

PBL

- What do you know about PBL?
- Reservations about PBL?

Objectives

- Define 21st Century School
- Define Project Based Learning-PBL
 - View videos of PBL
 - Create a PBL Project incorporating technology
- Create a Driving Question
- Align Project to CCSS and ISTE
- Create a framework for a Culminating Project

Objectives Continue

- Create Activities
- Scaffold Activities-Supporting Students Efforts
- Utilize Technology Tools-Nouns
- Create Assessments
 - Rubrics, Checklists, Presentations, Exam
- Group Students
- Evaluate Projects: Teacher & Student

Traditional vs 21st Century

Traditional



21st Century



21st Century School

1. What is your vision of a 21st century school
2. What does it mean to be literate in the 21st century?
3. What does a typical classroom look like? How do you envision the students working? What is the teacher's role?
4. What does it mean to be literate in the 21st century? What specific "literacy" skills and competencies should our students have when they graduate from high school?

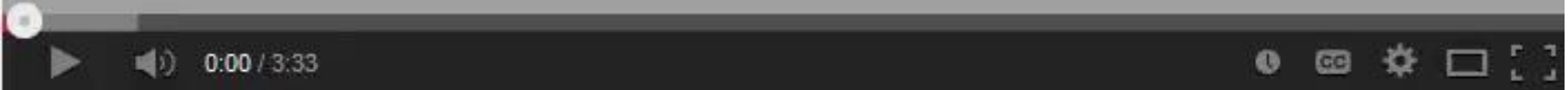
John Dewey.....

“True learning is based on discovery guided by mentoring rather than the transmission of knowledge”

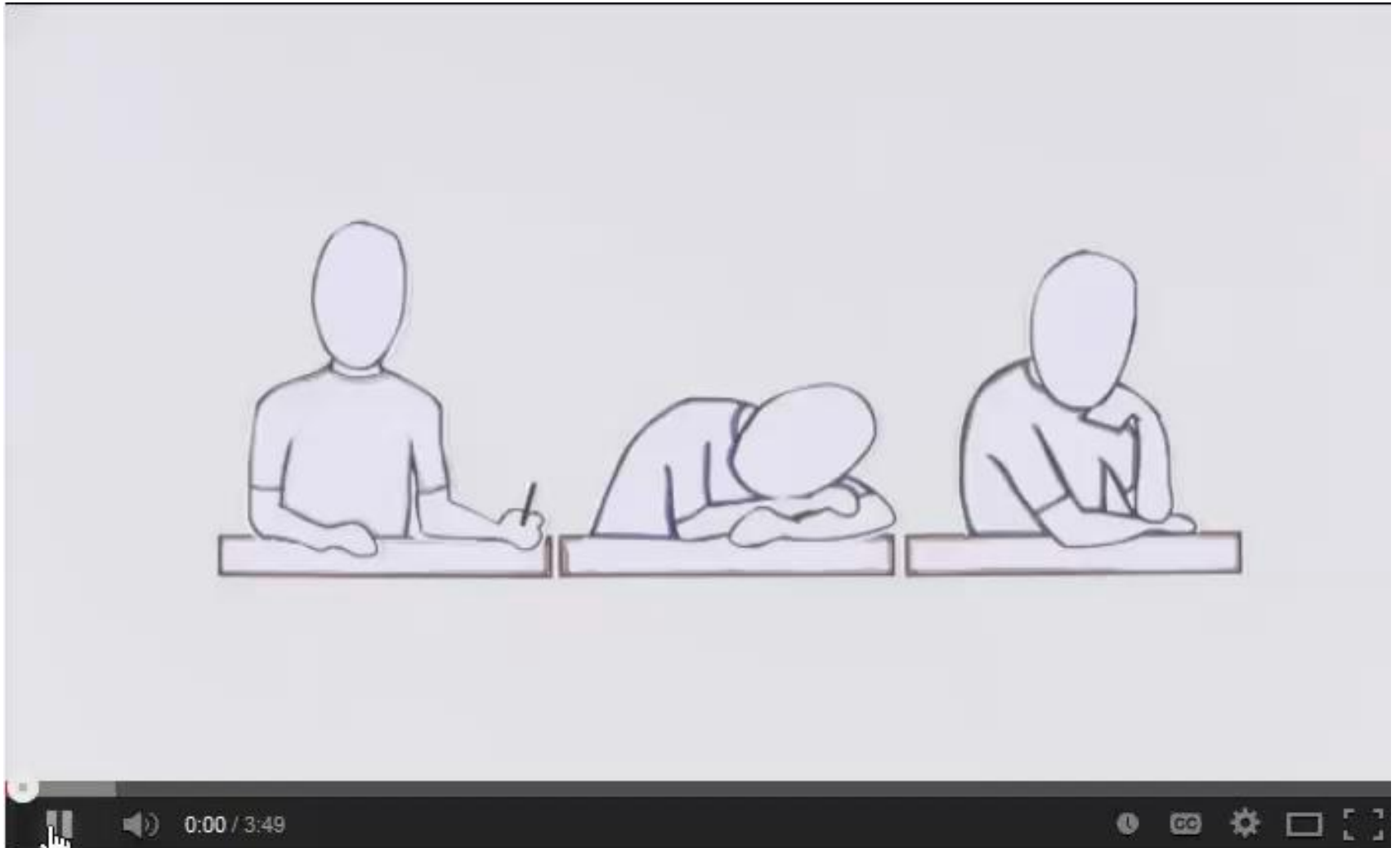
Characteristics Needed in College Graduates

- High level of communication skills
- Ability to define problems, gather and evaluate information, develop solutions.
- Team Skills—ability to work with others.
- Ability to use all of the above to address problems in complex-real world setting

I have a Question: Why 21st Century Learning?



PBL Explained



What is Project Based Learning (PBL)

- Baturay and Bay (2010) refer to problem-based learning as an environment in which emphasis is placed on the students working in small groups to identify the strengths and limitations of their knowledge with respect to a specific learning situation, as well as the relevant information required to solve the said limitations.
- When students are engaged in PBL, they “work in groups to solve challenging problems that are authentic, curriculum based, and often interdisciplinary”(McGarth, 2003)

Definition of PBL

Problem-based learning is an educational approach in which students learn critical thinking and problem solving skills by being active, collaborative participants in a problem-solving process. Students draw upon their preexisting skills/ knowledge to identify, solve, and reflect upon the problems -solutions that arise from the ill structured situations in which they are placed. The learning takes place within real world situations and contexts, where students participate in actual tasks relating to problem solving.

