

PBL



**FOR THE 21ST
CENTURY**

BIE: WHO WE ARE

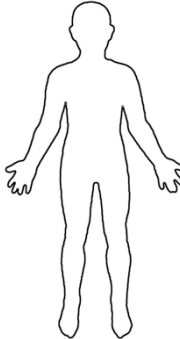
- BIE is dedicated to improving 21st Century teaching and learning by creating and disseminating knowledge, products, and practices for effective Project Based Learning
- Non-profit located near San Francisco
- Workshops and partners in over 30 states and 6 countries
- www.bie.org
- www.pbl-online.org
- *PBL Handbook* and *PBL Toolkit* series, and project based curriculum units for high school Economics and U.S. Government

WORKSHOP OUTCOMES

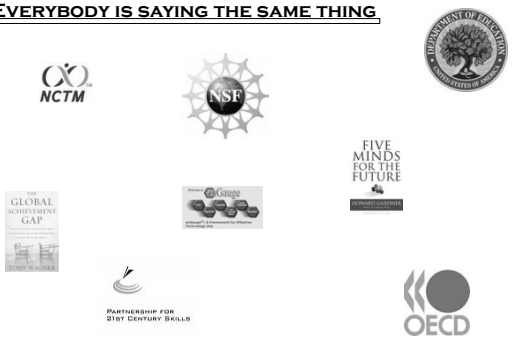


- Develop an understanding of best practices in project design, assessment and management
- Explore online resources for PBL
- Practice using tools and processes for project planning
- Create the first draft of a project for classroom use
- Participate in a peer review protocol for project improvement


YOUR IDEAL GRAD – BEGIN WITH THE END IN MIND



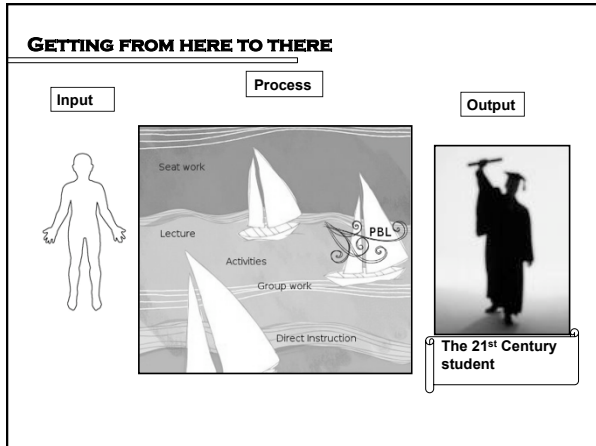
EVERYBODY IS SAYING THE SAME THING



AND REMEMBER



- 21st century skills need to be developed *while* building students' content knowledge
- To stay engaged in school, students need to care about learning – by being given meaningful work
- Relationships count – more personalized teaching should lead to more rigorous work



ACTIVITY-BASED TEACHING VS. PBL

Activity-based teaching	PBL
Enjoyable; active, hands-on learning	Engaging (emotionally <i>and</i> intellectually); "heads-on"
Focused on theme, concept, time period, novel, topic, culture, textbook chapter	Driving question, problem or challenge
"we do projects" = curricular add-on ("dessert")	Project organizes curriculum & instruction ("main course")
Assessment = product	Product <i>and</i> process
School world	Real world


Activity-based teaching vs. PBL

Is it PBL?

- Perform scenes from *Macbeth* and make collages of symbols that represent major characters.
- Listen to different sounds. Make a graph. Identify features of common sounds that are disturbing to the ear.
- Write a research report on a Renaissance artist, build a model of a device from a da Vinci drawing, and create a TV news video about a major event of the time.
- Play various card and dice games to determine the probability of winning.


