

PerspECCtive

Theme:

Win Together to Share Success NOW!

ECC Academia Initiative Update

Steve Cabano

ECC Past Chair Council Member

Pathfinder LLC

Year:

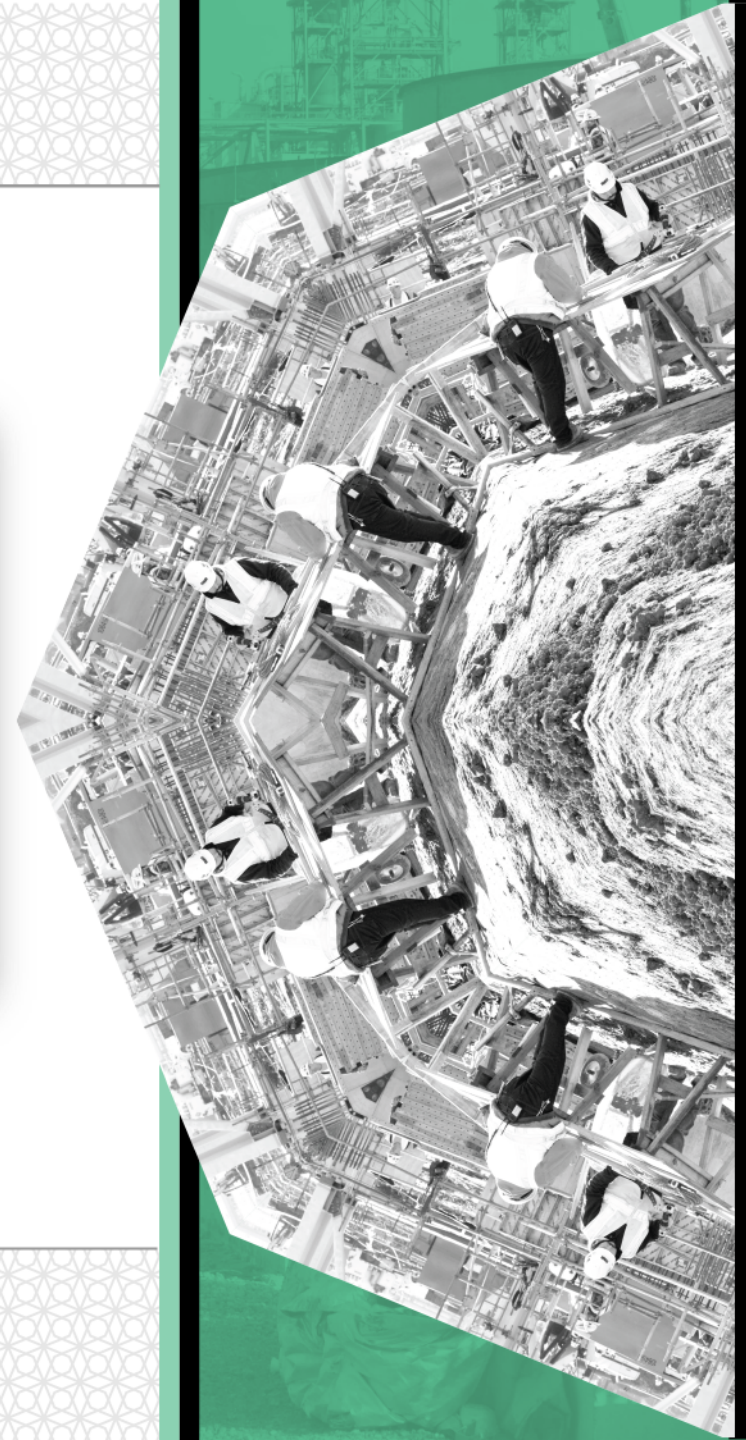
2019

Date:

Aug. 28-31

Location:

**The Broadmoor
Colorado Springs, CO**



A bit of context

- ECC started the academia initiative in 2007 to explore the perceived gaps between industry needs and what colleges and universities (i.e. academia) provide
- A study was funded with Texas A&M University, which validated gaps in:
 - Curricula to industry needs
 - Adequacy of pedagogical approach
 - Use of industry knowledge and experience (i.e. best practices)
- A survey of recent graduates was also conducted and results were presented at the 2018 ECC Conference
 - Key take-away: Recent graduates feel that more “hands-on” experience as part of their college curriculum would better prepare them for a role in our industry
- For the last several years, ECC has provided a forum for several colleges / universities to collaborate with sponsor companies to “close the gap” between industry and academia (e.g. inform industry what changes are being made at various colleges / universities to help close these gaps)

Key question: How should ECC and academia collaborate moving forward? Where do we go from here?

How should ECC partner with academia moving forward?

What strengths does ECC bring to the table?

- “Voice of the customer”
- Strong network of owners, contractors, and suppliers
- “Finger on the pulse” for industry trends
- ... what else?

