

Project Academy...*After-School learning*

Present education leaves many students bored, not engaged in learning and finding it difficult to manage the complexities of life relating to the interface of society, schools and business.

Our after-school or in-school program will provide a fun environment around **project based learning** for charter, public high school, home school and drop outs.

We will demonstrate to the students that learning can be fun by **solving real world problems** and provide the missing skills (LIFE SKILLS) like problem solving, thinking skills, growth mindset, character development, financial literacy and societal values needed to succeed in today's environment.



The World is changing

- Intelligent machines
- Robots



Smart Creatives ...*Googles term for people they want to hire.*

Knowledge workers are becoming obsolete.

Wagner, Tony; Dintersmith, Ted (2015-08-18). Most Likely to Succeed: Preparing Our Kids for the Innovation Era .



Our Mission:

- Get students excited about learning (life-long learners).
- Have the reasoning skills to manage in today's society and begin to build a set of skills to use in multiple careers.
- Understand that problems are opportunities. The bigger the problem, the bigger the opportunity.
- Have students better prepared for college or a career.



Program Flow...Holistic

Student Strength
Assessment

Community
Businesses
Educational
Work Tools



Project based
learning

Solve World Problems

Learn Life Skills

Life Community

Blogs
Tutorials

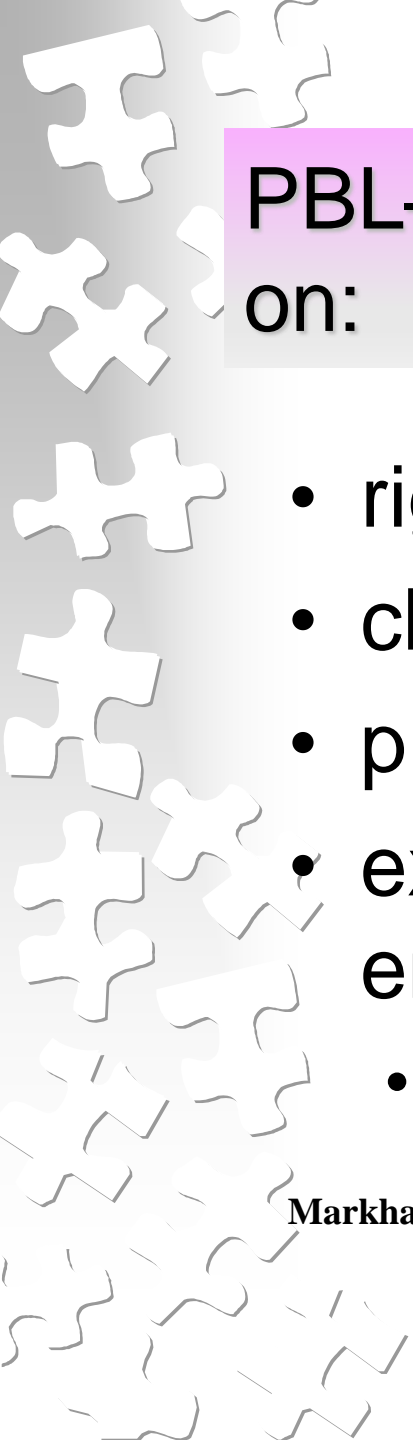


Start out with a problem that is both interesting and authentic.

There is no such thing as a problem that is going to be interesting to every kid. This means that a project has to be flexible enough for students to tailor it to their own interests.

Authenticity comes from using real tools to tackle problems that don't have their answers printed at the back of the book. Ideal projects dictate some general parameters and tools, but leave the specific problem definition up to the student.





PBL— as opposed to “projects”— relies on:

- rigorous assessments
- challenging questions
- proven management methods
- exhibitions of knowledge and skills to ensure powerful learning.
 - Reports, Presentations, Seminars

Markham, Thom. *Project Based Learning Design and Coaching Guide* . HeartIQ Press.



