

## Module 2

# Exploring Best Practices and Resources

In this module, you learn about the Intel® Teach Program, view tools and resources on the Intel® Education Web site, and explore best practices for integrating technology into teaching and learning. With this exploration, you see how teachers and administrators around the world use technology effectively to support student learning.

### Essential Question

How can educational leaders support teacher effectiveness to improve student achievement?

### Module Questions

- How is technology most effectively used as a tool to engage students, develop 21st century skills, and enhance standards-based teaching and learning?
- What actions do leaders take in supporting, modeling, and promoting technology integration?
- What do exemplary technology-integrated unit plans and assessment tools look like?

### Module Objectives

In this module, you:

- Learn about the Intel Teach Program
- Explore examples of technology integration practiced by teachers around the world
- Learn about student-centered, inquiry-based instruction that engages students in meaningful projects by reviewing a collection of exemplary unit plans that integrate technology
- Understand the importance of ongoing assessment and 21st century skills integral to successfully completing student projects
- Learn ways leaders support and promote teacher effectiveness, student achievement, and technology integration

### Tools

- Internet Browser
- Resource CD

# Module 2

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## Exploring Best Practices and Resources

## Activity 1: Understanding the Intel® Teach Program

### Overview

The Intel Teach Program offers proven professional development supporting 21st century skills. Intel Teach promotes standards-aligned, project-based approaches to learning. Courses help teachers transform instruction to engage students in deeply relevant ways with appropriate use of technology for learning, creativity, and communication. Master Teachers receive free instruction and resources enabling them to lead sessions for their colleagues.

### Program Overview

To date, the Intel Teach program has trained over 6 million teachers in more than 50 countries and is committed to reaching many more teachers. Intel Teach is the largest, most successful professional development program of its kind.

The following Intel Teach professional development offerings are available to K-12 teachers, schools, and districts:

- Intel Teach Essentials Course: A face-to-face course providing teachers with a foundation of skills to fully integrate technology into existing curricula to promote student learning (32 hours face-to-face plus 20 hours homework)
- Intel Teach Essentials Online Course: A hybrid face-to-face and online delivery of the same core curriculum as the Essentials Course (12 hours face-to-face plus 46 hours online, facilitated)
- Intel Teach Thinking with Technology Course: A face-to-face course providing practice in building effective technology integration skills using online thinking tools to enhance students' higher-order thinking (32 to 40 hours face-to-face plus 20 hours homework)

Teachers leave each of the Intel Teach courses with a unit plan in the subject they teach. As a result, students engage in standards-aligned, technology-supported projects that integrate 21st century skills.

### Program Research

Intel enlisted the participation of the Center for Children and Technology (CCT), part of the Education Development Center ([www.edc.org/cct](http://www.edc.org/cct)), to study the impact of the Intel Teach Program on educators and classrooms. CCT found teachers' responses to the course to be extremely positive in a study of U.S. teachers participating in the Intel Teach Essentials course from 2000-2006. Highlights include:

- 98.6% of teachers surveyed responded that they agreed that the training prepared them to implement methods of teaching that emphasized integrating technology into their teaching.

### Exploring Best Practices and Resources

- 98.2% of teachers surveyed responded that they agreed that the training prepared them to evaluate technology-based work produced by students.
- 96% of teachers said they would recommend the course to a friend or colleague.
- 98.4% of teachers surveyed responded that they agreed that the training prepared them to align their teaching and assessments with required curriculum content.

In addition, when participants were asked if the ideas and skills they learned from the Intel Teach training helped them successfully integrate technology into their students' activities, 96.6% responded yes.



Learn more about the Intel Teach Program and obtain the complete evaluation and research reports at [www.intel.com/education/teach/US](http://www.intel.com/education/teach/US).

**Note:** More information about how to get your teachers involved in the Intel Teach In-Service Program is available in Appendix A.01.

### Activity 2: Reviewing Available Resources

In this activity, you deepen your understanding of effective technology integration by exploring the Resource CD. The Resource CD provides resources relevant to improving effective technology integration. The CD also contains all of the resources used throughout this forum.

