

# Deeper Learning in Distinguished Classrooms



EVERETT PUBLIC SCHOOLS



# PROJECT-BASED LEARNING

*Research shows that compared with students receiving traditional instruction, those participating in PBL*

- **become more engaged, self-directed learners;**
- **learn more deeply and transfer their learning to new situations;**
- **improve problem-solving and collaboration skills; and**
- **perform as well or better on high-stakes tests.**

*(Barron & Darling-Hammond, 2008; Brush & Saye, 2008; Strobel & van Barnevald, 2009; Walker & Leary, 2009)*

# Key Tenets



- Use How People Learn as primary source
- Provide effective, engaging instruction using PBL model to elicit deeper learning
- Engage students in authentic problem solving and focus on solving problems worth solving
- Integrate content – nothing exists in isolation all systems-based
- Provide student voice and choice
- Shift culture from teacher as facilitator to teacher as Activator
- Support principals, teachers, students and parents for sustained impactful change

# Current PBL Implementation



- **Problem Based Learning**
  - Computer science integration in middle school math and science (Code.org partnership)
  - Engineering Your World
  - WABS Fellows (math and science teachers participating)
  - Secondary math uses more problem based than project based learning
  
- **Project Based Learning**
  - Environmental Systems Design Course
  - Stormwater Pollution Solution Project
  - Energy Matters Project (Evergreen Middle School)
  - STEM Innovation Lab (Pilot January 2016)

Project Based Learning vs. Problem Based Learning	
<i>Similarities</i>	
<p><b>Both PBLs:</b></p> <ul style="list-style-type: none"> <li>• Focus on an open-ended question or task</li> <li>• Provide authentic applications of content and skills</li> <li>• Build 21<sup>st</sup> century success skills</li> <li>• Emphasize student independence and inquiry</li> <li>• Are longer and more multifaceted than traditional lessons or assignments</li> </ul>	
<i>Differences</i>	
Project Based Learning	Problem Based Learning
Often multi-subject	More often single-subject, but can be multi-subject
May be lengthy (weeks or months)	Tend to be shorter, but can be lengthy
Follows general, variously-named steps	Classically follows specific, traditionally prescribed steps
Includes the creation of a product or performance	The “product” may be tangible OR a proposed solution, expressed in writing or in a presentation
May use scenarios but often involves real-world, fully authentic tasks and settings	Often uses case studies or fictitious scenarios as “ill-structured problems”

Image Credit: John Larmer

# Examples



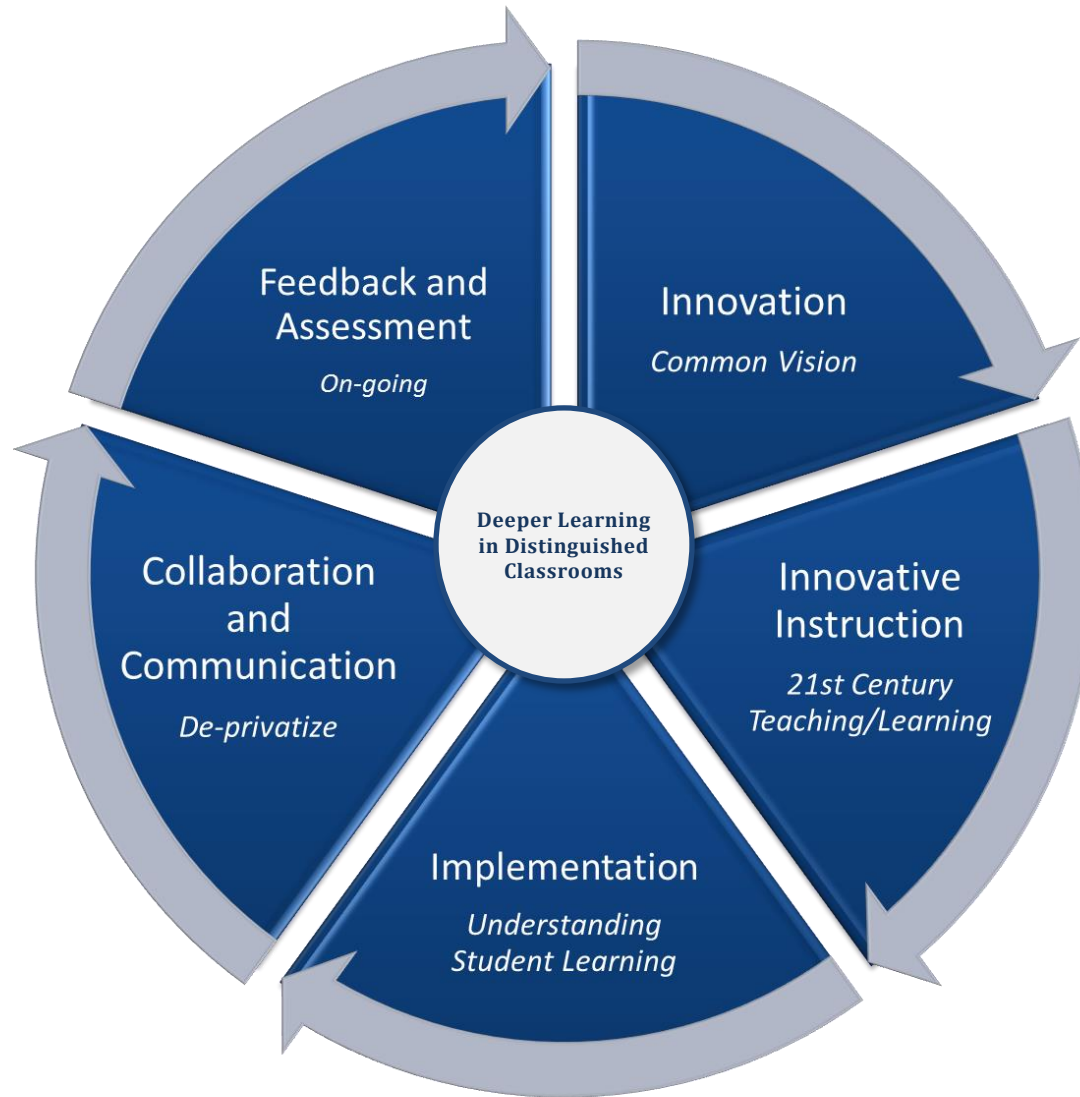
- **Stormwater Pollution Solution Project**

- Collaboration of Sustainability Ambassadors, City of Mill Creek and Snohomish County Conservation District
- Jackson High School teachers (Social Studies, Science, and Math)
- PBL training and project development in 3-day summer project design lab
- Implementation of sustainability and conservation project this Spring focused on stormwater solutions

- **STEM Innovation Lab Pilot**

- Middle school math and science teachers
- Educurious Project: How Green Is My School?
- Collaboration with Washington Green Schools (sustainability and conservation)
- PBL training and project development with Educurious and expert network
- On-going planning and project implementation support via Teaching Channel Team
- Use of Observing for Evidence of Learning protocol to determine impact on student learning
- Assessment and feedback

# STEM Innovation Lab



# Key Strategic Partnerships



- Educurious
- Teaching Channel
- Institute for Systems Biology (ISB)
- Code.org
- Washington Green Schools
- Washington Alliance for Better Schools (WABS)
- Washington STEM
- Snohomish County Conservation District