Essential Elements of PBL



Significant Content

21st Century Skills

In-depth Inquiry

Research Supporting PBL

- To increase understanding of concepts and the ability to apply knowledge as measured by standardized tests of subject matter (e.g., Finkelstein et al., 2010; Geier et al., 2008, Hickey, Kindfled, Horwitz, & Christie, 1999; Mergendoller, Maxwell, & Bellisimo, 2007; Walker & Leary, 208)
- To enable students to remember what they have learned longer and use that knowledge in new situations (e.g., Dochy, Segers, Van den Bossche, & Gijbels, 2003; Schwartz & Martin, 2004; Strobel & van Barneveld, 2008)
- To enable students to learn how to work in groups, solve problems, and communicate what they have learned (e.g., Cognition and Technology Group at Vanderbilt, 1992; Gallagher, Stepien, & Rosenthal, 1992; Hmelo, 1998)

Research found in the West Virginia DOE “Extended PD in PBL, impacts on 21st century teaching and student achievement.”

Research at River Forest School District

- 4 Projects 2nd Quarter
 - 1st hour
 - 3 zeros out of 92 students=97% completion
 - 2nd hour
 - 5 zeros out of 103 students=95% completion
 - 3rd hour
 - 1 zero out of 92 students=99% completion
 - 4th hour
 - 1-zero out of 100 students=99% completion
 - 5th hour
 - 3-zeros out of 88 students=97% completion
- 6th Grade (2nd Quarter)
 - Completion rate
 - 97%