#### Identifying Available Resources



The Resource CD is arranged categorically by resource type (as shown in the image). With an understanding of the CD organization, you can quickly locate what you need. The CD contains the following sections:

- **Forum Tools:** The Action Plan Template, ISTE NETS-A standards, NETS-A Essential Conditions Template, and URLs for all Web sites in the forum
- **Case Studies:** The case studies that represent real-world experiences from educational leaders
- **Professional Associations:** Web links to professional associations with useful resources for instructional leaders
- **Research Reports:** Complete research articles and reports about effective technology integration, technology leadership, and instructional improvement
- **Web Resources:** A listing of Web resources on different topics to assist administrators in planning and implementing technology integration, including 21st century skills, education and technology, research, and search engines

## Exploring Best Practices and Resources



In Module 4, you will refer back to the resources used throughout the forum, and you will have more time to explore the Resource CD.

## Activity 3: Exploring Web Resources for Technology Integration

In this activity, you explore resources, strategies, and project ideas that support, model, and promote technology integration. This activity helps you understand what effective technology integration looks like and provides you with ideas to bring back to your school or district. As you view the Web resources, consider the following:

- What technology tools and resources do you think your teachers could use?
- What actions will you take to promote technology in your school or district?

### Step 1: Viewing the Intel® Education Web Site

The Intel Education Web site ([www.intel.com/teachers](http://www.intel.com/teachers)) provides resources, tools, and strategies that support effective practices in technology integration. The Web site is a free resource for educators, developed by an extended team with expertise in education, technology, and innovation.

## Module 2

### Exploring Best Practices and Resources



1. Open the Intel Education Web site: [www.intel.com/teachers](http://www.intel.com/teachers)



2. Click the **Learn More about Intel® Education** button at the bottom of the page to access information about the Intel Education Initiative, and the many resources available to support and promote technology integration.
3. Click **Learn More about Intel® Teach Professional Development**, and then choose **United States** in the drop-down list.



## Exploring Best Practices and Resources

- Click the **Program Offerings** tab to view available program courses that support effective uses of technology.

[Home](#) > [About Intel](#) > [Education Home](#) > [Intel® Teach Program](#) > [Intel® Teach Program U.S.](#) >


## Intel® Teach Program Offerings

[Intel® Teach Program U.S.](#)
[Program Offerings](#)
[Get Involved](#)
[Upcoming Sessions](#)
[Proven Results](#)

[Project-Based Approaches](#) | [Essentials Course](#) | [Thinking with Technology](#) | [Leadership Forum](#) | [Pre-Service](#)


Intel® Teach Program offerings promote the attainment of challenging standards and teaching and learning of 21st century skills. Courses are available for K-12 teachers and school leaders, supported on both PC and Mac® platforms.

**Short, e-learning courses, free for all teachers**



**Intel® Teach Elements: Project-Based Approaches >**  
Explore ideas and prepare to try new project-based approaches in your classroom in a self-paced, interactive e-learning experience.

**Effective integration of technology: professional development for teachers**



**Intel® Teach Essentials Course >**  
Gain a foundation of skills to fully integrate technology, ongoing assessment, and student-centered learning.

**Which course is right for my teachers?**

Download this PDF to compare benefits of the Essentials Course, Essentials Online Course and Thinking with Technology. Use the guide to determine whether your teachers are ready for online learning.

**Open PDF >**  
(PDF 25KB)

[Essentials Course Curriculum Overview >](#)

[Thinking with Technology Curriculum Overview >](#)

- Point to **K-12 Education**, and choose **Free Teaching Tools and Resources** to find teaching and learning resources, and interactive tools for K-12 teachers to engage students with appropriate use of technology for learning, creativity, and communication.

