered with the lesson.
6. **Lesson Questions? Go To**—This link connects to a blog where you can ask for help or clarification on any book sold by Structured Learning—including this one—from teachers using this book. No other textbook publisher offers this. Of course, you can always email Structured Learning's in-house help at zeke.rowe@structuredlearning.net. (There really is a Zeke Rowe).
7. **Overview**—This is the lesson's central idea.
8. **Objectives and Steps**—This provides practical strategies for achieving the lesson's essential goals with step-by-step guidelines for accomplishing that.

Take special note of the section called 'Replacement For'. This is where we suggest how the lesson fits into the SL Technology curriculum—which lesson it can replace/enrich while maintaining the continuity of the curriculum's scope and sequence (included at the beginning of each textbook).

In deference to the changing landscape of technology in education, these new lessons concentrate on web-based tools. That means they encourage collaboration among students, tools are mostly FREE (because they're web-based), and publication is a snap through websites, wikis, and blogs

Where for-fee software and products are used, we cross-reference free products that accomplish the same goals where possible. There will be some adaptation required to make them work, but we selected those that are most compatible.

We've included blanks in front of each concept so you can check it off when completed. The nature of educational technology often precludes completing an activity in one sitting. It's useful to track where you ended so you can pick up there when you continue.

You'll find a lot of links in this book. They are **extras in the digital ebook**—like full color images and being able to search with Ctrl+F. To put them in the print version would take oh-so-much-space and ultimately be oh-so-confusing. If you would like a PDF of the book so those links are available, contact the publisher (http://structuredlearning.net) to find out how to get a discounted PDF with your Proof of Purchase. If there are just one or two, visit the helpline (that's our Ask a Tech Teacher blog noted at the beginning of each lesson) and leave a comment on the most current article requesting the link. Be sure to include the book's name and the page number. We'll post it within 24 hours as the answer to your request.

As a bonus, we've included nine articles on pedagogic topics like *What Should You Expect of Younger Keyboarders, The Elephantine Impact of Technology on Education, Top 13 Web 2.0 Tools for Classrooms,* and *How to Teach Internet Safety in K-6.*

A note: There are seven (I might say 'only seven'—a testament to how much technology has changed in just a few years) software-based projects—all designed for Windows-based PCs. If you have a different operating system (say, Linux or Mac), you'll need to adapt the instructions.

About the Authors

Structured Learning IT Team *is the premier provider of technology instruction books and ebooks to education professionals. Technology and keyboarding curriculums, how-to books, tips and tricks, a one-of-a-kind blog-based helpline—all the tools required to fulfill the tech needs of the 21st century classroom. All materials are classroom-tested, teacher-approved with easy-to-understand directions supported by online materials, websites, blogs, and wikis. Whether you are a new teacher wanting to do it right or a veteran educator looking for updated materials,* **Structured Learning** *and its team of technology teachers is there to assist you.*

Ask a Tech Teacher *is an award-winning resource* **blog** *run by a group of technology teachers. It has more than 60,000 visitors a month in search of resources and advice, offers oodles of free lesson plans, pedagogical conversation, website reviews and more. Its free newsletters and website articles are read by thousands, including teachers, homeschoolers, and anyone serious about finding the best way to maneuver the minefields of technology in education.*

Jacqui Murray *(lead Ask a Tech Teacher blogger) is the editor of SL's* technology curriculum *for K-sixth grade, creator of two technology training books for middle school, and four ebooks on technology in education.* She *is the author of* **Building a Midshipman***, the story of her daughter's journey from high school to United States Naval Academy. She is webmaster for six blogs, an* Amazon Vine Voice *book reviewer, a columnist for* Examiner.com*, Editorial Review Board member for* Journal for Computing Teachers*,* Cisco guest blogger*,* IMS *tech expert, and a bi-weekly contributor to* Write Anything*. Her technology articles have appeared in hundreds of online newspapers and magazines.*

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Kindergarten

Lesson #1—Blabberize Me!