More Research at River Forest

6th Grade Science

Fall 2012 Acuity Predictive A

16% predictive to pass, 84% predicted DNP

ISTEP 2013 Science

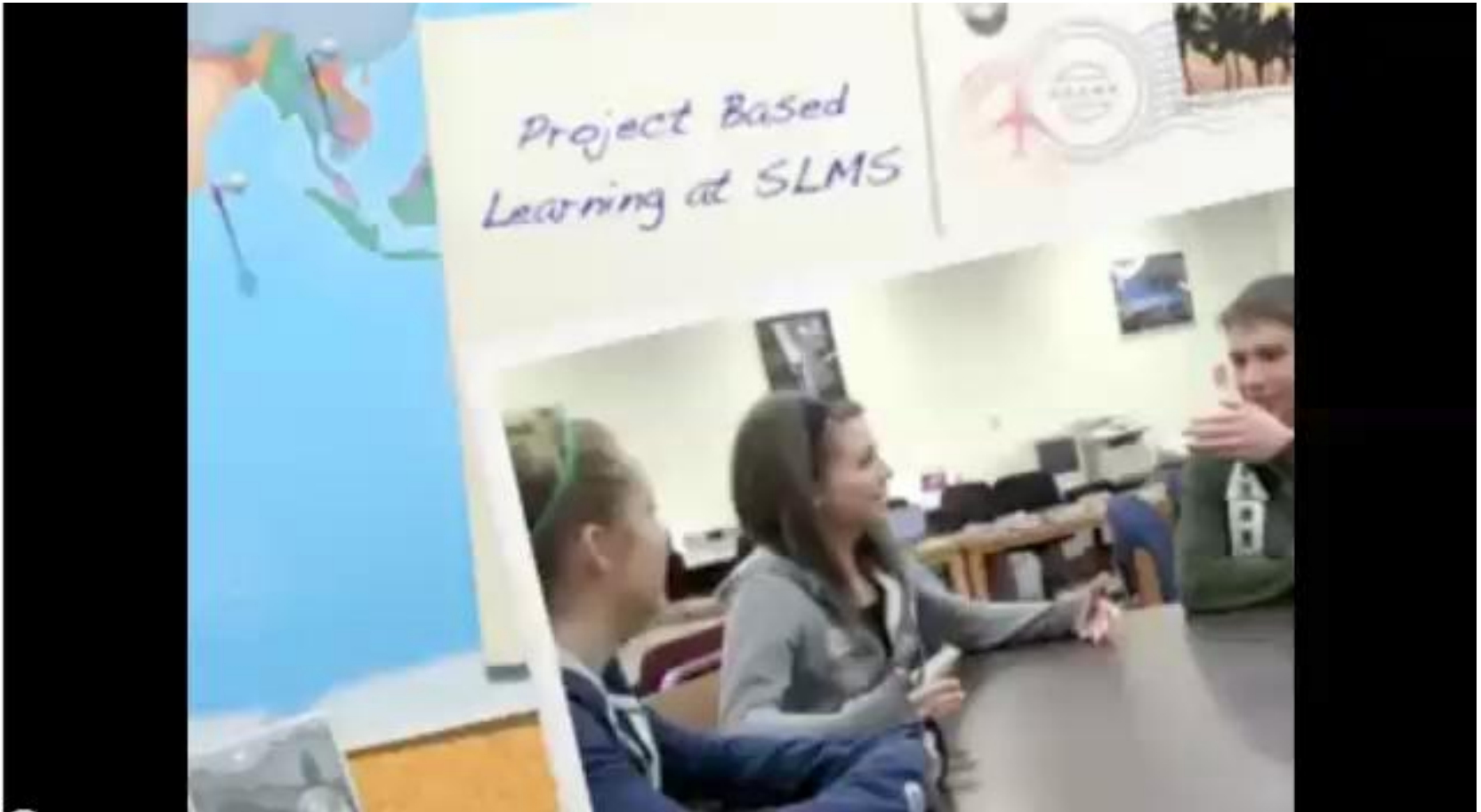
68% passing, 32% DNP

Impact of PBL on Learners

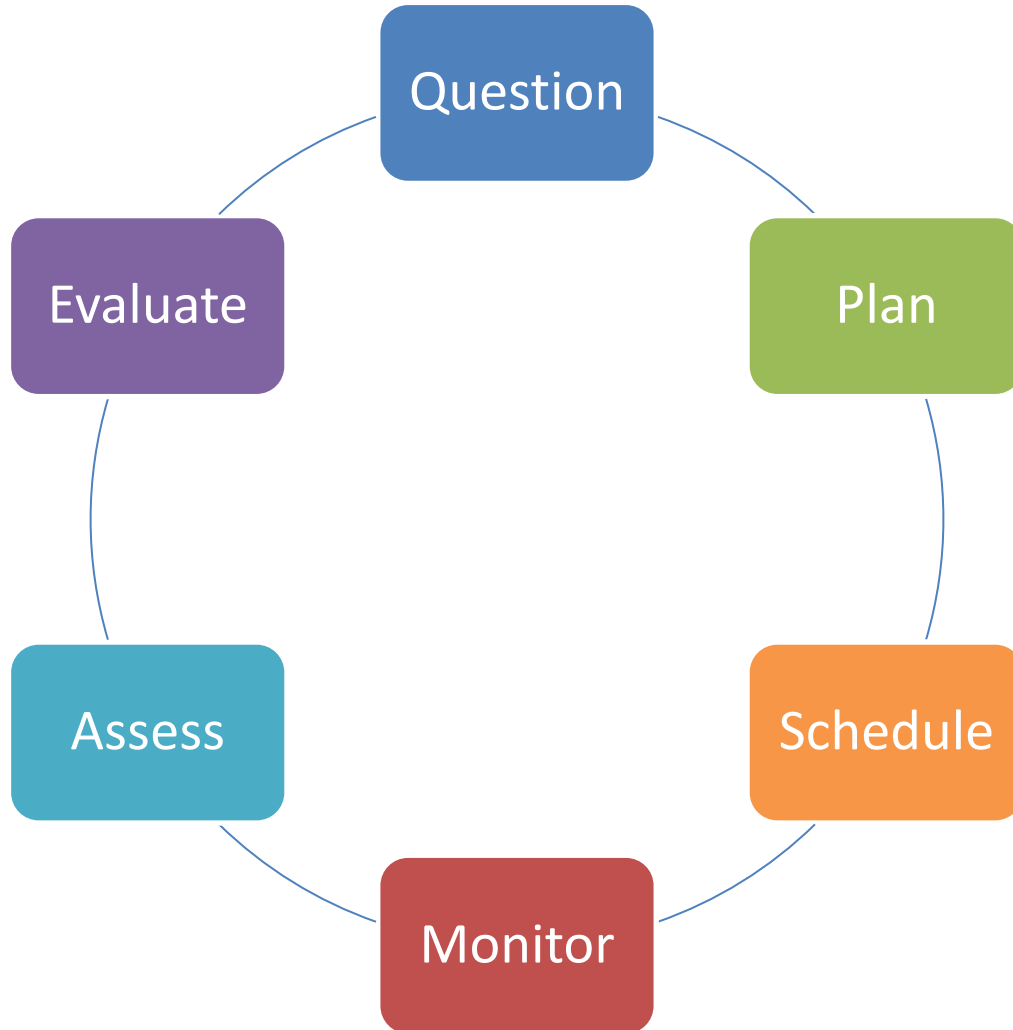
- Increases Motivation
- Makes Learning Relevant to the Real World
- Promotes Higher Order Thinking
- Encourages Learning How to Learn
- Requires Authenticity

<http://www.youtube.com/watch?v=NuRHKUVhpP0>

PBL at Spirit Lake Elementary School



How Does PBL Work?



Ideas for Projects

- Newspaper Articles, news events
- Popular press in the discipline
- Make up a story-based on content objectives
- Adapt a case to a problem
- Research papers
- Community-what's going on in your local community such as water pollution, book banning, traffic issues.
- Other?

News Events to Use for Projects

- SARS outbreak
- Terrorism Treat Levels
- Airline pilots and firearms
- Global Warming
- “No Child Left Behind” and School Choice
- Human Cloning
- Dietary Supplements

Scope of Project



Before deciding on a project, consider the following:

Requirement: standards, course syllabi, reading lists, high-stakes tests

Timeframe:

school or district calendar (holidays, breaks, testing),
access to technology and/ or the media center
Availability of community resources

Your classroom: structure (1:1 technology, only 2 computers per room,
internet connection, movable desks and chairs

Your students: manage your project according to the particular skills,
interests, and attitudes of your students.

Available resources: what materials and equipment are needed, what
organizations, businesses, or other adults will be involved

Scope of Project



Scope of Project

1st Project

- 2-3 weeks in duration or 10-15 hours of class time
- 1-3 standards
- 2 21st Century Skills: collaboration & presentation
- Encourage critical thinking and problem solving
- 2 curricular areas involving 1 teacher
- Simple and limited to the # of students involved
- Presents to the class

Future Project

- a month-semester in duration
- More than 3 standards
- More than 2-21st Century Skills
- Assess critical thinking and problem solving
- Involves multiple subjects, teachers, community members
- Complex and many students involved
- Presents to community members

Driving Question or Problem

- Start with the Essential Question
- Incorporates course content objectives, higher order thinking
- Encourages discussion
- Take a real-world topic and begin an in-depth investigation
- Make sure it is relevant to your students-sparks their interest
- It's not "Google-able"
- Challenging and Rigorous
- Multi-page or Multi-stage
- Designed for group-solving