[Work](#) [Play](#) [Support](#) [About Intel](#) [Change Location](#)

[Products](#) [Technology](#) [Communities](#) [Downloads](#) [Reseller](#)

**Education Programs and Resources**

- Intel® Education Initiative
- K-12 Education >
- Education Competitions >
- Higher Education >
- Education Beyond Classrooms
- Intel Foundation

Select a location for Intel Education  
United States

**Helping Teachers Change the World**

[Free Teaching Tools and Resources](#)

[Intel® Teach Program](#)

[Intel® Education Evaluation](#)

**K-12 Education**

Intel® Education inspires 21st century teaching and learning for K-12 education. Offering free professional development, tools, and resources, we help K-12 teachers engage students with appropriate use of technology for learning, creativity, and communication.

**Free teaching tools and resources**

Intel equips teachers with free education tools and resources that help facilitate student-centered learning.



**Intel® Teach Program**

This free professional development supports effective use of technology for 21st century teaching and learning.

**Intel® Teach Elements: Project-Based Approaches**



Explore ideas and prepare to try new project-based approaches in your classroom in a self-paced,

Exploring Best Practices and Resources

- 6. Click **Education Competitions** in the left navigation pane to view information about prestigious science competitions and resources focused on engaging young people in the study of science and math.



- 7. Click **Education Beyond Classrooms** in the left navigation pane to read about after-school community technology programs and to obtain curriculum designed to interest youth in design and engineering.



Note your thoughts on the lines below about the resources you reviewed and ones you would like to explore further.



## Exploring Best Practices and Resources

## Step 2: Exploring An Innovation Odyssey

Exploring *An Innovation Odyssey* ([www.intel.com/education/odyssey](http://www.intel.com/education/odyssey)) provides ideas on how to use technology to motivate and inspire students. Explore how teachers around the world use technology in their classrooms to support student learning.

## Exploring Best Practices for Teachers

Explore best practices through stories submitted by teachers around the world. *An Innovation Odyssey* ([www.intel.com/education/odyssey](http://www.intel.com/education/odyssey)) highlights hundreds of examples of student-centered instruction that engage students in meaningful, technology-enriched project work. Available resources include project ideas, stories from innovative teachers, monthly themes for classrooms, and strategies for teachers and school leaders to use technology to support learning.






1. Open the *An Innovation Odyssey* Web site: [www.intel.com/education/odyssey](http://www.intel.com/education/odyssey)
2. Click **Find Ideas** and then explore available resources.

[Home](#) > [About Intel](#) > [Education Home](#) > [K12 Resources](#)

## An Innovation Odyssey

Sometimes, all you need is the spark of an idea. Sharing stories from classrooms around the world, *An Innovation Odyssey* offers more than 350 ideas to borrow or adapt for use in your own classroom.

- Read descriptions of technology enhanced classroom projects
- See photos from classroom projects underway
- Use these seed ideas to grow your own project, suitable for your students

	<b>Find Ideas &gt;</b> Find project ideas that match your classroom needs by grade level, by subject area, or by type of technology used.	<b>More Project Ideas</b>  The <i>Designing Effective Projects</i> resource includes a collection of detailed Unit Plans that integrate technology into classroom projects.  <a href="#">Learn more &gt;</a>
	<b>Choose Themes for Learning &gt;</b> Review the collection of technology integration stories by themes and big ideas in learning across grade levels.	
	<b>Support Technology Integration</b> <i>An Innovation Odyssey</i> shows you how to make the most of educational technology in your school or community. <a href="#">Strategies for teachers &gt;</a> <a href="#">Strategies for school leaders &gt;</a>	<b>Roller Coaster Project</b>  If you want an inside look at the development and implementation of a...

What ideas for integrating technology would you like to share with your teachers? Note your thoughts on the lines below and be prepared to share with the group.