Key learning elements:

- Creating and having a strong organizational culture.
- Using questioning, why, what and how are we doing activities.
- Creating learning targets...How will I be successful. measurements & feedback.
- Developing a team mind-set. Teams build character, culture and community.
- Understanding brain plasticity... growth mindset.
- Internalize the problem solving process.
- The benefits of continuous improvement and excellence.

World Problems

We only think when we are confronted with problems. John Dewey

Feed the World

Heal the World

Clean the World

Power the World

Respect the World

Connect the World

Entertain the World

Sports of the World

Music of the World

Record the World visual stories

Recycle the World

Dance of the World

Other possible problems that could be worked on are the Grand Challenge for engineering determined by the National Academy of Engineering.

WPI/EngineeringLens

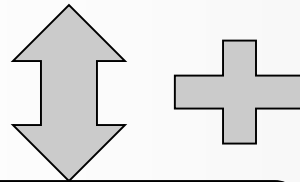
Project Academy



Project based Learning

- Student ownership (problem, learning targets)
- Learning occurs along the way (Cognitive connections) ...*Life is a series of projects*

Work on the problem/project



Life Skills

Successful Students

Life Skills (Holistic Approach)

Executive functions

Character development

Habits of Mind

Empathy for others

Society

Education

Business

Learning disciplines

Problem solving

Thinking Skills
Teachers as learners

Collaboration

Business processes

Measurements

Finance



Life Skills

What would you add?

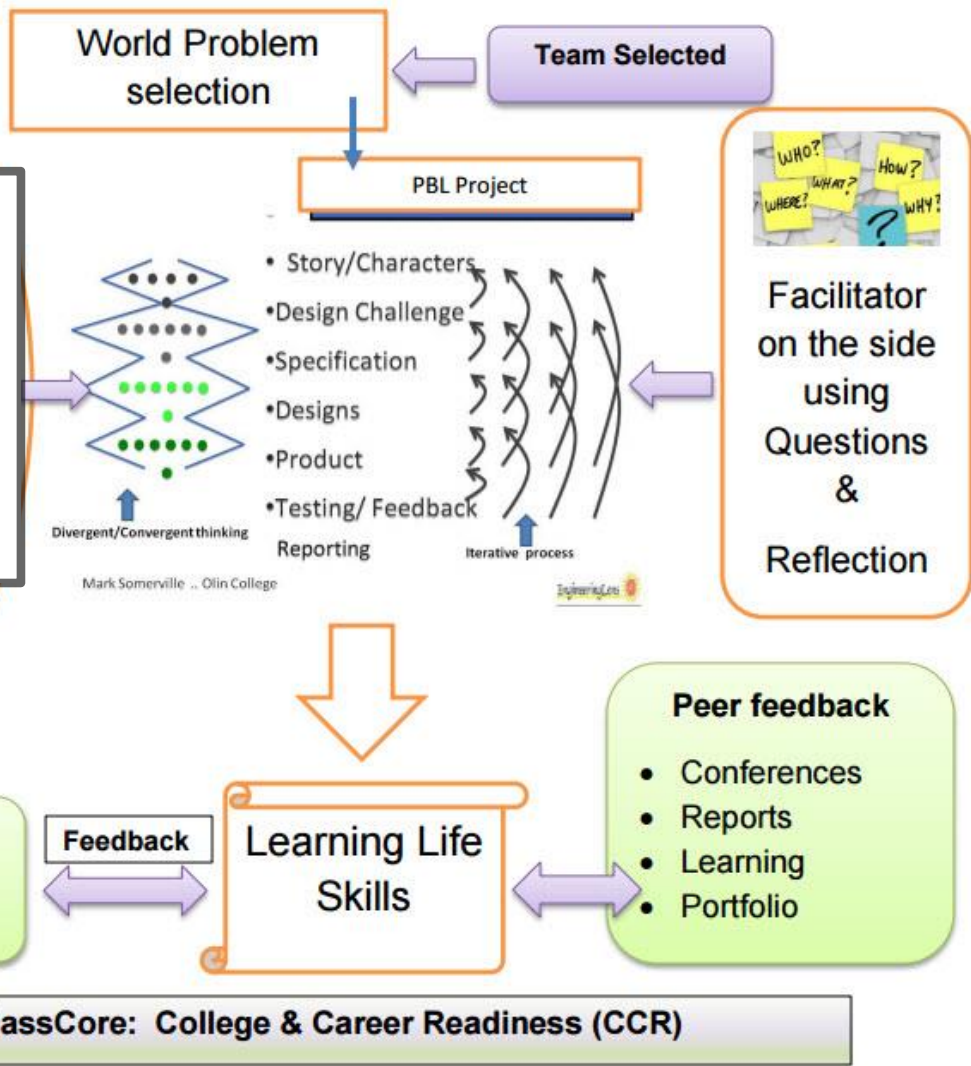
Problem Solving	Financial literacy	Time management
Thinking skills	Character traits	Self-control/ Values
Collaboration	Continuous improvement/ Quality	Process methods
Measurements/ Feedback	Planning	Risk taking/Stretch goals
Learning from failure	Entrepreneurship	Innovation
Study skills	Decision making	Negotiation
Team operation	Organizational culture	Decision making