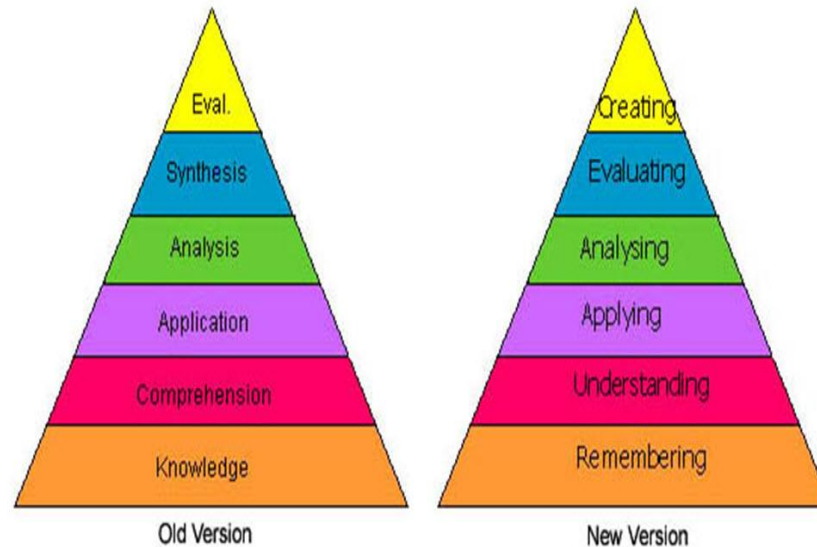
Questions for your Driving Question

Driving Questions=Base of your Unit

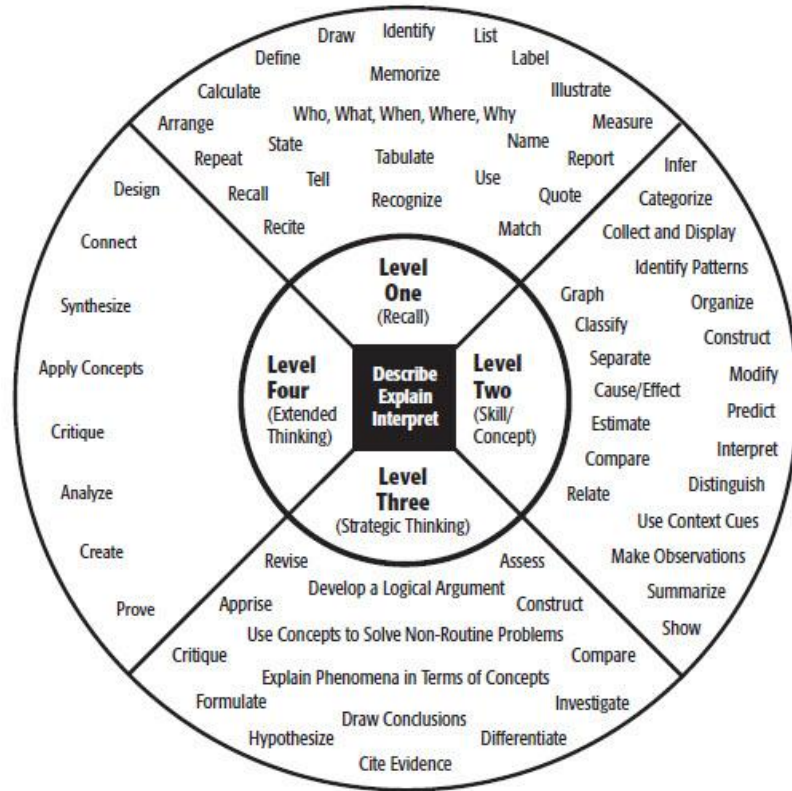
- What is the driving question that will guide your unit?
- What is the context in which it will be used?
- What important discipline-based concepts/standards will it address?
- Who are your learners?
- What do you expect them to learn in this unit?
- What knowledge, performances, and dispositions do you expect your students to acquire?
- What 21st century skills will they gain?
- What makes your question meaningful and authentic to your students?

Ideas for Questions or Problems

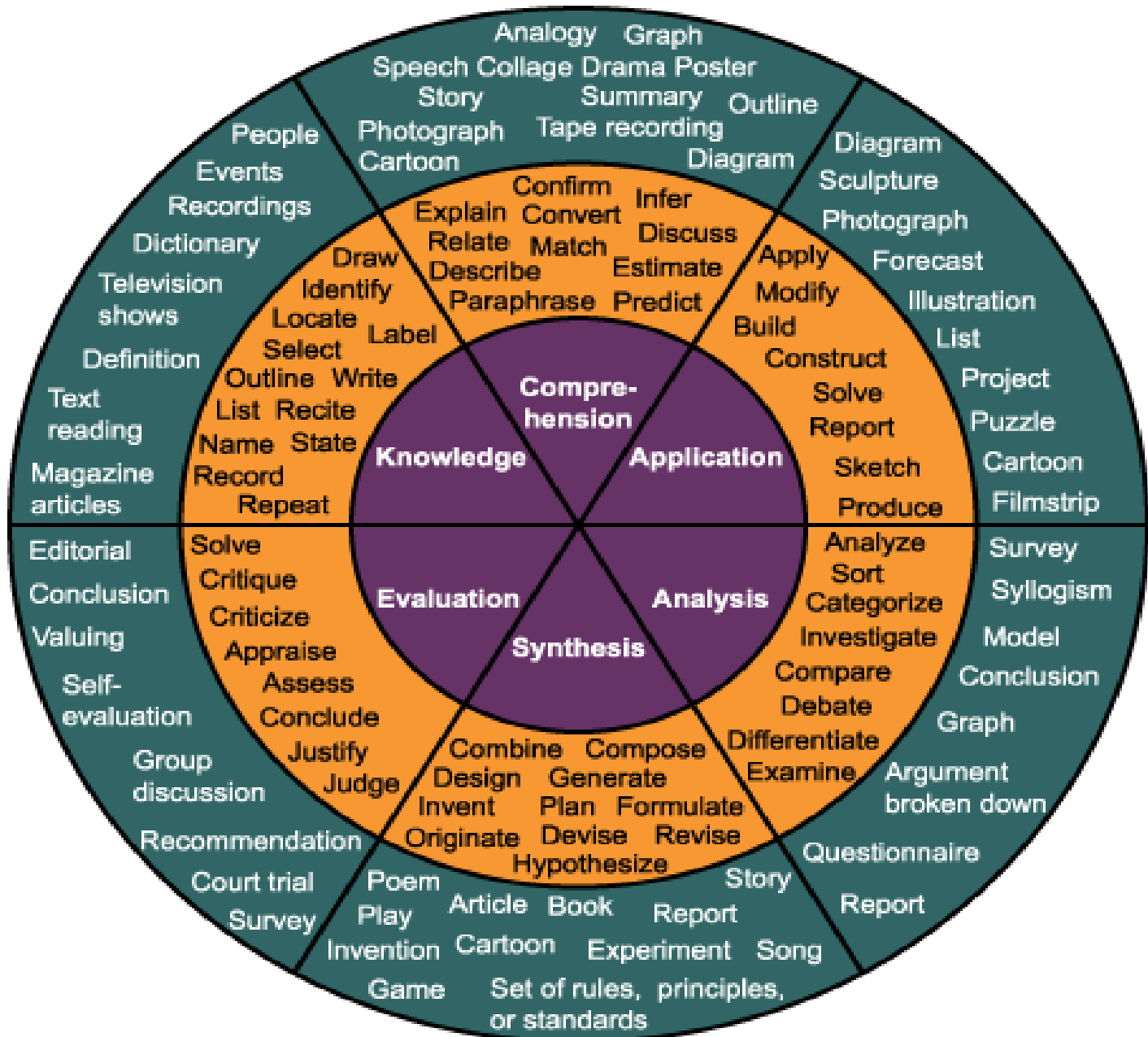
- Bloom's Taxonomy



Caption: Terminology changes "The graphic is a representation of the NEW verbage associated with the long familiar Bloom's Taxonomy. Note the change from Nouns to Verbs [e.g., Application to Applying] to describe the different levels of the taxonomy. Note that the top two levels are essentially exchanged from the Old to the New version." (Schultz, 2005) (Evaluation moved from the top to Evaluating in the second from the top, Synthesis moved from second on top to the top as Creating.) Source: http://www.odu.edu/educ/roverbau/Bloom/blooms_taxonomy.htm