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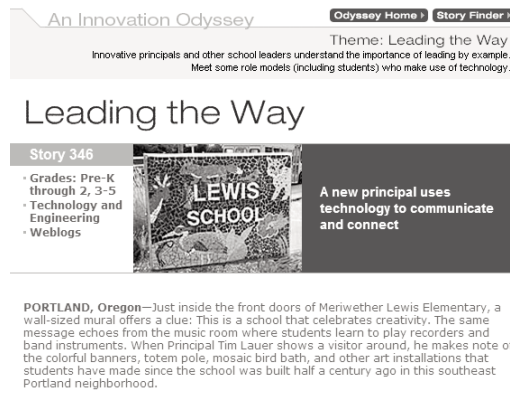
### Exploring Best Practices and Resources

#### Exploring Strategies for School Leaders

As a school leader, you understand the potential of integrating technology to enhance teaching and learning. You also need to communicate the vision and convince teachers, parents, and community members that educational technology is an essential investment for children. *An Innovation Odyssey* helps you lead by example.



1. Open the *An Innovation Odyssey* Web site: [www.intel.com/education/odyssey](http://www.intel.com/education/odyssey)
2. Click **Themes for Learning** to access Leading the Way. Explore ways innovative principals and other school leaders model the importance of leading by example. Meet powerful role models (including students) who make effective use of technology.



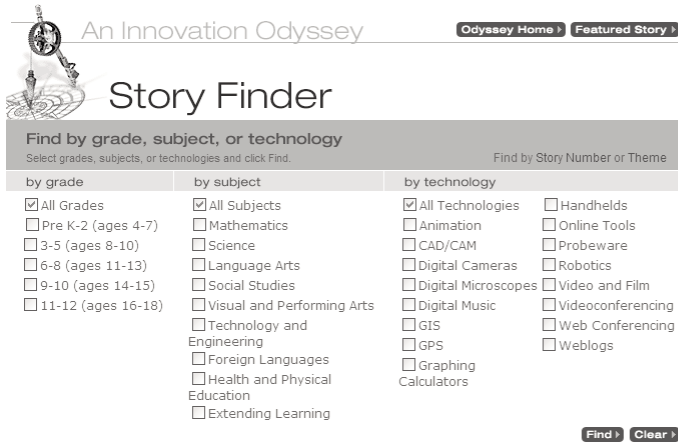
#### Using the Story Finder

The Story Finder is a searchable index of more than 400 stories—with a new story everyday. This online collection paints a picture of what effective technology integration looks like in the classroom.



1. Open the *An Innovation Odyssey* Web site: [www.intel.com/education/odyssey](http://www.intel.com/education/odyssey)
2. Click **Strategies for School Leaders**.
3. Click **Find Ideas** to access the Story Finder, and consider the following:
  - a. In what subject areas would you like to see teachers using more technology?
  - b. What technology tools do you think your teachers could use?
  - c. What actions will you take to promote technology in your school or district?

## Exploring Best Practices and Resources



An Innovation Odyssey

Odyssey Home | Featured Story

## Story Finder

Find by grade, subject, or technology  
Select grades, subjects, or technologies and click Find.

Find by Story Number or Theme

by grade	by subject	by technology
<input checked="" type="checkbox"/> All Grades	<input checked="" type="checkbox"/> All Subjects	<input checked="" type="checkbox"/> All Technologies
<input type="checkbox"/> Pre K-2 (ages 4-7)	<input type="checkbox"/> Mathematics	<input type="checkbox"/> Animation
<input type="checkbox"/> 3-5 (ages 8-10)	<input type="checkbox"/> Science	<input type="checkbox"/> CAD/CAM
<input type="checkbox"/> 6-8 (ages 11-13)	<input type="checkbox"/> Language Arts	<input type="checkbox"/> Digital Cameras
<input type="checkbox"/> 9-10 (ages 14-15)	<input type="checkbox"/> Social Studies	<input type="checkbox"/> Digital Microscopes
<input type="checkbox"/> 11-12 (ages 16-18)	<input type="checkbox"/> Visual and Performing Arts	<input type="checkbox"/> Digital Music
	<input type="checkbox"/> Technology and Engineering	<input type="checkbox"/> GIS
	<input type="checkbox"/> Foreign Languages	<input type="checkbox"/> GPS
	<input type="checkbox"/> Health and Physical Education	<input type="checkbox"/> Graphing Calculators
	<input type="checkbox"/> Extending Learning	

☐ Handhelds  
☐ Online Tools  
☐ Probeware  
☐ Robotics  
☐ Video and Film  
☐ Videoconferencing  
☐ Web Conferencing  
☐ Weblogs

4. After you finish searching for stories, click the **Back** button to return to the Strategies for School Leaders page.