FROM ACTIVITIES & "DOING PROJECTS" TO PBL

<p>From...</p> <p>Perform scenes from <i>MacBeth</i> and make collages of symbols that represent major characters.</p>	<p>To...</p> <p>Explore universal themes in <i>MacBeth</i> by writing and performing key scenes in modern English, in modern settings.</p>
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FROM ACTIVITIES & "DOING PROJECTS" TO PBL

<p>From...</p> <p>Listen to different sounds. Make a graph. Identify features of common sounds that are disturbing to the ear.</p>	<p>To...</p> <p>Identify five sound pollution problems in the community. Form task forces to study the problems and recommend solutions.</p>
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FROM ACTIVITIES & "DOING PROJECTS" TO PBL

<p>From...</p> <p>Write a research report on a Renaissance artist, build a model of a device from a da Vinci drawing, and create a TV news video about a major event of the time.</p>	<p>To...</p> <p>Study various developments during the time period to support and present an answer to the question, "Was the Renaissance a rebirth or a whole new baby?"</p>
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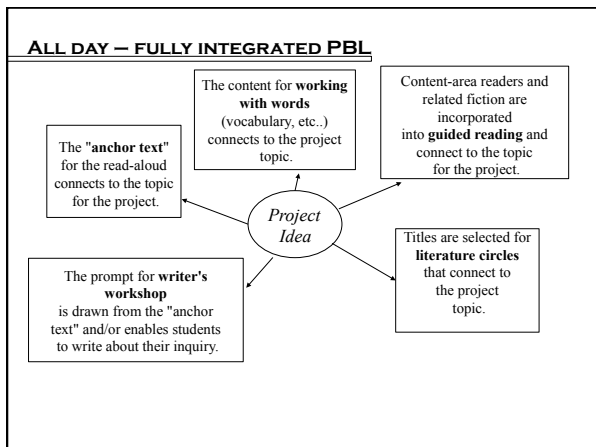
FROM ACTIVITIES & "DOING PROJECTS" TO PBL



<p>From...</p> <p>Play various card and dice games to determine the odds of winning.</p>	<p>To...</p> <p>Plan a "Probability Booth" for the annual PTA fundraising Carnival, with activities whose odds of winning would attract lots of players.</p> <p>Determine how much money it would cost to play, how much winners receive, and how much profit you expect.</p>
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3 MODELS OF IMPLEMENTATION

- **All-day** - Fully integrated PBL
- **Partial** - Part-day, partially integrated PBL
- **Separate** - Afternoon, separate PBL, or split block



PART DAY – PARTIALLY INTEGRATED PBL
 .State or district-adopted Language Arts program

.Some project content incorporated into literacy block

.Literacy block scheduled to take place at a specific time during the day

.Students primarily do project work in the afternoon

PART DAY – PARTIALLY INTEGRATED PBL
 .Options for connecting project content into a morning Language Arts block:

- Select an "anchor text" for a read-aloud that connects to the topic for the project.
- Select a prompt for writer's workshop that relates to the "anchor text" and/or enables students to write about their inquiry.

PART DAY – PARTIALLY INTEGRATED PBL
 .Options for connecting project content into a morning Language Arts block:

- Incorporate literature circles and select titles that connect to the project topic
- Incorporate content-area readers and fiction that connect to the topic for the project into guided reading
- Use project vocabulary for "working with words"

STAND-ALONE PBL BLOCKS
~~State-adopted program for Language Arts~~

- No incorporation of project work during Language Arts block
- Project based learning in the afternoon
- Science and Social Studies time earmarked for projects
- Science and Social Studies time merged into a block that allows time for inquiry

STAND-ALONE PBL BLOCKS

Language Arts	90	}	SAMPLE INSTRUCTIONAL MINUTES ALLOCATION
Math	60		
Music, Visual Arts, Health, Physical Ed.	30		
Science	30	←	Project Time
Social Studies	30		
Foreign Language	30		
Intervention Block	30		

THE TRADECRAFT OF TEACHING

evolution

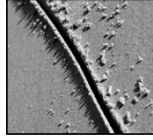
OR

revolution

ESSENTIAL ELEMENTS OF PBL

A project, in PBL:

- ✓ is organized around an open-ended Driving Question, problem, or challenge
- ✓ creates a need to know essential content & skills
- ✓ requires inquiry to learn and/or create something new
- ✓ results in a publicly presented product or performance
- ✓ allows student voice & choice
- ✓ requires critical thinking, problem solving, collaboration and various forms of communication



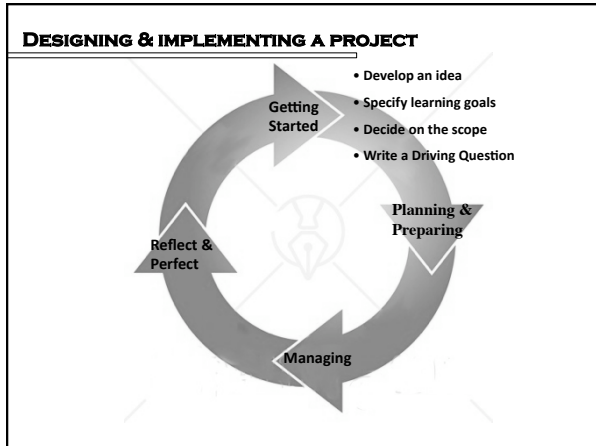
“YEAH, BUT ...”

