

Pair and Share

Incorporating the Internet into Units 4.01

Share: Ideas for how your students will use the Internet for research, collaboration, and communication

Pedagogical Practices

Helping Students Adapt to a Project-Based, Student-Centered Classroom 4.02

Discuss: How to help your students adapt to a project-based classroom

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Module 4

Creating Samples of Learning

Description: In a student-centered classroom, students create products that require the proficient use of 21st century skills and reflect the depth of their content learning. In this module, you plan and share ways to incorporate the Internet into your unit. You also plan and create a student sample presentation, publication, wiki, or blog to target specific learning objectives in your unit. You assess your student sample using questions based on the Portfolio Rubric and update your Unit Portfolio Presentation in preparation for the next module's Pair and Share.

Pair and Share: Incorporating the Internet into Units



Description: In this activity, you discuss using the Internet with the same group you worked with in the Pair and Share activity in Module 3. You may want to reference your notes from the Planning Ahead activity on page 3.19.

Discuss the following with your group:

1. What is your unit about? What are your Curriculum-Framing Questions?
2. How will you incorporate the use of the Internet in your unit for research, collaboration, and communication?
3. How will the use of the Internet help students develop 21st century and higher-order thinking skills?
4. What feedback or additional ideas are you looking for during this time?

List any ideas from your group:

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Your facilitator may choose to have you brainstorm ideas on this topic in a wiki in order to more easily capture and share ideas from each group. If so, use the same wiki as was used in Module 3. Your login information may be located on page vii or in your Login Information document.

Pedagogical Practices: Helping Students Adapt to a Project-Based, Student-Centered Classroom

While developing your student sample, you may have struggled a little with technology or with decisions about language, design, and content. Similarly, in a student-centered classroom, students may struggle with making decisions about their projects or their learning tasks. In this Pedagogical Practices discussion, you explore ways to help students successfully adapt to and actively participate in a project-based, student-centered classroom.

Units with project approaches help address the individual needs and interests of each student. Projects often expect students to make choices about content, process, and products. Projects also allow students to pursue topics more deeply, try out new skills, take advantage of skills they already have, and create products and performances that reflect their individualities. In projects, students are called on to make decisions, work collaboratively, take initiative, and make public presentations—all of which may be challenging for students at first.

Many students have difficulty transitioning from their role in a teacher-centered classroom—one that focuses primarily on receiving information, answering closed questions, completing worksheets, and taking written tests—to a classroom that promotes open-ended questions, authentic tasks, and multiple types of assessment. “Students who have grown used to being tacit observers or ‘sleepy onlookers’ may well resent having to work harder, especially when such passive learning roles are the norm in other subjects” (Black & Wiliam, 1998).



Form groups to discuss how can we help all students successfully complete project tasks with the ability to:

- Set manageable goals
- Manage timelines and adjust as necessary
- Generate and investigate questions about their work
- Work productively with others
- Reflect and plan for improvement

Activity 1: Examining Student Samples

Developing a sample student product from a student's point of view enables you to decide if the project requirements are appropriate for your students. It also helps you determine the availability of relevant resources and identify content and processes that need to be addressed through instruction.

In this module, you design and create the evidence of student learning (the student sample). In later modules, you will create assessments, activities, and scaffolding to support student learning.

During this activity, you examine a variety of student samples to analyze their learning outcomes and obtain ideas for your unit's student sample. If you are collaborating with other teachers on your Unit Portfolio, you may want to view and discuss these samples together.




1. Open a student sample presentation, newsletter/newspaper, poster, wiki, or blog from the *Student Samples* folder on the Curriculum Resource CD. The student samples are in Unit Plans arranged by grade level. Read through the descriptions and click the links of interest. The links take you directly to Unit Plan examples from the Intel® Education *Designing Effective Projects* resource.
2. Return to the student samples list on the Curriculum Resources CD and click the appropriate Unit Plan or click **Return to [Unit Plan name]** at the bottom left of the student sample. Read through the unit, paying particular attention to the Curriculum-Framing Questions, targeted standards, and learning objectives.
3. Review the procedures, and note how the activities in the classroom support the creation of the student product or performance.
4. Review the Assessment Plan and assessments, and note how the assessments and strategies provide the necessary information to assess student learning demonstrated in the sample.
5. Think about the following questions:
 - What 21st century skills does the student sample demonstrate?