Skills Learned	Replacement for:	Collaborations
- Internet - Embed - Web-based - MP4 - Upload - Link - Home button - Task bar - Tool bar - Scroll bar	- Kindergarten—Lesson 13 - First grade— Lesson 9 - 2nd grade— Lesson 8—Blabberize one of the stories read during this Week - 3rd grade—extend the research learned in Lesson 15 to Blabberize it. - 4th grade— Lesson 11 (Blabberize the card instead of writing it) - 5th grade—Lesson 13 - 6th grade—Week 19 (mix keyboarding lessons in with other lessons)	- Writing - Speaking - Science (or whichever topic is selected) - Internet - Literature

Time Required	NETS-S Standards
30 minutes	1, 2, 5, 6

Lesson questions? Go to http://askatechteacher.com

Overview

Students create a talking photo to introduce themselves at Open House or another classroom event

Objectives and Steps

_____ Blabberize (click the link or Google it) is an online tool that makes any image appear as though it is talking. You upload a picture with a person, a creature, an object—anything you wish to talk. Mark the key points of the mouth. Attach an audio by uploading or recording. That's it—the creature talks!

_____ As an example, kindergartners will do a report on an ocean animal. Prior to the start of the unit, each student will select an ocean animal, find a picture of it using Google images, and save it to their file folder.

_____ As you study the unit in class, each student will take note of three-four facts about the animal they selected. At the end, review each animal with the class and list the discussed facts on the Smartscreen.

_____ Open Blabberize on the internet.

_____ If this is one of the first times students have used the internet, explain how it works. Point out the toolbars, the 'back' button, the 'home'

button, the address bar, the scroll bar. Let students try these out so they are comfortable with their use before beginning Blabberize.

_____As with all kindergarten activities, have enough adult supervision to help students when they get stuck. Nothing's more frustrating than wanting to complete a project and waiting what forever for assistance.

_____Walk students through the layout of the program. Demonstrate how to create a project so they can visualize all the steps.

_____Students can work in groups of 2-3 on this project.

_____Upload the animal image to Blabberize. Select its mouth so it appears to be talking. Review the facts students learned about the animal. Have the student (each student in the group or a volunteer) practice the presentation. Available adults can remind them of the salient points if they get stuck.

_____Tape himself/herself as though they were the animal. For example, "I am a whale. I weigh 2 tons…"

_____Once students have all of the presentation pieces collected (the image, the dialogue, the recording if they're uploading an audio file), it takes less than five minutes to complete.

_____When all students are done, ask students to reflect on this activity.

_____Presentations can be exported to the class wiki or website for all to enjoy (older grades: Do this themselves).

_____**Extensions**: Have (older) students be an historical figure from a unit they are studying and explain their rationale for what they did that made them memorable. For even older students, Blabberize the stand of a political candidate,

_____**Trouble shooting**: Can't get Blabberize to work correctly? Try a different browser. I've had more luck with IE than Firefox. This is a good trouble-shooting solution for anything web-based: If it doesn't work right, try a different browser.
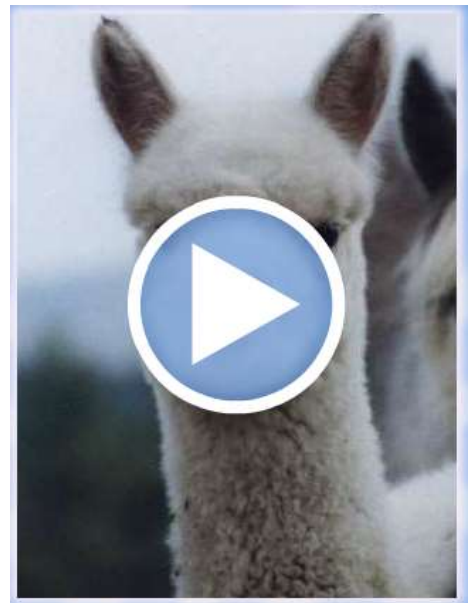
Appropriate for grades K-6 with adaptations

What About Those Lefties?