Think about the information available at *An Innovation Odyssey*. What resources did you find useful? Note your thoughts on the lines below.

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### Step 3: Introducing Designing Effective Projects

*Designing Effective Projects* ([www.intel.com/education/designprojects](http://www.intel.com/education/designprojects)) provides a foundation for good planning and supports educators in adapting or creating original project-based units. The *Designing Effective Projects* resource includes a collection of exemplary unit plans that integrate technology into classroom projects. Most of the units were developed by teachers participating in the Intel Teach Program.



intel Designing Effective Projects : Project-Based Units to Engage Students

Home • About Intel • Education Home • K12 Resources

Project Design Thinking Skills Unit Plan Index Instructional Strategies

Teachers have always used each other for good ideas to improve their instruction. The *Designing Effective Projects* resource includes a collection of exemplary Unit Plans that integrate technology into classroom projects. Most of the units were developed by teachers participating in the Intel® Teach professional development program. The program emphasizes curriculum development that aligns to standards and promotes higher-order thinking using Curriculum-Framing Questions, authentic project tasks, effective instructional strategies, and performance assessment. *Designing Effective Projects* provides a foundation for good planning and supports you in adapting these project-based units or developing your own from scratch.

**Project Design** >  
Learn about effective use of project approaches across the curriculum and grades. Follow planning guidelines to help you target standards and assess student products and performances.

**Thinking Skills** >  
Review what current research says about higher-order thinking and what this look like in elementary and secondary classrooms.

**Unit Plan Index** >  
Examine technology-rich Unit Plans you can use right away, or as models for your own planning.

**Intel® Teach Elements: Project-Based Approaches**

Interested in project-based learning for your classroom? Take this self-paced, interactive course and learn new strategies for success with projects.

[Learn more >](#)

**Quote to Note**

"When projects start, I'm learning around facilitating lots of activities at once."

Exploring Best Practices and Resources

The *Designing Effective Projects* resource can help educators:

- Learn how project-based units engage students in meaningful work and promote 21st century skills, such as critical thinking, collaboration, and self-direction
- See how questions and ongoing assessment keep project work focused on important learning goals
- Gather ideas from a collection of exemplary unit plans
- Design technology-rich teaching plans

Searching the Unit Plans

Spend a few moments exploring the *Designing Effective Projects* resources, focusing specifically on the Unit Plan Index. Note ideas and unit plans that you may want to revisit or share with others at a later time.



1. Open the *Designing Effective Projects* Web site:  
[www.intel.com/education/designprojects](http://www.intel.com/education/designprojects)
2. Click **Unit Plan Index** to examine technology-rich unit plans that teachers can use right away or refer to as models for unit ideas addressing priority areas for your school or district. The unit plans in this database are adapted from actual unit plans created by teachers through participation in the Intel Teach Program.



3. Click **Grade (age)** or **Subject** to narrow your search.
4. Scroll to view the unit plans that match your criteria.
5. To see more details about a particular unit plan, click the unit plan name.
6. While you review the unit plans, you might note each section of the plans (such as Curriculum Framing Questions, Assessment Processes, Differential Instructions, and so forth) and consider how the unit plans address and incorporate the following 21st century skills.

## Exploring Best Practices and Resources

The term, *21st century skills*, is frequently used to describe a variety of abilities that are increasingly essential for success in the modern world but are often not taught in traditional educational settings.