Note: The list of 21st Century Skills is available in the *Thinking* folder on the Curriculum Resource CD.

 - How does the student sample help to answer the Curriculum-Framing Questions?
 - How does the chosen technology tool enable students to enhance their learning, increase productivity, and promote creativity?

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-  6. Discuss your responses to the preceding questions with a partner and note them below.
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Optional:

-  1. Review several other student samples on the Curriculum Resource CD as time permits.
2. View additional student samples on the Intel® Education Web site:
-  a. Go to **www.intel.com/education/DesignProjects** or open the site from your tagged or bookmarked Web sites.
- b. Click **Unit Plan Index**.
- c. View units of interest by grade or subject area. Links to student samples are within the Instructional Procedures section.

Notes:

Activity 2: Planning My Student Sample

As you plan your student sample, consider the Curriculum-Framing Questions, standards and objectives, higher-order thinking skills, and 21st century skills you want to address in your student sample. Then, determine the types of technology that would best support the learning and skills you want your students to be able to demonstrate by the end of the unit.

Student products can be created at different points during the unit and for different purposes. For example, students can create a presentation to set up a community service project or a publication to synthesize their learning at the end of a unit.

Note: This step is available in Module 4, Activity 2, Step 1: Reviewing Project Design in your Notebook.

Step 1: Reviewing Project Design

Think about how a project-approach to learning can help your students meet your learning goals. Consider a project scenario in which your students take on real-world roles—such as reporter, engineer, or statistician—to solve a problem.

Note: This planning area is available in Module 3, Planning Ahead, Step 1: Thinking about My Unit Plan and Project Design of your Notebook.

- What real-world connections are possible for your unit?
- What scenarios might help your students make those real-world connections?
- What roles might your students play
- What tasks might your students complete as they carry out roles?

Note: You may also want to refer to the Project Characteristics Checklist on page A.07 and in the *Assessment* folder on the Curriculum Resource CD.

Notes:

Step 2: Connecting My Student Sample to Questions, Objectives, and 21st Century Skills

Before choosing the type of technology, identify what your students need to include and how they will demonstrate learning. Complete the following to help you plan your student sample.

Note: This step is available in Module 4, Activity 2, Step 2: Connecting My Student Sample to Questions, Objectives and 21st Century Skills in your Notebook.

1. Open your Unit Plan, and review your standards and learning objectives.
 - What concepts, skills, and knowledge do you want students to demonstrate through their student product?
 - What 21st century skills do you want students to demonstrate through their product?
 - Which Curriculum-Framing Questions will your sample address and in what ways?
2. Math literacy improves analytical and logical thinking, which has a place across the curriculum. Consider ways to use math to improve your students' thinking skills.
 - a. Formulate questions
 - b. Collect, organize, and display data using charts and graphs
 - c. Analyze data
 - d. Develop and evaluate inferences and predictions
 - e. Analyze cycles and change
 - f. Use measuring, scaling, ratio, and proportion
 - g. Use statistical measures to analyze trends
 - h. Apply concepts of probability

- i. Make reasonable estimates
 - j. Understand patterns, relations, and functions
 - k. Use systems thinking
 - l. Solve problems involving rates (speed, velocity, density, and so forth)
 - m. Use modeling and projections to represent and understand relationships
 - n. Use accounting, finance, budget, and market analysis
 - o. Use geometry, fractals, and symmetry
 - p. Develop arguments
 - q. Analyze characteristics
 - r. Use visual and spatial reasoning
 - s. Use graphic organizers to represent thinking
 - t. Represent and analyze mathematical situations
3. Record your thoughts in your Notebook. You will review these ideas during Module 5.