Level One Activities	Level Two Activities	Level Three Activities	Level Four Activities
<p>Recall elements and details of story structure, such as sequence of events, character, plot and setting.</p> <p>Conduct basic mathematical calculations.</p> <p>Label locations on a map.</p> <p>Represent in words or diagrams a scientific concept or relationship.</p> <p>Perform routine procedures like measuring length or using punctuation marks correctly.</p> <p>Describe the features of a place or people.</p>	<p>Identify and summarize the major events in a narrative.</p> <p>Use context cues to identify the meaning of unfamiliar words.</p> <p>Solve routine multiple-step problems.</p> <p>Describe the cause/effect of a particular event.</p> <p>Identify patterns in events or behavior.</p> <p>Formulate a routine problem given data and conditions.</p> <p>Organize, represent and interpret data.</p>	<p>Support ideas with details and examples.</p> <p>Use voice appropriate to the purpose and audience.</p> <p>Identify research questions and design investigations for a scientific problem.</p> <p>Develop a scientific model for a complex situation.</p> <p>Determine the author's purpose and describe how it affects the interpretation of a reading selection.</p> <p>Apply a concept in other contexts.</p>	<p>Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data, and reporting results/solutions.</p> <p>Apply mathematical model to illuminate a problem or situation.</p> <p>Analyze and synthesize information from multiple sources.</p> <p>Describe and illustrate how common themes are found across texts from different cultures.</p> <p>Design a mathematical model to inform and solve a practical or abstract situation.</p>



Criteria of a Driving ?

- **Provocative or challenging**
- **Open-ended and/or complex**
- **Linked to the core of what you want students to learn**
- **Engaging for Students**
- **Aligned with Learning Goals**



Activity 1: Driving Question

Framing Words	Person or Entity	Action or Challenge	Audience or Purpose
How can...	I We	Build... Create... Make...	Real-World Problem
How do...	We as, [Roles] [Occupations]	Design... Plan...	For a Public Audience
Should...	[Town] [City] [County]	Solve...	For a Classroom
The initial word(s) that frames the issues or posed in the DQ	The person or entity that is the focus of the DQ	The action or challenge the person or entity is accomplishing	The audience for or purpose of the action or challenge



Activity 2: Refining Driving Question

Make it engaging:

How did erosion, volcanism, plate tectonics and other forces shape the topography and natural features of our region?

Why are there so many hills and valleys around here? Or,
How can we create animated videos that show how the land in our region was formed?

Provide a local context and/or charge to take action:

What do plants need to grow?

How can we successfully grow vegetables in our school garden? Or,
How can we create a booklet and website with tips for local gardeners?

Make it open ended:

What were the causes of the American Revolution?

Could England have avoided the revolt of the American colonies? Or,
Which causes of the American Revolution were most important?

Make it align with learning goals, without stating the goal.

What are the similarities and differences in how similar themes and topics are explored in myths and stories from different cultures?

Do people everywhere tell the same stories? Or,
Are the stories we like different or the same as the stories kids like in other countries?



Activity 2: Driving Question

Driving Question widget:

http://web.nmsu.edu/~kglaze/518/learn_widget.swf

Crafting a Good Driving Question:

http://174.123.25.183/driving_question/drivingquestion.html

Activity: Assess Your Question or Problem

- What did you like most about the problem?
- Does it challenge students to think and do research?
- Is the problem appropriate for the proposed course?



1. Identify the course

Think of the subject, level of students, size of class, and how you would use it.

2. List the learning objectives that would be met by this problem as it relates to your source.

3. What requirements do you live with?

Standards, course syllabi, assessments

4. Look at your timeframe

School calendar, classroom time,

5. Look at your resources

What other adults can help, communities, organizations, experts in the field



1st Project

- Keep it simple
- Allow 2-3 weeks in duration
- 2 curricular areas, 1 teacher
- Limited complexity and # of student products
- Classroom based, not community based

Plan

- Plan which content standards will be addressed while answering the question.
 - **CCSS? Indiana State Standards?**
 - **ISTE**
- Choose your power standards first
- Provide activities that support the inquiry.



Activity: Plan

- Alignment to the Standards
 - Align to CCSS first
 - www.corestandards.org/Math
 - www.corestandards.org/ELA-Literacy
 - Align to ISTE for Students
 - www.iste.org/standards/standards-for-students

Harness Your Students' Digital Smarts



Technology as a Tool

The Nouns

- Planning: Using technology in partnering
- Understanding tools: Comparing and contrasting different tools for different needs
- How to guide students to the right tools for the skills they are learning