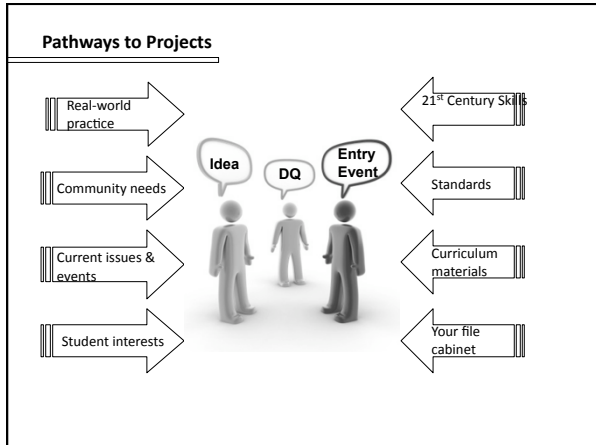
- It's not standards-based
- I can't cover enough material
- My students aren't ready
- I can't use traditional teaching tools
- It's loud and messy
- There's no individual accountability
- I don't have time and support



DESIGNING & IMPLEMENTING A PROJECT







Developing an idea: what will students do?

Write a proposal	Recommend a solution	
Develop a plan	Conduct a campaign	
Design a website	Produce a play	
Publish a magazine	Invent a device	
Build a model	Debate an issue	
Create art	Make a multimedia presentation	

*** See PBL Handbook, p. 58-59 or PBL Starter Kit, p. 49*


SPECIFYING LEARNING TARGETS AND CSOS

Content standards:

- Review then select appropriate learning targets and CSOs

21st century skills:

- Collaboration, presentation, and critical thinking in all projects



Scope of a Project

	Limited	Ambitious
Duration	10-15 contact hours	40+ contact hours
Breadth	One subject; 1-2 power standards	Interdisciplinary; 3-4 power standards
Technology	Basic	Extensive
Setting	Classroom	Community/World
Who's Involved	One teacher	Several teachers, outside experts, community
Audience	Classroom	Experts, community, world, web
Student Autonomy	Teacher-defined; tightly managed	Co-defined and managed


Why have a Driving Question?

For teachers:

- Guides planning
- Captures & communicates the purpose of the project
- Initiates and focuses inquiry

For students:

- Creates interest and/or the feeling of challenge
- Reminds them “Why we’re doing this today”
- Guides project work



A DRIVING QUESTION IS...



- Provocative or challenging
- Open-ended; multiple possible answers
- Understandable to students
- Answerable (but not in a simple way)
- Linked to important content in the discipline

A DRIVING QUESTION CAN BE...



- **Abstract**
"When is war justified?"
"Should we genetically modify organisms?"
"What makes someone a hero?"
- **Concrete**
"How can we design the best networking plan for a business?"
"How can we use geometry to design holes for a miniature golf course?"
- **Localized**
"How could global warming affect our community?"
"Can we capture the spirit of our city in art, music and poetry?"
- **Activated**
"How can we plan an effective campaign to prevent water pollution in the lake?"
"How can we design a website for teenagers about books they like?"

REFINING A DQ



From "simple right answer" to more complex, local, and actively problem-solving:

What are the characteristics of healthy soil?



Is our soil healthy enough to support a vegetable garden?

REFINING A DQ



From abstract to concrete and challenging:

How do architects use geometry?



How can we design a theatre that meets specifications with the greatest number of seats?

REFINING A DQ



From "too big" to answerable:

How has technology affected world history?



Does technology make war more or less humane?

REFINING A DQ




From "sounds like a teacher" to student-friendly:

How does the author use voice and perspective in *The House on Mango Street* to reflect on his childhood and community?



How can childhood memories show who we are today?