Step 3: Choosing the Best Tool for the Job

How will your students demonstrate their learning? What tools will they use to demonstrate their learning? Think about the strengths of the following technology tools and the type of content best served by each. Which technology tools are you considering for your students' use in your unit? What would be the purpose or goals for their use? Consider the age of your students, the type of content you expect them to publish or work with, and their intended audience.

Using the following table, develop possible ideas for your student sample in the brainstorming section, keeping in mind your answers to the questions in the previous two steps and your ideas from the Module 3 Planning Ahead activity on page 3.19. In the next activity, you choose one of the following tools that most appropriately supports the development of a sample student product that meets the learning objectives and expectations for student learning.

Note: The following table is available in Module 4, Activity 2, Step 3: Choosing the Best Tool for the Job in your Notebook.

Creating Samples of Learning

Strength/Purpose of the Tool	Possible Student Use/Purpose
Presentation	
An aid to oral presentations to an audience; use of short sentences or incomplete sentences; various multimedia elements, such as images, sound, video, hyperlinks to Web sites or other files, and so forth	<ul style="list-style-type: none">▪ Present research, proposal, or findings to an authentic audience outside of the classroom▪ Create a portfolio of student work▪ Create a digital picture storybook▪ Show the results of surveys and questionnaires▪ Present science fair projects▪ Present nonlinear projects▪ Provide an information kiosk without a presenter
Your ideas:	
Publication (newsletter, newspaper, or brochure)	
Text-oriented, full sentences, usually meant to be read by one person at a time; combination of text and images; possibly charts and graphs	<ul style="list-style-type: none">▪ Create a newsletter for a community organization, school club, or fictional organization▪ Create a fictional newsletter for a historical group▪ Create a fictional newspaper for a particular period in time▪ Prepare a guidebook or travel brochure▪ Create an informational or persuasive brochure
Your ideas:	

(continued)

Creating Samples of Learning

Strength/Purpose of the Tool	Possible Student Use/Purpose
Publication (poster)	
Limited text, few sentences; images important to support and reinforce meaning; "published" for mass communication; suitable for younger students with limited writing skills	<ul style="list-style-type: none"> ▪ Create flyers or other announcements for a nonprofit group, school, community event, or service project ▪ Design informational, persuasive, or instructional posters ▪ Create an invitation or program for a special presentation, meeting, or concert ▪ Create a menu with appropriate period-specific or culture-specific foods
Your ideas:	
Web-based Resource (wiki)	
Web-based, text-oriented with possible hyperlinks and images; subpages and categories possible; editing history available; publication of current information or research for an audience beyond the classroom; communication with a worldwide audience; collaborative writing with other students and/or experts; contribution to real-world research and problem solving; sharing or reflection of learning or process	<ul style="list-style-type: none"> ▪ Create student portfolios ▪ Provide a graphic organizer for research ▪ Provide a space for collaborative understanding of readings, experiments, music, art, and so on ▪ Provide a space for collaborative writing (plays, stories, or articles) ▪ Organize and collect links to student blogs ▪ Showcase opinion pieces ▪ Organize and present information for science fair projects
Your ideas:	

(continued)

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Creating Samples of Learning

Strength/Purpose of the Tool	Possible Student Use/Purpose
Web-based Resource (blog)	
Web-based, text-oriented with possible hyperlinks and images; journal-like format, date-stamped entries with current information on top; responses from readers; publication of current information or research for an audience beyond the classroom; gathering and sharing information with others outside the classroom; sharing or reflection of learning or process	<ul style="list-style-type: none">▪ Reflect on reading or classroom discussions▪ Investigate topics online and then report on research▪ Record group progress on a project▪ Talk about shared classroom experiences▪ Copy and paste thought-provoking quotes from other blogs or Web resources, and then offer thoughts on the topic▪ Ask professional writers to review the blogs and provide feedback <p>(Jackson, 2005)</p>
Your ideas:	

Step 4: Planning the Content

If desired, use the checklist and storyboard templates available in the *Student Samples, Templates* folder on the Curriculum Resource CD to plan your student sample.

Remember that you are creating your sample as if you are a student. Consider the age of your students and the type of content you expect them to present as you develop the project. Think about how targeted student learning objectives will be achieved and how the final product will help you achieve your learning goals.