Technology as a Tool



symbaloo
start simple

www.symbaloo.com

Search for WebMix-Web 2.0 tools MD

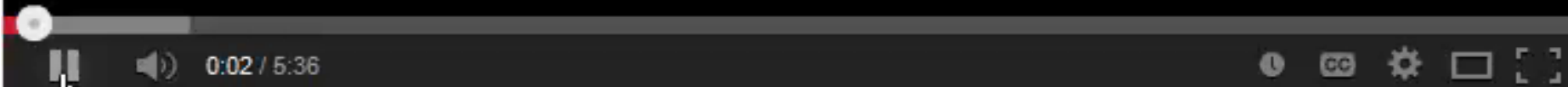


<http://www.learnitin5.com> SPACE

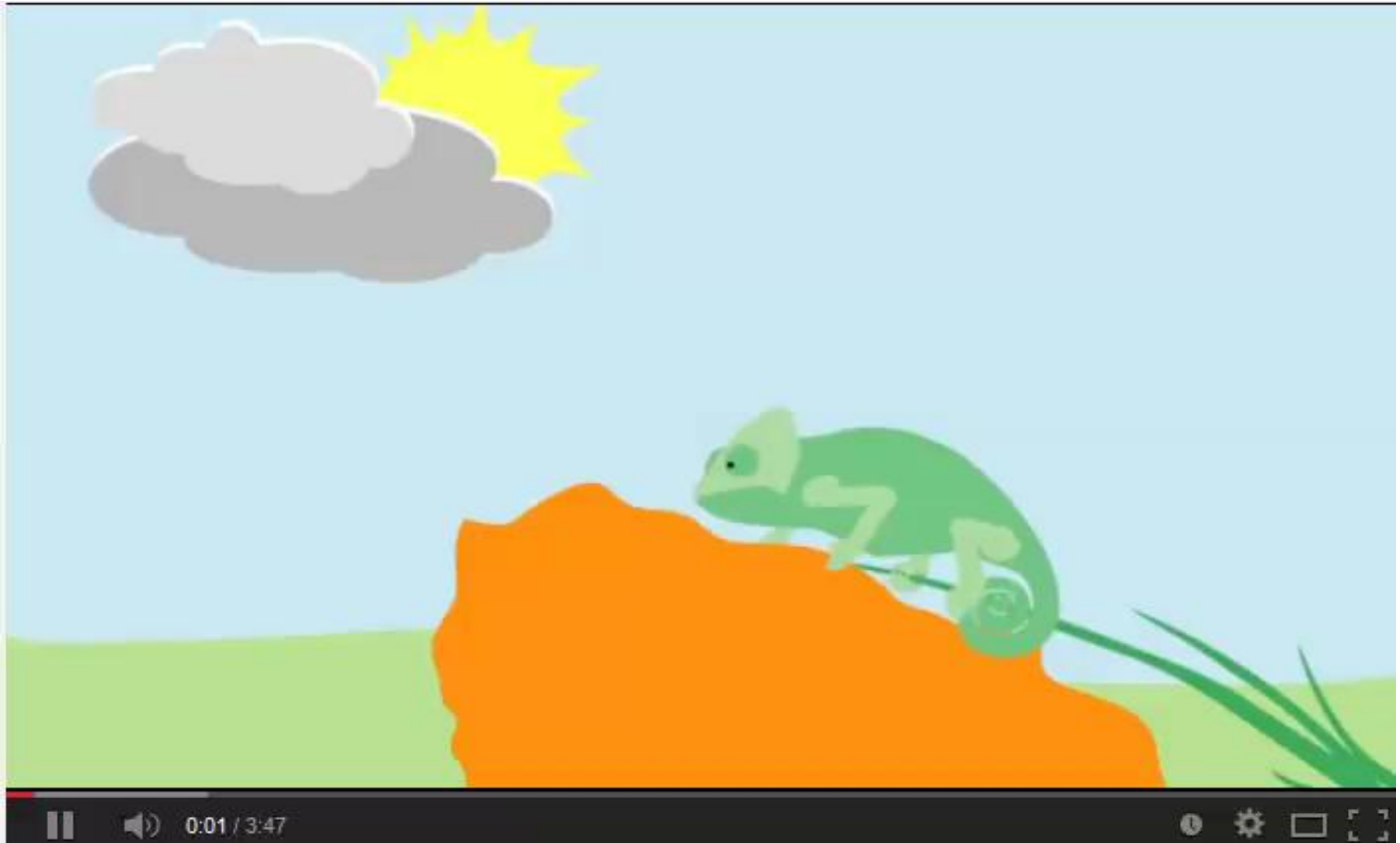
Learning to Change-Changing to Learn

Learning to Change

CHANGING TO LEARN



Computational Thinking: A Digital Age Skill for Everyone



Culminating Products (**Verbs**) & Summative Assessment

Begin with the end in mind (Backward Design)

What do you want your students to learn?

First you have Specified the content standards, 21st Century Skills, and ISTE

Decide how you will gather evidence that the goals have been reached.

First, decide on the culminating products and/or performances that will show achievement

Then, decide on the assessments to evaluate the products and performances.

Culminating Products

1. Tangible-something students create
2. Performance-something students do
3. Tangible & Performance-something students create and do
4. Keep the products similar to the real world:
A scientist who completes an experiment would write an article or report explaining this experiment or a presentation at a conference; not a brochure.

Important: Align your products with your outcomes to find evidence in their work of what you want the

Examples of Culminating Products

Written	Presentation	Technological	Media	Construction	Planning
Research Report	Speech	Computer database	Audio Recording	Physical model	Proposal
Narrative	Play	Computer graphic	Slide Show	Consumer model	Estimate
Letter	Debate	Computer program	Video	System	Bid
Poster	Song/lyric	Web site	Drawing	Machine	Blueprint
Proposal	Oral report	Graphic presentation	Painting	Scientific Instrument	Flow chart
Poem	Panel Discussion	Flow chart	Collage	Museum exhibit	Timeline
Brochure	Newscast		Sculpture		
Autobiography	Data Display		Map		
Book Review	Musical piece		Scrapbook- Photo album		
Editorial	Exhibition of products		Oral History		

Written, Visual, & Oral Culminating Projects

Written and Visual

- Create a website appropriate for middle or high school students on this topic.

Written, Visual, and Oral

- Prepare a 15 minute informative talk on this topic using Prezi or PowerPoint slides.
- Construct an argument about your position on this topic, and present it to the class for debate.

Visual

- Prepare a concept map incorporating the major issues related to this problem.

What's Your Culminating Project



Planning-Lesson Objectives- Verbs

Moving from the question to the objective

- Planning: From content to questions and from questions to skills
- Differentiating learning
- List of the Knowledge, Skills, and Dispositions students should learn
- What are the specific **"verbs"** that you want students to "do" with the content.
- Example of verbs: reflecting, thinking logically, collaborating, writing, thinking creatively.

Authentic Lesson Activities

Contain 3 Criteria:

1. Construction of knowledge
2. Disciplined inquiry
3. Value beyond school

Creating Authentic Lesson Activities

Activities, Scaffold and Tools

- What kinds of investigations do you expect your learners to conduct?
- What **activities** will be individual or group assessed
- How will you assure that students are learning important content?
- Where are students likely to have difficulty? What specific **scaffolds** will you use to assist them
- What **tools** will students use to support their work
- How long will the unit last? When will it occur?

