

# Project-Based Learning



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# What is Project-Based Learning?

- PBL is a model for classroom activity that shifts away from the classroom practices of short, isolated, teacher-centered lessons and instead emphasizes learning activities that are long-term, interdisciplinary, and student-centered.



# Why will students “buy into” the idea of PBL?

- Learning experiences are designed as complex, authentic (real-world) projects
- The contexts for many of the projects are found outside the school walls
- Projects emerge from needs in the community or home; they arise from social issues, or perhaps physical, emotional, or recreational needs
- Some can be linked with industry or business activities

# Project-Based Learning engages students in complex, real-world problem solving that is:

- Academically rigorous
  - Students use prior knowledge and research skills
  - Students determine what new academic knowledge and research skills are needed to acquire them
  - Students gather information from a variety of sources
  - Teachers encourage work that is complex and draws on a full range of students' abilities

# Project-Based Learning engages students in complex, real-world problem solving that is:

- Relevant to students and the community
  - Students choose projects based on interests
  - Student learning has value in the community
  - Curriculum is related to real-life issues helping students understand what they are learning and why they are learning it



# Project-Based Learning engages students in complex, real-world problem solving that:

- Empowers students as active learners
  - Students become practitioners using and demonstrating knowledge, not just storing it
  - Students negotiate project ideas and assessment criteria with teachers and community members
  - Teachers act as coaches and facilitators
  - Teachers encourage intellectual risk-taking



# During PBL teachers/facilitators will:



- Provide opportunities for in-depth investigations of worthy topics
- Allow learners to become more autonomous as they construct personally-meaningful artifacts that are representations of their learning
- Motivate students by engaging them in their own learning

PBL affords students opportunities to develop Gardner's Multiple Intelligences, thus accommodating a wide variety of learning styles





# Why should I do PBL?

- Provides opportunities for students to pursue their own interests and questions and make decisions about how THEY will find answers and solve problems
- Improves education for all students
- Facilitates student integration of the content of different subjects
- Teaches children to use their own minds well and applies what they learn in school to life-long endeavours
- Helps students to become technologically literate
- Establishes connections to life outside the classroom, addressing real-world concerns, and developing real-world skills
- Skills learned through PBL are those desired by today's employers

# What are the benefits of PBL?

- Offers multiple ways for students to participate and to demonstrate their knowledge
- Accommodates different kinds of intelligences
- Shifts students away from doing only what they typically do in a classroom environment
- Encourages the mastery of technological tools, thus preparing them for the workforce
- Serves as a medium for students who don't usually participate
- Prompts students to collaborate while at the same time support self-directed learning
- Offers a learning experience that draws on the thinking and shared efforts of several individuals
- Helps students develop a variety of social skills relating to group work and negotiation
- Promotes the internalization of concepts, values, and modes of thought, especially those related to cooperation and conflict resolution
- Establishes a supportive and non-competitive climate for students
- Provides a means for transferring the responsibility for learning from teachers to students
- Calls upon students to explain or defend their position to others in their project groups, so that learning is more apt to be personalized and valued

# PBL Instructional Design Components

## PROJECT

### 1) Curriculum Design

-Simultaneous Outcomes:

~Content

~Standards

~Habits of Mind

What do I want my students to know and be able to do?

### 2) Instructional Delivery - Incorporating the 6 A's of PBL

-Teaching and Learning:

~Design Framework

~Design Tools

~Instructional Strategies

What instructional strategies will facilitate engagement and learning?

### 3) Assessment and Evaluation

-Collecting Evidence:

~Product

~Process

~Progress

What evidence will I accept of student progress and what will be the criteria for success?



# The Six A's of Designing Projects

- Authenticity (#1)
  - Does the project emanate from a problem or question that has meaning to the student?
  - Is it a problem or question that might actually be tackled by an adult at work or in the community?
  - Do students create or produce something that has personal and/or social value, beyond the school setting?



# The Six A's of Designing Projects

- Academic Rigor (#2)
  - Does the project lead students to acquire and apply knowledge central to one or more discipline or content area?
  - Does it challenge students to use methods or inquiry central to one or more discipline? (For example: thinking like a scientist)
  - Do students develop higher order thinking skills and habits of mind? (For example: searching for evidence, taking different perspectives, etc.)



# The Six A's of Designing Projects

- Applied Learning (#3)
  - Does the learning take place in the context of a semi-structured problem, grounded in life and work in the world beyond school?
  - Does the project lead students to acquire and use competencies expected in high performance work organizations?
  - Does the work require students to develop organizational and self-management skills?



# The Six A's of Designing Projects

- Active Exploration (#4)
  - Do students spend significant amounts of time doing field-based work?
  - Does the project require students to engage in real-life investigation, using a variety of methods, media, and sources?
  - Are students expected to communicate what they are learning through presentation and/or performance?



# The Six A's of Designing Projects

- Adult Relationships (#5)
  - Do students meet and observe adults with relevant expertise and experience?
  - Do students have an opportunity to work closely with at least one adult?
  - Do adults collaborate on the design and assessment of student work?





# The Six A's of Designing Projects

- Assessment Practices (#6)
  - Do students reflect regularly on their learning using clear project criteria that they have helped to set?
  - Do adults from outside the classroom help students develop a sense of real-world standards for this type of work?
  - Will there be opportunities for regular assessment of student work through a range of methods, including exhibitions and presentations?



# Assessment and Evaluation

- Judgment
- Knowledge (Mastery)
  - Tests / Quizzes / Reports / Recitations
- Understanding (Application of Knowledge)
  - Exhibitions / Demonstrations
- Reflection (Growth over time)
  - Portfolios / Journals / Observations



# Key Assessment Questions

- What will I do to help students understand content, develop processes, and habits of mind?
- How will I pay instructional attention to helping students gain key knowledge and skills?
- How will I give useful ongoing feedback to students?



# PBL Web Resources

## Project Examples



- [www.whatkidscando.org/index.asp](http://www.whatkidscando.org/index.asp)
- <http://itd.usd259.org/steps/pbl.htm>
- <http://www.edutopia.org>
- [www.bobpearlman.org/BestPractices/StudentWork.htm](http://www.bobpearlman.org/BestPractices/StudentWork.htm)
- <http://www.urbanplan.org/UP Home/UP Home fst.html>
- <http://www.nationalmathtrail.org/>
- <http://www97.intel.com/en/ProjectDesign>
- <http://www.thinkquest.org/>

# Project-Based Learning Resources

- [www.bie.org/](http://www.bie.org/)
- [www.pblnet.org](http://www.pblnet.org)
- [www.iearn-canada.org/guideontheside.html](http://www.iearn-canada.org/guideontheside.html)
- [www.gsn.org/web/pbl/pedagog.htm](http://www.gsn.org/web/pbl/pedagog.htm)
- <http://www.ciese.org/currichome.html>
- <http://www.hightechhigh.org/resource-center/>
- <http://www.naf.org/cps/rde/xchg>
- <http://www.pearsonfoundatiopn.org/pg4.5.html>



# Key Evaluation Questions

- What will serve as evidence of learning in student work? (Processes & Products)
- Which assessment tools should be used?
- Is there an integrated evaluation, which ties processes and products/demonstrations together?