1. Open the Portfolio Rubric in the *Assessment* folder on the Curriculum Resource CD or on page A.05.

2. Review the Technology Integration and Instructional Design sections specifically focusing on the items that address student work and student use of technology. Keep these criteria in mind as you plan your student sample.



3. Open and review the checklist and storyboard templates of interest in the *Student Samples, Templates* folder on the Curriculum Resource CD.

1:1 Tip: Providing templates, checklists, and storyboards on a classroom wiki is an easy way to provide resources for students in a one-to-one computing environment.

4. If desired, print the planning documents for the type of student sample you want to create (presentation, newsletter/newspaper, brochure, poster, wiki, or blog) or type your ideas directly in the document. If you want to save the files, save them in your *student_sample* folder.

Note: If you are collaborating with other teachers on your unit portfolio, plan how you can best work as a team on this activity. Consider using the online collaborative Web site or a wiki to share and edit your work on the student sample.

Activity 3: Looking at Learning from a Student Perspective

During this activity, you create one student sample based on your decisions in the previous activity—a presentation, publication, or web-based resource. The student sample should demonstrate how you expect your students to meet the targeted student learning objectives. Consider also how your sample addresses higher-order thinking skills, 21st century skills, and your unit's Curriculum-Framing Questions.

Go to the appropriate option on the following pages, depending on which tool you identified as most appropriate for your unit:

- **Option 1:** Creating a student sample presentation (page 4.11)
- **Option 2:** Creating a student sample publication (newsletter, newspaper, brochure, or poster) (page 4.13)
- **Option 3:** Creating a student sample wiki (page 4.13)
- **Option 4:** Creating a student sample blog (page 4.13)

Option 1: Creating a Student Sample Presentation



Refer to the Intel® Education *Help Guide*, as needed, if you choose to create a presentation. New ideas for types of design and formatting skills are noted below.

Creating a Presentation

1. Create the content and design of your student sample presentation. Make sure that your presentation's content and design align with your expectations and demonstrate what your students would create during this unit. (See all Multimedia Groups.)
2. Review the following additional design features to see if any ideas can be used to enhance your presentation.



3. Save your presentation in the *student_sample* folder of your Portfolio folder.

Refer to the following skills in the *Help Guide* for this section:

- Multimedia Groups 1–9

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Refer to the following skills in the *Help Guide* for this section:

- Multimedia Skill 7.4: To record your voice or another sound on a single slide
- Multimedia Skill 7.5: To add narration to an entire presentation
- Multimedia Skill 7.3: To play a CD audio track in your presentation
- Multimedia Group 8: Adding Animation and Special Effects
- Multimedia Group 9: Setting Up and Playing a Presentation
- Multimedia Skill 1.10: To save a presentation as a Web page

Enhancing a Presentation

Consider whether any of the following enhancements would be beneficial for your student sample:



- **Record a sound or voice narration.**

Your students can enhance their presentations by adding their voice or a sound to a slide or narrating their presentation. This may be helpful for young students. Narration is best used when a presentation will run by itself (such as at an open house, science fair, information kiosk, and so forth). Your computer must be equipped with a sound card, microphone (internal or external), and speakers before you can record and hear a narration. (See Multimedia Skill 7.4 and 7.5)

- **Add music from a CD.**

If your students choose to add music to their presentation, be sure to ask them to review the Fair Use guidelines pertaining to music. They should add any music sources to their Works Cited document. (See Multimedia Skill 7.3.)

- **Add custom animations.**

Students can animate text, graphics, sounds, movies, charts, and other objects on their slides to focus on key points, control the flow of information, and add interest to their presentation. By customizing the animations of their text and graphics, they can set their text to appear by word, paragraph, or bullet point. Animations can be set to occur automatically without having to click the mouse. (See Multimedia Group 8.)

- **Set up a show to run automatically.**

If presenters will not be available to show the presentation (such as at an open house, science fair, kiosk, and so forth), students can set up their presentations so that they will run unattended and automatically restart (or loop) when they finish. (See Multimedia Group 9.)