Learning Skills While Solving "World Problems"

Middle School Problems

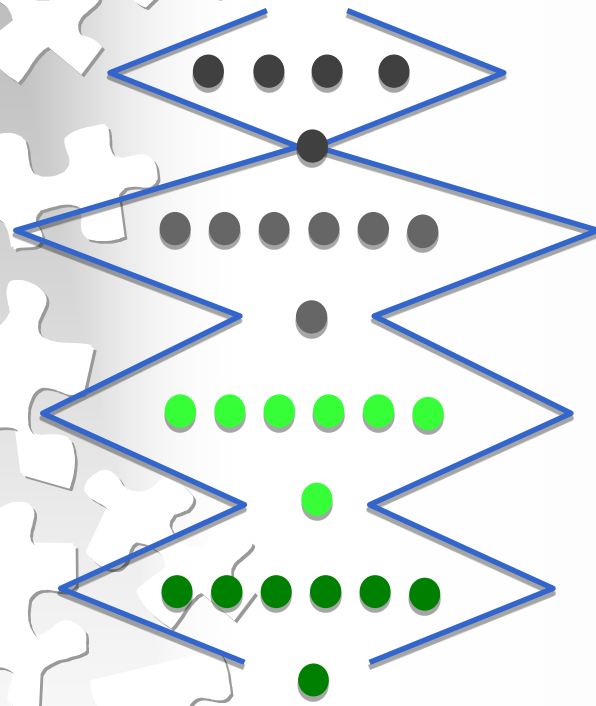
Cognitively connect the students to the life skills used during the process.



Flow Diagram

Problem Solving

- Problem Framing
- Requirements/Research
- Many Designs
- Pick a few Solutions
- Testing/ Feedback
- Reporting...public product