How could ECC potentially collaborate with / support academia?

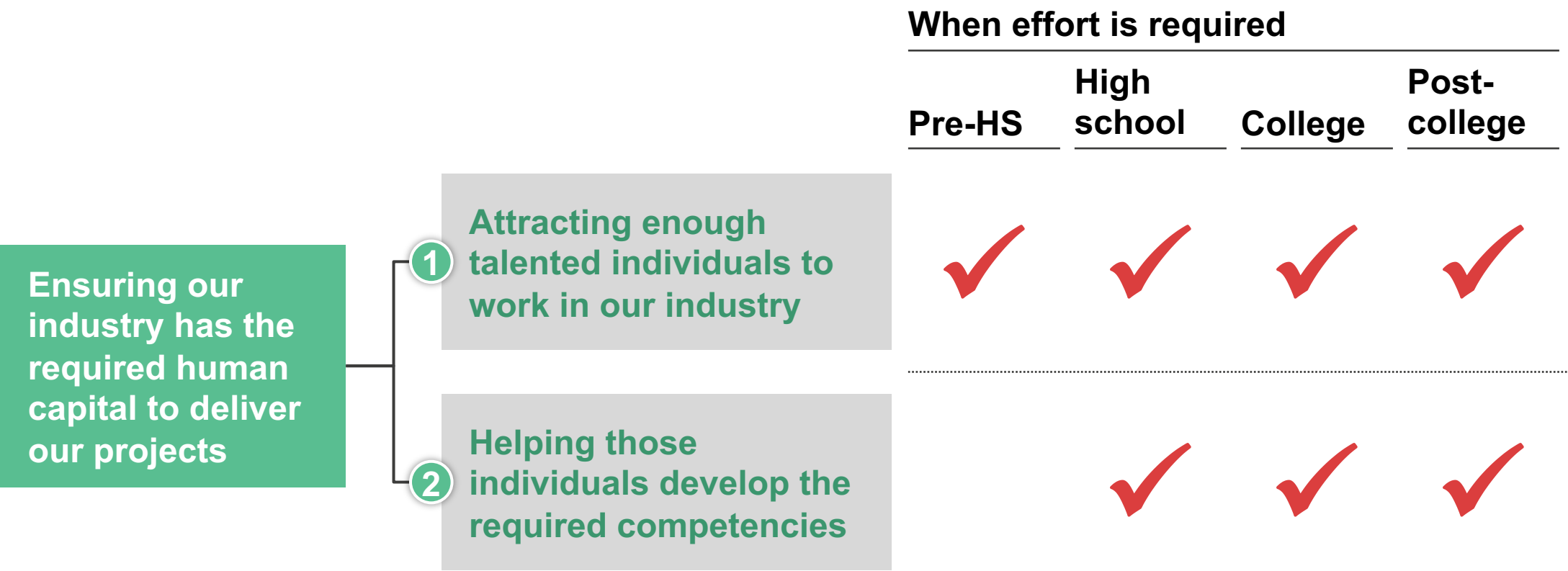
- Continued studies / surveys and updates on progress
- Sponsorship of new programs
- Cross-promotion of programs that already exist
- ... what else?



Which ideas best leverage ECC's strengths?

Before deciding where ECC's academia initiative should go next, it is important to understand what other programs and initiatives are out there aimed at addressing similar challenges

Ensuring our industry will have the human capital it needs requires efforts across a wide spectrum



Many players are trying to help “close the gap”

Sample programs	Focus		Relative age group			
	Attract	Develop	Pre-HS	High school	College	Post-college
Engineering camps put on by colleges (e.g. SMU , USC , UMD , UD)	✓	✓	✓	✓		
Diggerland (for-profit venture)	✓		✓			
Career-technical education programs (e.g. Butler Tech , various high schools)	✓	✓		✓	✓	
MAGIC Camp (Mentor A Girl In Construction)	✓			✓		
ABC CMEF (Construction & Maintenance Education Foundation)	✓	✓		✓	✓	
PetrochemWorks	✓				✓	✓
Technical schools (e.g. CMAA)		✓			✓	✓
Traditional four-year degree programs	✓	✓			✓	
Associates / two-year degree programs (e.g. Brazosport College)	✓	✓			✓	
Constructionarium (UK)	✓	✓			✓	
Go Build Alabama	✓				✓	✓
mikeroweWORKS Foundation	✓			✓	✓	✓

- Which of these programs are making the most substantial impact?
- Which programs could make best use of increased support?
- Where are there gaps?