YOUR TURN




Working in table groups
(no more than 3-5 per group)
use the handout to select, refine or create a Driving Question.

Report Out •Your group's ideas/observations

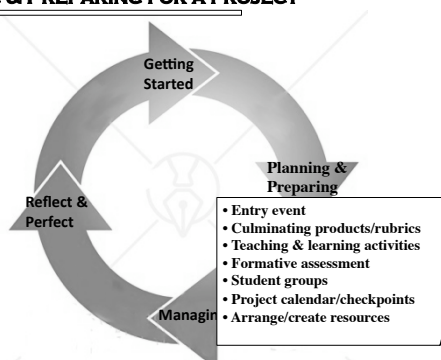
A PROTOCOL FOR REFINING A DQ



1. Can my students read and comprehend the Driving Question?
2. Is the Driving Question open-ended and does it require a complex answer, or is there one "right answer" or a simple "yes" or "no"?
3. To answer the Driving Question, will my students need to learn important content knowledge and use 21st century skills?
4. Does the Driving Question allow me to create a local context for the topic(s) under study or have students solve an authentic / real problem? (*Optional, but recommended if possible*)

Don't forget  Google

PLANNING & PREPARING FOR A PROJECT



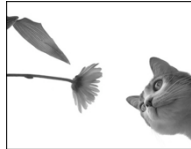
- Entry event
- Culminating products/rubrics
- Teaching & learning activities
- Formative assessment
- Student groups
- Project calendar/checkpoints
- Arrange/create resources

SAMPLE ENTRY EVENT



Task: Act like a teenager (a well-behaved one) and respond to prompts from your instructor after reading the "Entry Document" that is the entry event for a sample project.

Engaging students/beginning inquiry



- Field trip
- Guest speaker
- Film, video, website
- Lively discussion
- Simulation or activity
- Provocative reading
- Startling statistics
- Puzzling problem
- Piece of real or mock correspondence
- Song, poem, art

Culminating Products and Presentations: Tips




- Mix of individual and group products
- Make products as authentic as possible
- Public audience ups the stakes = higher quality
- Require students to share presentation duties
- Give audience members a role

PROJECT PLANNING FORM

Student work	Major group product(s):			Presentation Audience	
	Major individual product(s):				
Assessment & Reflection	Rubric(s) I'll use (check all that apply)	Challenges	<input type="checkbox"/>	Content knowledge	<input type="checkbox"/>
		Critical thinking	<input type="checkbox"/>	Self-competence	<input type="checkbox"/>
		Oral communication	<input type="checkbox"/>	Physical Education skills	<input type="checkbox"/>
		Written communication	<input type="checkbox"/>	Physical Education skills	<input type="checkbox"/>
		Visual/Publishing Arts	<input type="checkbox"/>		<input type="checkbox"/>
	Other assessments, benchmarks & checkpoints (check all that apply)	Content tests	<input type="checkbox"/>	Portfolio presentations	<input type="checkbox"/>
		Self-assessments	<input type="checkbox"/>	None	<input type="checkbox"/>
		Peer evaluations	<input type="checkbox"/>	Checklists	<input type="checkbox"/>
	Reflections	Self-reflection	<input type="checkbox"/>	Peer group	<input type="checkbox"/>
		Self-reflection	<input type="checkbox"/>	Self-reflection	<input type="checkbox"/>
Journal or blog		<input type="checkbox"/>		<input type="checkbox"/>	
Resources	On-site personnel:				
	Technical equipment:				
	Community resources:				
	Material resources:				


PBL HANDBOOK: A FINGER WALK



WEB-BASED PBL RESOURCES

"How-To" Sites:

- www.bie.org
- www.pbl-online.org
- <http://collaboratory.nunet.net/cwebdocs/index.html>
- www.imsa.edu (HS)
- www.glef.org
- theprojectapproach.com (K-8)



WEB-BASED PBL RESOURCES



Online project libraries:

- <http://wvde.state.wv.us/teach21/>
- <http://projects.hightechhigh.org/>
- <http://www.pbl-online.org/>
- <http://pathways.ohiorc.org/>
- <http://www.envisionprojects.org/cs/envision/print/docs/750>
- http://www.wested.org/pblnet/exemplary_projects.html
- <http://virtualschoolhouse.visionlink.org/projects.htm>

NEXT STEPS