Dear Otto is an occasional column on my blog where I answer questions I get from readers about teaching tech. Here's a great question I got from Sandy:

Q: I am a Computer Teacher for Early Education (3 & 4 year olds) and also Elementary-age students. My question to you is if a child is left handed, should you teach them to use their mouse with their left hand?

A: I've seen lots of different answers, but there's only one that makes sense to me: Allow students to use the hand they're most comfortable with. If they want to use the left, I set the mouse up so it works for them. Often, it's a shared station, so I help the (older) student get used to reversing the mouse buttons themselves (Youngers: just move the mouse). They may decide using the right hand is simpler, but older students may be eager to visit the control panel and set the mouse up to suit their needs. You may want to set up one class computer as a 'lefties' station.

By allowing students to choose, I preclude that my prejudices will influence how they learn. I don't want them to go one way because I told them to. I want them to make up their minds and act in their own best interests. This also prevents me from interfering with the parenting they receive at home. Moms and dads may have strong opinions on this subject and nudge their children accordingly. I don't want to interfere with that even though experience tells me it doesn't make any difference.

What do you do with your lefties?

Second Grade

Lesson #1—QR Me

Skills Learned	Replacement for:	Collaborations
🔲 *QR codes* 🔲 *Embed* 🔲 *Web-based* 🔲 *Critical thinking*	🔲 *2nd grade— Lesson 26 (if students finish report early)* 🔲 *3rd grade— Lesson 21 (shorten Excel)* 🔲 *4th grade— Lesson 28 (include QR Me on PP About the Author slide)* 🔲 *5th grade— Lesson 13*	🔲 *Writing* 🔲 *Speaking* 🔲 *Listening* 🔲 *Reading* 🔲 *Literature* 🔲 *Research*

Time Required	NETS-S Standards
30 minutes (2 sessions)	1, 2

Lesson questions? Go to http://askatechteacher.com

Overview

Students write six essential elements of a story into a QR code that is inserted into the cover of the book as a summary for others.

Objectives and Step

_____Discuss the importance of answering questions like who, what, when, where, why, how about a book. What do these questions mean? How do the answers demonstrate an understanding of key details? How do they describe actions, thoughts, feelings, signal event order and provide a sense of closure?

1. I like history, math, science, technology, writing, dogs and children
2. I have been at SMAA over 12 years
3. I wrote a book

_____Use a story all students have read to show how answering these six questions provides a complete elaboration of an event or sequence of events, including sensory details, action, descriptive details, and temporal words that help to provide a sense of order and closure to a narrative.

_____Using a story the student has just finished, write out answers to these questions. If several students read the same book, have them collaborate on answers. Explain that answers will become a QR code.

_____Discuss 'QR codes' (or Quick Response codes). They are a barcode that can be scanned by a camera on a smart phone (or similar device) that then takes you to specific information like a website, contact information, or text.

_____Where have students seen them? Have examples from stores and magazine available to show. What is the benefit of this approach (lots of information in a small space, can provide a direct link to a website without having to type in the complicated address)?

_____Open one of the many QR creators available on the internet (such as [QR Stuff](#), [Kaywa](#)). I like [GoQR](#) because it takes text, website addresses, vCards, SMS while remaining simple enough for a second grader to understand.

_____First, type the title of the book being reviewed, followed by the answers to the six questions—who, what, when, where, why, how. If this was created in a Word file (as suggested in the Extension), have students open that file and copy-paste text into the QR Creator).

_____As they're typing, students will see the QR code develop. The more information they add, the denser are the black-and-white squiggles. What else do students notice about the QR Code (for example, what's with the corners?)

_____Have students check their work to be sure all questions are answered in the dialogue box.

_____QR code appears to the right of the input box if you're using GoQR. In other QR creators, you may need to click a button to generate the code.

_____Once the QR code is created, save to student file folder (via online tool or take a screen shot and save).

_____Import into KidPix (or similar) and draw one of the book's characters around the QR Code (see inset).

_____Print and insert it into the book with help of the librarian.

_____QR codes must be complete. Don't allow extraneous pieces and be sure the entire code is copied (see QR Person inset for example of what NOT to do—the QR code is slightly colored over by the skirt).

