



## Need for Engineering Mind-set

Preparing young people to succeed in the growing global economy.

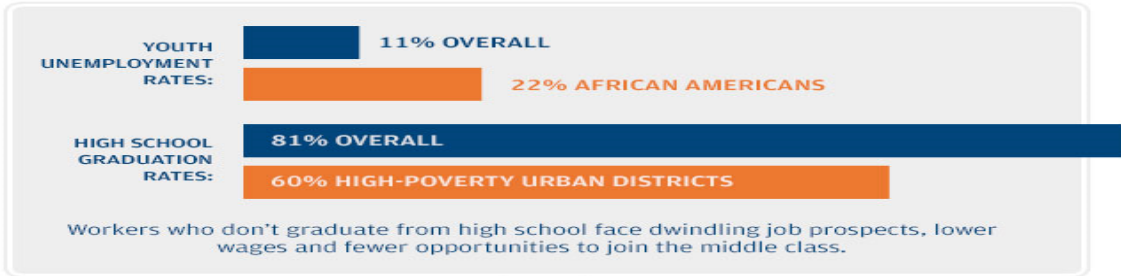


There's a youth unemployment crisis today.

# 5.5MM

young people are neither working nor in school.

Unemployment disproportionately impacts high-poverty and minority groups because of lack of education and necessary skills.



The future looks bright for young people who have the necessary education and credentials to be career-ready.

1 out of 3 American companies have openings for which they can't find qualified workers.



By 2020:



Over **60%** of new jobs will require more than a high school diploma  
— And of those 60% —

Only about **50%** of those new jobs will require a 4-year degree

We've committed **\$75MM** toward a 5-year global career readiness initiative aimed at today's youth.

### NEW SKILLS FOR YOUTH

JPMORGAN CHASE & CO.

© 2016 JPMorgan Chase & Co.


U.S. Department of Education. (2015). "U.S. High School Graduation Rate Hits New Record High." Retrieved from: <http://www.ed.gov/news/press-releases/us-high-school-graduation-rate-hits-new-record-high>

Measure of America, a policy group at the Social Science Research Council: Study of 100 American Cities

Manpower Group. (2015). 2015 Talent Shortage Survey. Retrieved from <http://www.manpowergroup.com/wps/wcm/connect/manpowergroup-en/home/thought-leadership/research-insights/talent-shortage-2015/talent+shortage+results+results>





<b>Project Busters</b>	
<b>Need</b>	Research conducted by Harvard University, the Carnegie Foundation and Stanford Research Center has concluded that 85% of job success comes from having well-developed soft and people skills, and only 15% of job success comes from technical skills and knowledge (hard skills)... <i>April 8, 2016 By <b>National Soft Skills Association</b></i>
<b>Mission</b> <i>Students have ownership of the problem &amp; their learning outcomes</i>	<ul style="list-style-type: none"> <li>•Get students excited about learning (life-long learners).</li> <li>•Have the reasoning skills to manage in today’s society and begin to build a set of skills to use in multiple careers.</li> <li>•Understand that problems are opportunities. The bigger the problem, the bigger the opportunity.</li> <li>•Have students better prepared for college or a career.</li> </ul>
<b>Our program</b> <i>Cognitively infuses CCR skills while doing the process of team formation / problem solving and public reporting</i>	<p>Provides a fun environment around project based learning.</p> <p>We demonstrate (to the students) that learning can be fun by solving real problems while providing the missing skills (College &amp; Career Readiness skills (CCR)) such as: problem solving, thinking skills, growth mindset, empathy, character development, financial literacy and societal values needed to succeed in today’s environment.</p>
<b>Structure</b> <i>The process complies with the common core learning standards</i>	<p>Providing structure and vocabulary for team work, community, college &amp; career readiness skills, problem solving and public reporting.</p> <p>We have developed a concept of focusing on the soft skills around the engineering design process which we call the “Engineering Mind-set”</p> <p><a href="http://www.projectacademy.org/Documents/Engineering-Mind-set-summary-9.pdf">http://www.projectacademy.org/Documents/Engineering-Mind-set-summary-9.pdf</a></p>



## Skills related to the process:



**Elements of Engineering mind-set**

**Culture:**

- Values/ norms/ communities
- Negotiation
- Decision making
- Collaboration
- Excellence

**Project Formation:**

- Creative and Critical thinking
- System view
- Questioning
- Customer needs
- Financial controls

**Planning and Scheduling**

- Time management
- Measurements/ Feedback
- Quality systems

**Problem Solving / Process**


- Innovation
- Risk taking
- Prototyping and iteration
- Entrepreneurship

**Public reporting**

- Reflection
- Testing idea
- Presenting

**Attitude**

- Positive
- Flexible
- Doing your best
- Being a leader when necessary

Process	Skills
Ice breaker/ Intro.	Greeting skills, Eye contact, non-verbal skills
Forming the team	Diversity, Values of a culture, Time management Listening skills, Collaboration Character development
Picking the project	Team work, Handling adversity Project planning, Scheduling
Problem solving	Thinking skills. Self-reflection Problem-solving structure Decision making, Sorting
Testing & writing	Feedback, Iterations, Communication (without phones) Elevator pitch,
Public dialogue/ Celebration	Metacognition, Presentation skills, 

All parts of the process

