Project-Based Learning (PBL)

Javier Cavazos Vela, Ph.D.

Director, Center for Teaching Excellence (CTE)

Assistant Professor, College of Education and P-16 Integration

Learning Objectives

- After this interactive workshop, you will be able to:
  - Identify ideas and benefits of project-based learning
  - Apply what you learn and evaluate a current project using essential project design elements
  - Create a plan to implement what you learned

Background Knowledge Probe for Foundational Knowledge

- Take 1-minute to write what you know about project-based learning
  - We will call on two people to report out!

What is Project Based Learning (PBL)?

- Markham (2003) defined PBL as an "extended inquiry process structured around complex, authentic questions and carefully designed products and tasks" (p. 4).
- Problem-based learning is focused on the process while project-based is focused on the product and solution to the problem
- Differences between project-based and problem-based are not clear (Prince & Felder, 2007) and are often used interchangeably

Why use Project-Based Learning?

- Improved understanding of concepts and theories
- Improved life skills such as problem solving, collaboration, time management, and understanding of real-world applications
- Improved responsibility, self-direction, communication, and creativity
- Improved understanding of learning how to learn
- **More research is needed on content and knowledge-acquisition**

Gold Standard PBL: Teaching Practices

- Design and plan
- Align to standards
- Build the culture
- Manage activities
- Scaffold student learning
- Assess student learning
- Engage and coach

Sample PBL Projects

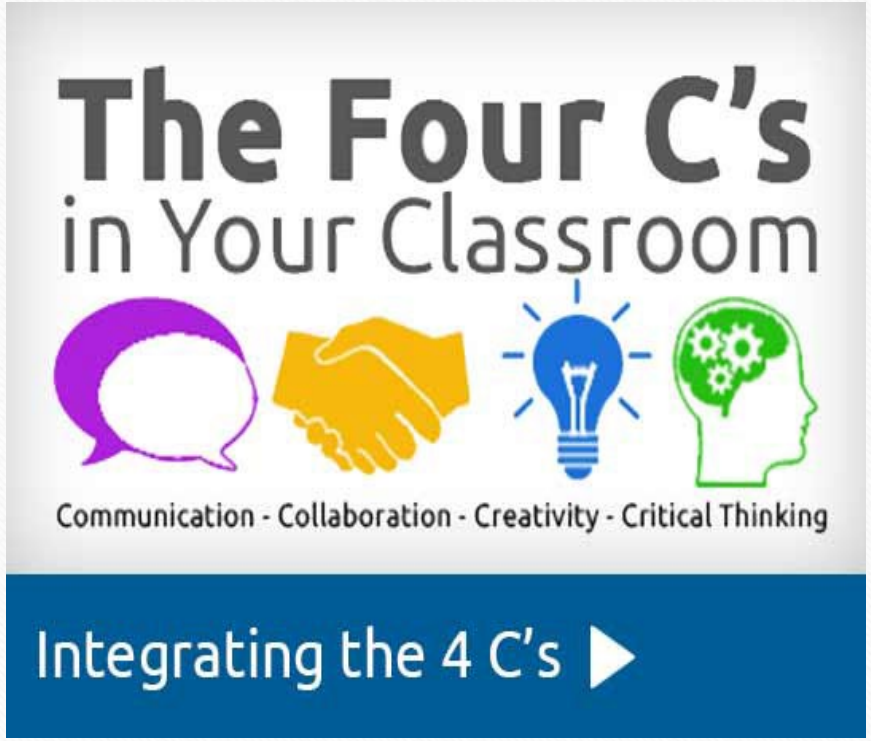
- A group of Engineering students developed a playground design for a local elementary school
- A group of Biology students tested water quality in California and educated the public about improving water quality
- A group of Chemical Engineering students developed a plan to evaluate Texas distillation practices and policies
- A group of Introduction to Research students conducted a needs assessment and evaluated a community-based organization
- A group of College of Education students developed a plan to improve a Parent Teacher Association (PTA)

(8) Essential Project Design Elements

- Key knowledge, understanding, and success skills
- Challenging problem or question
- Sustained inquiry
- Authenticity
- Student voice and choice
- Reflection
- Critique and revision
- Public product

Essential Project Design Elements

- (1) Key knowledge and understanding
  - Application to real world experiences
  - Create high quality public products
- (1) Key success or 21st Century skills
  - Critical thinking
  - Problem-solving
  - Collaboration
  - Self-management

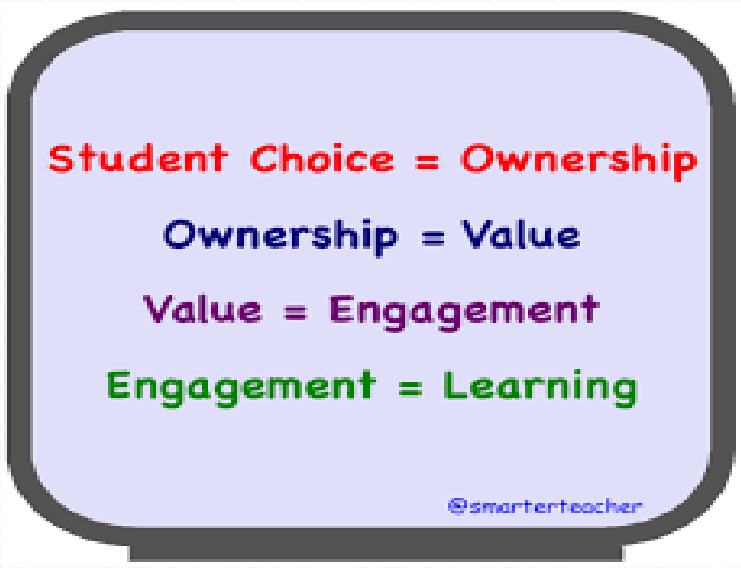


Project Design Elements

- (2) Challenging problem or question
  - Open-ended, engaging, and ability to investigate (e.g., "How do you find the soul of the community and translate it into your design?")
- (3) Sustained inquiry
  - Long-term, reflection, deep analysis, and identification of resources (e.g., students visited a community center and conducted laboratory work for an entire semester)

Project Design Elements

- (4) Authenticity
  - Real-world context and tools
  - Real impact on community (e.g., local school that needed a playground design)
  - Real issue that matters to students
- (5) Student Voice and Choice
  - Sense of ownership on driving question, solution to problem, and collaboration on group roles (e.g., students select their question)



Project Design Elements

- (6) Reflection
  - What students are learning
  - How students are learning
  - The impact of what students are learning (e.g., before, during, and after)
- (7) Critique and Revision
  - Peer feedback (e.g., students receive feedback on drafts, ideas, and final products)
- (8) Public Product
  - Poster display with other students and administrators
  - Showcase learning experiences and impact on community (e.g., students developed a playground design and presented plan to local school board)

Focus Activity

- You have two options for this activity that will take **10-minutes**:
  - (1) Get into a group of 3 and make sure that all *Essential Project Design Elements* of somebody's project are met. Make sure to address how your project meets or will meet each criterion.
  - (2) Get into a group of 3 and create a new project that meets all 8 *Essential Project Design Elements Checklist*. Make sure to address how your project will meet each criterion.

Final Remarks

- Thank you for participating in this interactive workshop where we hope you met session objectives and developed a plan to apply what you learned.
- Please complete evaluation questions about your learning experiences and level of satisfaction.
- Please also take a look at "resources" on our website "utrgv.edu/cte" which will provide helpful and additional information.

References and Helpful Resources

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