_____Show students how to use the Scan tool on iPads or Smartphones to read the QR data. Give students lots of time to scan classmates' codes. They find this pretty cool. Anything that gets students reading about

books, thoughtfully selecting one they like and based on their own research, is a good thing in second grade.

_____When they are done, ask them to reflect on this exercise. What was difficult, easy? What did they learn?

_____You may want to encourage the librarian to have iPads available with a QR Scanner so students can read the summary of the book in this manner.

_____**Extension**: Have students type these answers (using good grammar and spelling) into Word as an intro to word processing. Then, show students how to copy-paste it from Word into the QR creator.

_____**Extension**: Post these QR codes in the library corner of the classroom. Students can scan them for ideas on which book they'd like to read.

_____**Extension**: Have students draw a picture of themselves or a character in the book around the QR code using KidPix or other drawing program (see inset; I call it 'QR Me').

_____**Extension**: Holiday project? Have students put their Santa list on the QR code with hints for parents as to what they want.

_____**Extension**: Use a special program called QR Voice to translate the QR code into an audio file that plays when you use the QR scanner. This is particularly exciting for Language B teachers. Turn class vocabulary or projects into the spoken word so students can hear an authentic representation of the language.

_____**Extension**: For more ideas, click here and here.

_____**Trouble shooting**: The QR scanner doesn't work. *The QR code must be complete with no blemishes or it won't work. Check the student code to be sure they didn't cut part of the border off or paint over part of it.*

Appropriate for grades 2-5 with adaptations

Fourth Grade

Lesson #2—What is Digital Citizenship?

Skills Learned	Replacement for:	Collaborations
• *Digital citizen* • *Plagiarism* • *Internet privacy* • *Netiquette* • *Cyber-bullying* • *Online presence* • *Virtual world*	• *4th grade— Lesson 8 (do MS Word skills in a project-based exercise)*	• *Writing* • *Speaking/listening* • *Reading*

Time Required	NETS-S Standards
40 minutes (several sessions)	5

Lesson questions? Go to http://askatechteacher.com

Overview

Why is it important to be a good digital citizenship? How can students do this?

Objectives and Steps

_____Every year, take time to discuss how students can stay safe on the internet.

_____Review last year's discussions on the meaning of **'digital citizens'**, 'digital privacy' and 'image copyrights'. Solicit ideas and experiences from students.

_____Review '**plagiarism**'. What does it mean? Why should you give credit to original authors of information? What are the consequences? Watch this Plagiarism video

_____Review potential risks and dangers associated with online communications. Watch this video from Cybersmart on Internet Safety.

_____Discuss the importance of passwords to protect privacy. Remind students that they never share passwords, even with friends. Watch Password Rap on making strong, effective passwords. Use Password Bird to create passwords for one or more school sites students use.

_____What is '**netiquette**'? Discuss 'internet etiquette' as it relates to a fourth grader.

_____What is **cyber-bullying**? Circle back to last year's bullying discussion. One is done in the physical world; one in the **virtual world**. What's the

difference? If you consider your students old enough, discuss 'verbal abuse'. Why is any sort of bullying and abuse bad?

_____Review the concept of **online presence**. What does that mean? Is that safe? How can students protect their online privacy? Discuss the importance of never posting private information about themselves online, including their pictures.

_____To support this discussion, create Voki avatars (see Lesson #4 under 4th grade in this book). These avatars will be placed on the student blog pages or the class wiki. Have each student Voki discuss some piece of digital citizenship, plagiarism, netiquette, cyber-bullying or the importance of privacy in a student's online presence.

_____Reinforce these concepts by circling back on them every time students go online.

_____**Extension**: In free time, go here and find out strategies for internet privacy, IMs, emails, chatting online. Or play Internet Hangman.

_____**Trouble shooting**: This frightens some of my students. *Take extra time with those kids to reassure them, but reinforce the message*.