These skills include:

- **Accountability and Adaptability**—Exercising personal responsibility and flexibility in personal, workplace, and community contexts; setting and meeting high standards and goals for one’s self and others; tolerating ambiguity
- **Communication Skills**—Understanding, managing, and creating effective oral written, and multimedia communication in a variety of forms and contexts
- **Creativity and Intellectual Curiosity**—Developing, implementing, and communicating new ideas to others; staying open and responsive to new and diverse perspectives
- **Critical Thinking and Systems Thinking**—Exercising sound reasoning in understanding and making complex choices; understanding the interconnections among systems
- **Information and Media Literacy Skills**—Analyzing, accessing, managing, integrating, evaluating, and creating information in a variety of forms and media
- **Interpersonal and Collaborative Skills**—Demonstrating teamwork and leadership; adapting to varied roles and responsibilities; working productively with others; exercising empathy; respecting diverse perspectives
- **Problem Identification, Formulation, and Solution**—Ability to frame, analyze, and solve problems
- **Self-Direction**—Monitoring one’s own understanding and learning needs, locating appropriate resources, transferring learning from one domain to another
- **Social Responsibility**—Acting responsibly with the interests of the larger community in mind; demonstrating ethical behavior in personal, workplace, and community contexts

Source: Partnership for 21st Century Skills ([www.21stcenturyskills.org](http://www.21stcenturyskills.org))\*. Used with permission.

7. Explore the other resources available in *Designing Effective Projects*:

- a. Click the **Project Design** tab to see how well-designed Curriculum-Framing Questions keep projects focused on important learning goals. Find good ideas teachers can use to assess projects and keep students on track during project work. Review planning guidelines to see how teachers can target standards and assess student products and performances.
- b. Click the **Thinking Skills** tab to review what current research says about higher-order thinking and what teaching thinking looks like in elementary and secondary classrooms.

Exploring Best Practices and Resources


- c. Click the **Instructional Strategies** tab to learn about adapting several ideas worth borrowing to engage students and meet instructional aims.
- 8. Consider your school’s or district’s current practices when exploring resources, including:
  - a. As a leader, what must I do to support and promote effective teaching strategies that will positively impact teacher practices and student learning?
  - b. What support methods are in place in my school or district to facilitate project-based learning in classrooms?
  - c. What resources are available to promote 21st century skills?
  - d. How can project-based learning assist in meeting standards and develop 21st century skills?

Use the lines below to note your overall thoughts and findings.


Step 4: Introducing Assessing Projects

*Assessing Projects* ([www.intel.com/education/assessingprojects](http://www.intel.com/education/assessingprojects)) supports student-centered assessment practices and provides a library of assessments for assessing 21st century thinking.


**When assessment drives instruction, students learn more and become more confident, self-directed learners.** *Assessing Projects* helps teachers create assessments that address 21st century skills and provides strategies to make assessment an integral part of their teaching and help students understand content more deeply, think at higher levels, and become self-directed learners.




**Overview and Benefits >**  
Learn more about the features of *Assessing Projects*. Read research about the benefits of different kinds of assessments.



**Try It >**  
See how easy it is to use *Assessing Projects* using a demonstration version. Follow a tutorial that helps get you started.



**Assessment Plans >**  
Get project ideas from other teachers who have used *Assessing Projects* in the classroom.



**Assessment Strategies >**  
Learn about effective assessment strategies by examining examples of different kinds of assessments.

**Sign-In**

Workspace

**Quote to Note**

"The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn."

Alvin Toffler,  
American futurist

- Assess 21st century thinking
- Develop strategies for making student-centered assessment an integral part of teaching and student learning
- Create assessments that promote lifelong learning

- Note:** To enter the Workspace, you need a logon ID and password. On your own time, create a logon ID and password, so you can review the resource and access the Assessment Library and Workspace area. While exploring the library, be sure to review sample assessments of 21st century skills.

- Note any ideas, plans, or strategies you may want to share on the lines below.

[illegible]

Review your knowledge about the Intel Teach Program, including some of the resources on the Intel Education Web site. Explore best practices for integrating technology into teaching and learning.

- How can educational leaders support teacher effectiveness to improve student achievement?

- Student-centered, inquiry-based instruction engages students in meaningful projects.
- 21st century skills play an integral part in student projects.
- Leaders support and promote technology integration through daily modeling, problem solving, and team approaches to teaching and learning.

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