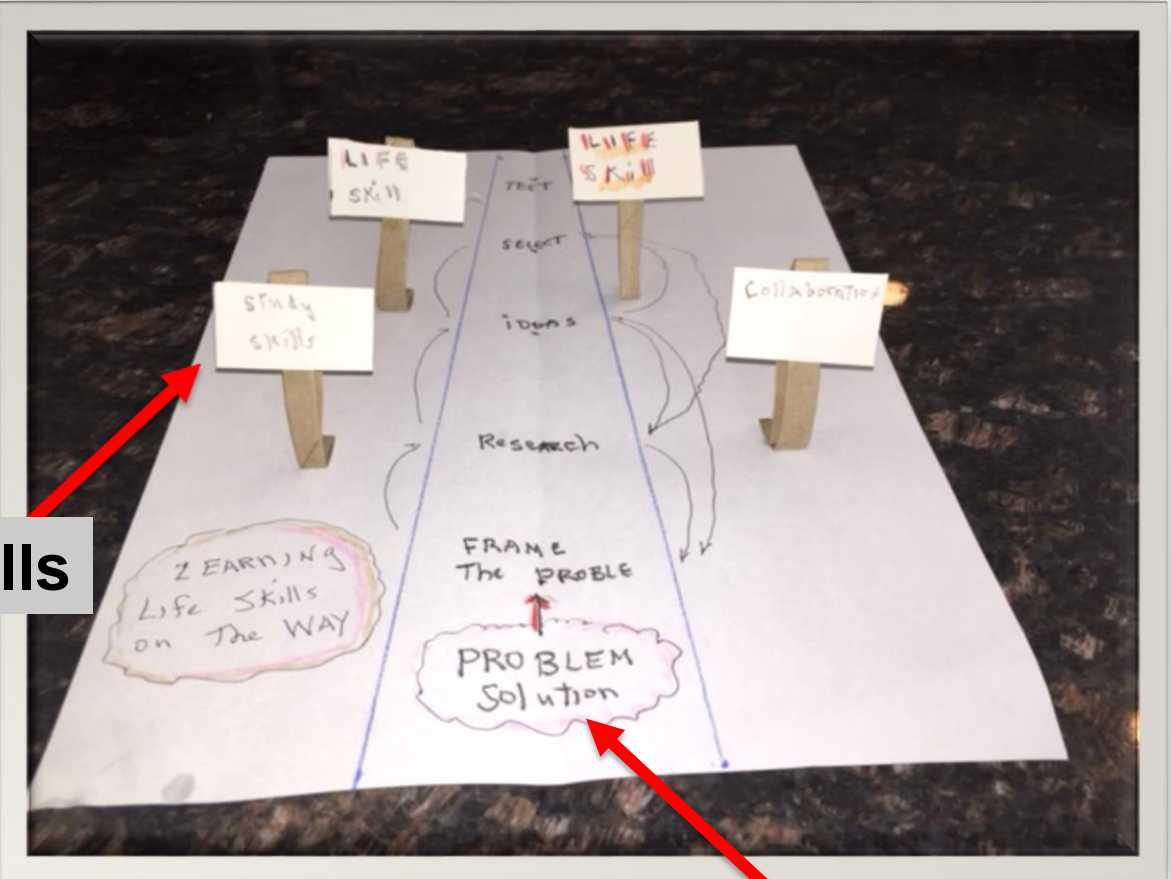


Divergent/Convergent thinking



Iterative process

Project



Life Skills

Start

Doing the project

Tasks to be done	Description
Forming a team	<ul style="list-style-type: none">• Picking roles and developing rules of engagement• Collaboration skills
Establish a team culture	<ul style="list-style-type: none">• How are they going to measure success• Progress measurements• Time management• Character skills
Creating a plan	<ul style="list-style-type: none">• Writing ... milestone• Deliverables• Balance scorecard
Resource plan	<ul style="list-style-type: none">• Learn about financial literacy• Do they need resources to solve the problem• People needs to implement the plan
Developing partners	Reach out to the community for assistance
See List of additional steps	

Track Assets rather than Deficits

A child tracks success and discards failures.

In schools we track failures. As a consequence, we tend to deskill our children, train them in their incompetence, and interfere with their natural passion to learn.

We teach child to be aware of all the things that are wrong with them.

About us?

- Non-profit ... MA State
- Building an organization ...
- Looking for early adaptors
- Looking for community partners/ business
- Talking to stakeholders about needs
- Looking for people who want to be part of helping society



Background: www.engineeringlens.org

- Created Syllabus for 3 credit course (FSU)
- One-credit on-line course FSU
- Implemented a K-5 grade program in public schools connecting Stories to Math and Science.
- "Tufts CEEO" has received an NSF research grant(DRK-12) based on this concept.
- "WPI (K-12 program)" is using our concept with Head Start in Worcester, MA



Thank you

Additional questions?

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