PBL Activities or Tasks

1. Why consider PBL activities separate from the PBL problem?
2. Isn't the problem the assignment?

Activities

- Must fit into the organizing structure the project provides
 - Aligned to the objectives
 - Should be engaging and provide context for learning
 - Practice the process of thinking skills: Comparing, Analyzing, Evaluating (Bloom's)
 - Includes a mix of independent student work, teacher guided activities, and direct instruction
1. "Unpack" the knowledge and skills students will need in order to do well on the project's major products, performances, and assessments
 2. Make a list of terms or concepts students will have to understand for the project
 3. List the skills of researching, writing, making a presentation, creating visual aids
 4. Plan how students are going to get the information they need: textbook, library, provided lesson, experts, internet



Activity: Objectives and Activities

- Project Overview or Excel Form needed
- Write you Project Idea and Summary on the Project Overview
- Write the knowledge and skills needed by students on your form.

Scaffolding-Supporting Student Efforts

- Where are students likely to have difficulty? What scaffolds will you use to assist them (include specific examples)?
- How can you assure your students will succeed in complex project work?
- List where in the activities leading up to the project will students have difficulties.



Types of Project Scaffolding

Scaffold	Description	Examples
Structure	Organizing features of the project that determines <i>who</i> does <i>what</i> and <i>when</i>	<ul style="list-style-type: none">*Students split into project teams or groups*Each team investigates a different topic, but all create a public service video.
Content	Any classroom activity that covers the foundational topics, concepts, and standards that students need to know for the project	<ul style="list-style-type: none">*Interactive lecture on customer service.*Reading and discussion on how computer networks are structured.
Training	Explicit skill building for students in group work and all required production areas	<ul style="list-style-type: none">Modeling of key steps in creating a PowerPoint PresentationExplicit group communication training

Types of Project Scaffolding Cont.

Scaffold	Description	Examples
Oversight	Structured times for teachers to meet, motivate, and mentor student teams	<ul style="list-style-type: none">*Teacher informally interviews each student team during project workshops*Project teams give project report halfway through project
Documents	Handouts to help explain and organize project	<ul style="list-style-type: none">*Project descriptors and calendars*Project rubrics, deadlines, check sheets
Tools	The technological resources necessary to produce required products	<ul style="list-style-type: none">*Computers, software, video cameras*Display boards, scissors, glue, paper
Time	In class opportunities for students to meet, research, produce, exhibit, and evaluate	<ul style="list-style-type: none">*Thirty minutes of project time each day.*Designated “project days”- extended period of time for student project work.



Activity-Scaffolding

Needed: [Project Teaching & Learning Guide](#) or [Excel Spreadsheet](#)

List the product and skills needed by students

List the activities incorporated in to the project

List the scaffolds needed by students -What activities leading up to the project will students have difficulties?



Tools: Technology & Materials



Mrs. Cassidy's Blog-1st Grade

Google Docs and Vegemite

Awhile ago, we started a [google doc](#) to collect breakfast foods and where the people who ate them lived. Many people from around the world contributed to the doc and helped us learn. (Thank you for that!)

Recently, we took all of the words from the google doc and put them into a [Wordle](#). Here is what it looked like. You can clearly see some of the most common breakfast foods as well as where many people were from who helped us out.



Grade One

- Aaliyah
- Annamae
- Camryn
- Chloe
- Deion
- Dylan
- Eldrin
- Gus
- Hayden
- Haydn
- James
- Joel
- Kirysma
- Kobey
- Practice Patty
- Shaine
- Shayna
- Titan
- Tucker

About the Blogger

I teach a class of six year olds in Moose Jaw, Canada who are inviting the world into their classroom to help them learn.

You can contact me at

Mrs. Cassidy's Blog

The children noticed that a few people had written that they ate Vegemite for breakfast. We had to try it.



As you can see, not everyone thought it was the best food ever. Each child chose one word to describe the taste of Vegemite, and we again made a Wordle to see what the most common reactions were. Definitely mixed opinions!

Mrs. Cassidy's New Class Wordle



Article posted May 9, 2011 at 08:43 AM • comment (12) • Reads 18542 • see all articles



Activity-Technology Tools



Activity:

List on your learning guide or spreadsheet the tools and materials needed

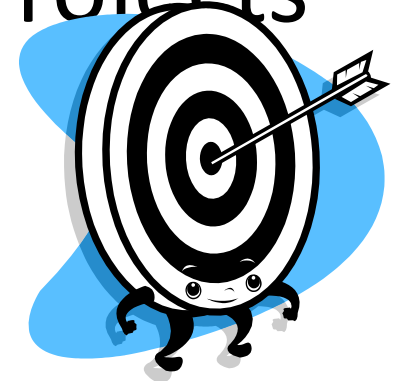


Needed: Protect Teaching & Learning Guide or Excel Spreadsheet

What went wrong?

Mrs. Smith did great launching her project and her students have been engaged and busy for 2 weeks researching the topic and preparing PowerPoint Slides to answer the Driving Question. Now, it's time for the culminating project and the "big" finish! All papers have been turned in and oral presentations have been made to an audience from the community. The audience members applaud and say things like, "they sure seemed engaged" and "you can see the effort put forth." Mrs. Smith smiles but feels uneasy---many presentations were too long, too short, too boring, or just plain organized. The slides were a mishmash. All of a sudden a sinking feeling sets in for Mrs. Smith. Most of the papers wandered off topics and full of mistakes. One person in some groups did all of the work. Not enough resources were available and a superficial understanding by the students existed. Mrs. Smith wonders, "Did I just waste 2 weeks?"

Assessments for Culminating Projects and Activities



Detailed analytic rubrics are needed

Provide it to students

Assess content knowledge **separate** from 21st Century Skills such as collaboration and presentation

The language in a rubric should be clear & specific

Best way to write a rubric: samples of students work

Give more weight to certain categories, when needed

Online rubric tools

<http://rubistar.4teachers.org/>

<http://bie.org/objects/cat/rubrics>

<http://wvde.state.wv.us/teach21/SecondaryRubrics.html>

<http://pblchecklist.4teachers.org/index.shtml>

<http://www.freetech4teachers.com/2013/12/rubrics-for-blogging-and-multimedia.html>

Checklists

<http://pblchecklist.4teachers.org/index.shtml>

Summative Assessment Strategies

Assessing 21st Century

Why Assess 21st Century Skills?