- **Save presentation.**



Students may want to save the presentation in various formats. One such format allows viewers to open and view the slideshow without showing the menus before and after the show. Students can also save the presentation as a Web page, which allows the audience greater interaction and choice of which slides to view. Presentations saved as Web pages can be viewed with any web browser, without a need for the application used to create the presentation in order to view it. (See Multimedia Group 9 and Multimedia Skill 1.10.)

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- **Print presentation.**



After the presentation is complete, students can print slides for transparencies or handouts. (See Multimedia Skill 9.1.)

Refer to the following skills in the Help Guide for this section:

- Multimedia Skill 9.1: To print your presentation
- Word Processing Groups 1–12

Option 2: Creating a Student Sample Publication

In this option, you create a student sample publication that can take the form of a newsletter, newspaper, brochure, or poster. Use the *Help Guide* if you need assistance in completing any technology skills identified below.

Creating a Publication



1. Use the prompts from Module 1 (pages 1.25–1.27) for the basic steps needed to create a publication, as well as the references to the *Help Guide*, to guide your creation of a publication. (See all Word Processing Groups.)



2. Save your publication in the *student_sample* folder of your Portfolio folder.

Option 3: Creating a Student Sample Wiki

If you plan to create a student sample wiki, scan the following ideas and types of content, design, and formatting skills:



1. Open Wiki Sites in the *Collaboration* folder on the Curriculum Resource CD.
2. Use the online help or forum available in each wiki-creation Web site for instructions on creating your wiki. Consider including the following:
 - Links to Web sites in the context of your discussion
 - Pictures that support the content
 - Uploaded files
 - Navigation to other pages and content in your wiki
3. Write down the URL of the wiki site, your login ID, and password on page vii of the Introduction and/or type the information in the Login Information document available in the *course_resources* folder in your Portfolio folder (if previously saved) or in the *About This Course* folder on the Curriculum Resource CD.

Option 4: Creating a Student Sample Blog

If you plan to create a student sample blog, scan the following ideas and types of content, design, and formatting skills:



1. Open Blogging Sites in the *Collaboration* folder on the Curriculum Resource CD.

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Note: You may want to use the same site as the one used in Module 1 and the rest of the modules for the reflection activities (page 1.27); however, sign up for a new blog to keep your course reflection entries separate from your student samples.

2. Use the online help available in each blog-creation Web site for instructions on creating your blog. Consider including the following features and formatting:
 - Links to Web sites within the context of your discussion
 - Pictures that support the content
 - Uploaded files
3. Write down the URL of the blogging site, your login ID, and password on page vii of the Introduction and/or type the information in the Login Information document available in your *Portfolio* folder (if previously saved) or in the *About This Course* folder on the Curriculum Resource CD.

Activity 4: Revisiting My Unit Plan

Now that you have created your student sample, you probably have a better idea of the of content and skills you will need to address during instruction. During this activity, you modify sections of your Unit Plan and begin drafting the Instructional Procedures section. This section describes the learning activities in which your students are engaged throughout your unit. Also, plan how to integrate Curriculum-Framing Questions, assessment, and 21st century skills throughout the Instructional Procedures. Be sure to sequence the instructional cycle so activities build on each other and support student learning.

1. Open and review the Instructional Procedures section of the Unit Plan Checklist in the *unit_plan* folder of your Portfolio folder.



Note: To view some examples of procedures, view the Unit Plans of interest in the *Unit Portfolios* folder of the Curriculum Resource CD or the Unit Plans in *Designing Effective Projects* (www.intel.com/education/designprojects).

2. Draft the Instructional Procedures section of your Unit Plan using the guidelines from the checklist.
3. As you write your Instructional Procedures, you may find you need to modify your standards and objectives, and revise if necessary. Review the standards and objectives sections on the Unit Plan Checklist for guidance..



4. Save your Unit Plan.

Activity 5: Reflecting on My Learning

Step 1: Reviewing the Module

Review the guiding questions and key points for Module 4 on page 4.18, and think about the materials or ideas you created that can be used in your classroom, instruction, or planning.

In the following modules, you will build on these concepts as you discuss ways to support and encourage higher-order thinking skills through the creation of effective assessments and student support materials.

Step 2: Blogging My Journey

Now that you are halfway through the course, think about how the unit you are developing is answering the course's Essential Question.

Reflect on the activities, skills, and approaches addressed in this module in your personal blog. Remember that you will be sharing your blog entries with a colleague in Module 8 and discussing how your understanding and knowledge have changed over time.



1. Go to your personal blog, create an entry titled, Module 4 Reflection, and copy and paste the question in your entry. Consider how the work in this module added to your perspective on the Essential Question:

**How can technology be used most effectively
to support and assess student learning?**

2. Write about any other insights, questions, or concerns you want to address in your reflection.

If you have difficulties with the blogging site, use the journal template located in the *Portfolio Assessment* folder on the Curriculum Resource CD to complete your reflection.

Planning Ahead

Reflecting on My Student Sample

In this activity, you use the Portfolio Rubric to self-assess the student sample you have created for your Unit Portfolio..

In preparation for the Pair and Share in the next module, use the Portfolio Rubric to assess how the student sample you created in the module meets your design goals. Review your student sample as if a student in your classroom created it.

As you self-assess your student sample, think about how students can use a project assessment to monitor how they are meeting project expectations. "Student self-assessment is not about saving teachers from the work of grading papers. When used in a way that develops student thinking, it can be a deeply principled practice that serves both metacognitive and motivational purposes. ...The real metacognitive work takes place as students begin to learn the meaning of rubric components by trying to interpret them and apply them to their own work." (Shepard, 2005, p.69)

1. Based on your self-assessment, make any necessary revisions to your student sample.
2. Record your thoughts on how your student sample addresses the following traits from the Portfolio Rubric:
 - Instructional Design
 - o Standards and objectives
 - o 21st century skills
 - o Curriculum-Framing Questions
 - o Project approaches
 - o Student differences
 - Technology Integration
 - o Content learning
 - o 21st century skills
 - o Student and classroom needs

Note: If you uploaded your student sample to the wiki, follow the site's directions for modifying an uploaded file on the wiki.

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3. Consider what feedback you would like from your colleagues to help you improve your student sample and enter it on your presentation or your wiki page.

Note: You have an opportunity to revise the student sample in the next module after you create an assessment for your student sample.

Notes:

References

Jackson, L. (2005). Blogging basics: Creating student journals on the Web. *Education World*. Retrieved from www.educationworld.com/a_tech/techtorial/techtorial037print.shtml

Shepard, L. (2005). Linking formative assessment to scaffolding. *Educational Leadership*, 63(3), 66-70.

Wiggins, G., & McTighe, J. (2005). *Understanding by design* (Expanded 2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Module 4 Summary

Review the guiding questions and key points of Module 4 and think about the ideas and materials you have created that can be used in your classroom, instruction, or planning to help improve student learning.

Module Questions:

- How can the creation of a student sample help me clarify unit expectations and improve my instructional design?
- How can I ensure students will achieve the learning objectives when creating their student projects?

Module 4 Key Points:

- Planning and developing a student product requires:
 - Answering the unit's Curriculum-Framing Questions
 - Demonstrating understanding of concepts, skills, and knowledge
 - Demonstrating higher-order thinking and 21st century skills
 - Creating real-world connections for students
 - Using technology appropriately and effectively
- The decision to use a particular technology should be based on its strengths in supporting the desired content and learning objectives. Examples of tools appropriate for student projects are:
 - Presentations—for oral presentations, enhanced with pictures, graphs, charts, sounds, video, and hyperlinks to other resources
 - Publications—for text-based communication, enhanced with pictures, graphs, and charts
 - Wikis—for web-based, text-oriented content that allows multiple editors
 - Blogs—for web-based, text-oriented journals that encourage responses from readers

In the following modules, you will build on these concepts as you discuss ways to support and encourage higher-order thinking skills through the creation of effective assessments and student support materials.