Summative Assessment Strategies

Presentation Rubric	Collaboration Rubric	Journals or Learning Logs	Self-Report	Peer Report
Assign a score. Provides information about strengths and weaknesses	Group Reflection. Assesses how well the group worked together	Students keep record of their skills such as collaboration, critical thinking, problem solving, and project management	Students write a short report or answer questions about how well they used 21 st Century skills. Provide a rubric.	Students individually write a short report or answer questions about how well their peers in a group used 21 st Century Skills

Formative Assessments

Content Knowledge & Understanding	Specific Skills	Quality of Student Work, Inquiry Skills	21 st Century or Process Skills
Quiz	Using technology	Lists of questions	Observe groups:
Quick-write to explain a concept	Using equipment	Resource lists and research notes	work
Individual homework assignment	Writing	Concept maps	Talk with group members
	Graphic design	Rough drafts	Hold meetings with group leaders
	Using math	Learning logs/journals	Collect status reports on task completion
	Recording data	Plans, prototypes, preliminary drawings	
	*Have students practice so you can give feedback	Website maps	
	*Utilize checklists	Storyboards for videos, PowerPoint slides	
		Practice Presentations	



Activity-Assessments

Create Summative Assessments

Use the Rubric links for reference

or

Create a Rubric in a Word Table or Excel

Why did I get a B?

Grading PBL

- Assign a grade or score to each product or performance in the project
- Include a mix of individually-earned grades and group-earned grades in every project, and record them separately in your grade-book.
- Give more weight to individual grades
- Separate grades or scores for demonstrating 21st Century Skill from grades for learning subject-matter content

Grouping

- You choose the students
- Four is the most effective size
- Heterogeneous groups are best

How do you answer this question:

Can I work with my friend?

- A. No, because I've already assigned everyone to groups for good reasons, which I would be happy to explain if you'd like to meet me after school
- B. No, because I've seen things turn ugly when people try to work with friends who became ex-friends
- C. No, because working with different people is what happens in the real world, so it's a good skill to practice
- D. All of thee above, because that's always the best choice on tests, right?

Strategies for Grouping

- Make each group member accountable to run is some pieces of the project. Assign individual grades for those pieces of work.
- Discuss with students about sharing and balancing the workload.
- Teach students to be accountable for each other.
- Discuss with groups how everyone has different skills and can contribute to a project.
- Remind students that you will be closely observing them as they work and intervene when needed.

Possible Group Roles

Project Leader - proposes meeting agendas, suggests division of labor, and develops the overall project plan

Facilitator: Responsible for getting the group started, keeping it on task, and involving all members.

Recorder: Responsible for keeping a record of what happens in the group meeting.

Spokesperson/Reporter: Responsible for summarizing group decisions for the larger class.

Timekeeper: Responsible for keeping group on task and on time (particularly with in-class activities).

Reality checker: Responsible for noting group decisions and whether they are realistic.

Devil's advocate: Responsible for pointing out alternate viewpoints and asking tough questions.

Spy: Responsible for getting info from other groups when appropriate.

Project Launch

"I really love those worksheets we did today. Can we do some tomorrow, too?" said no student ever.



somee cards
user card

Project Launch



Give students a piece of correspondence presenting a challenge

An email message from the CEO of a business to employees describes a need and asks for proposals

Have a discussion about an issue of interest or events in the news.

Review a website

Invite a guest speaker

Conduct a demonstration or an activity

Show a video, scenes from a film (fictional or documentary)

Read something provocative



Present startling statistics or a puzzling problem

Display photographs or works of art

Sparking Interest



DALLAS/FORT WORTH | Delta Air Lines Flight 191

As Delta Flight 191, a Lockheed L-1011, approached for landing at Dallas/Fort Worth airport, a thunderstorm lurked near the runway. Lightning flashed around the plane at 800 ft., the plane to lose 54 knots of airspeed in a few seconds. Sinking rapidly, the L-1011 hit the ground about a mile short of the runway and bounced across a highway, crushing a vehicle and killing the driver. The plane then veered left and crashed into two huge airport water tanks. On board, 134 of 163 people were killed.

Clear Expectations

Make it authentic

Make the situation clear.

Make the task clear.

Make it important and urgent.

Make it short.

Add Variance

Make the project is open-ended-several possible answers to a Driving Question or a solution

Have students read different articles, books that share a common theme. Or share different examples of the same topic.

Distribute tasks or topics so each group is responsible for one part of the project

Assign students different roles or perspectives from which to provide answers to a Driving Question.

What to Provide Students

Rubrics:

- Major project
- 21st Century
- Project Management Log
- Group Tasks
- Project Group Contract
- Project Work Report for the individual and group

Optional:

- Calendar
- Summary of the Project: major products, how work will be completed, grading policy, due dates
- Resource List

Other Materials:

- Readings or other written materials
- Exemplars of projects
- Guidelines, templates or other scaffolds for creating products
- Materials to accompany lessons

Presentation Day



INTERACTIVE

FEEDBACK
EXPLAIN
IMPLICATIONS
PROCESSES
QUESTIONS
COLLECT
CHOICES
PREDICTIONS
ANSWER
STATE
MAKE

Product Redesign Presentation 8th Grade



Evaluate your Project

The project should be evaluated by:

The Teacher

The Students

PBL Resources

Finding Project Ideas

- Buck Institute for Education & Boise State University
<http://pbl-obline.org/>
- West Virginia Dept. of Educ.
<http://wvde.state.wv.us/teach21/pbl.html>
- Edutopia, from the George Lucas Educational Foundation
<http://edutopia.org>
- Envision Schools
<http://www.envisionprojects.org>

PBL Resources Continued

High Tech High School

<http://www.hightechhigh.org/dc/Projects.php>

Oracle Education Foundation

<http://thinkquest.org>

WestEd

http://www.wested.org/pblnet/exemplary_projects.html

Ohio Resource Center

<http://pathways.ohiorc.org>

PBL Resources Continued

- <http://smallschoolsproject.org>
- <http://www.pblnet.org>
- <http://www.learn-canada.org/guideontheside.html>
- <http://virtualschoolhouse.visionlink.org/pbl.htm>
- [http://www.bie.org/images/uploads/useful_stuff/8 Essentials article small file size Oct2012version.pdf](http://www.bie.org/images/uploads/useful_stuff/8_Essentials_article_small_file_size_Oct2012version.pdf)
- http://wvde.state.wv.us/research/reports2012/PBLEvaluation_092012.pdf

Example Projects

<http://www.youtube.com/playlist?list=PL81BC3780C6D5D1CA>