Example 1: Summer camps help attract adolescents to STEM fields

USCViterbi

USC University of Southern California

PK-12 OUTREACH

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Northrop Grumman Summer Engineering Camp @USC



The Northrop Grumman Summer Engineering Camp is a two week camp in which students explore aerospace, electrical, civil and mechanical engineering with hands-on activities such as rockets, circuits, bridges, and robots. Students also explore computer science by learning to code and write apps. Northrop Grumman Summer Engineering Camp (previously Viterbi Summer Engineering camp and the ExxonMobil Bernard Harris Summer Science Camp) serves 32 students each year and has been a part of USC Viterbi for over 10 years.

SMU LYLE

SCHOOL OF ENGINEERING

RESEARCH | DEPARTMENTS | GRADUATE | UNDERGRADUATE | ENTREPRENEURSHIP | INSTITUTES | CENTERS | OUR STORY | ALUMNI | GIVING | APPLY

LYLE ENGINEERING CAMP AT SMU

Caruth Institute for Engineering Education / K-12 Programs / Lyle Engineering Camp at SMU



LYLE ENGINEERING CAMP AT SMU

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TEDxSMU

The Lyle School of Engineering at SMU offers summer camp programs for students in 6th through 12th grades. These summer camps are authentically Lyle, as the facilities, staff, and curriculum are all unique to the Lyle School of Engineering. Camps provide a creative environment for students to learn the fundamentals of engineering through hands-on, interactive team projects.

[Engineering Programs for High School Students](#)

[Engineering Programs for Middle School Students](#)

Example 2: Career-technical education (CTE) brings back “shop class” at some high schools



Enroll Now | Students | Parents | Alumni | Staff Hub | Donate



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Academy of Construction & Design

Director

Instructors

Shelly Karriem

Dennis Chestnut, Ian Milne, Sharonda Jones



IDEA scholars in the Academy of Construction and Design progress from introductory core classes for 9th graders through specialized instruction and hands-on training for students in grades 10 through 12.

Grade 9
Introduction to ACAD teaches students about the broad range of career opportunities in today's building industry. Ninth graders follow a multidisciplinary curriculum that emphasizes math, reading, practical science, and social studies. Hands-on projects and enrichment experiences include IDEA's Youth Farmers Market, field trips to the National Building Museum, and more.

Grades 10 through 12
ACAD students in grades 10 through 12 can specialize in career and technical education pathways. Courses are taught in Construction Technology and Renewable Energy classrooms and training labs that support studies in math, design technology, sustainable building, blueprint reading, construction planning, and more.

Academy of Construction & Design

Early Childhood Education Program

Workforce Friday



ACAD Director Shelly Karriem





Career Pathways | Why Pathways | Schools | Partners | Success Stories | Apply

Building & Construction Trades

Attending a high school with a program in the construction and building trades gives you a variety of technical knowledge, from framing and plumbing to electrical skills. You'll actively solve common challenges found on today's construction sites while still attending high school. Learn how to read drawings and use power tools as you work with high school classmates to bring blueprints to reality.



Pathway	School	
 Construction Technology	Piedmont Hills	MORE INFO >
 Residential & Commercial Construction	Independence	MORE INFO >
 Construction and Architecture	Yerba Buena	MORE INFO >

 } ECC PerspECctive

Example 3: ABC Construction Management & Education Foundation

Craft Training



Construction & Maintenance Education Foundation (CMEF) is the educational affiliate of ABC Greater Houston. In 1988, CMEF began as a joint partnership between industrial owners and contractors working together to solve the skilled labor shortage facing the Greater Houston construction industry.

CMEF is a non-profit 501 (c)(3) solely devoted to servicing the workforce development needs of the contractor community through programs ranging from craft and safety training to management and leadership instruction. CMEF is accredited by the NCCER, and all of our courses are taught using the nationally standardized NCCER curriculum.

The Construction & Maintenance Education Foundation is the vehicle through which industry and craft professionals in the Houston area receive formal training. Our goal is to recruit new entrants and retain existing workers through a variety of programs focused on assessment, training, and continuing education. We believe that a community approach to training is fundamental to developing a skilled and educated craft workforce within the entire industry.

CMEF is proud to offer competency-based craft training in a variety of areas. Students will progress at their own pace through a combination of classroom, laboratory instruction and performance testing. This


Schools Training Division

Educators, Industry and Students Engaged in Construction Careers

By participating in the ABC/CMEF Schools Training Division, you are unlocking the door to great potential in a robust industry. The Construction Industry needs to attract new workers annually to keep up with the current employment demand. One of the goals of the Schools Training Division is to provide students with the opportunity to explore the many facets of the Construction Industry and the career opportunities available. A second goal is to give CTE teachers resources and new connections to current happenings in the Industry, providing them with opportunities to meet Industry leaders, and become aware of the numerous job opportunities for their students. A third goal of the program is to encourage industry participation from the very companies who will seek to fill construction positions.



Example 4: National programs focused on promoting skilled labor as a career



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WHY CONSTRUCTION?THE TRADESTHE TRAININGNEWS



THE FUTURE IS IN
YOUR HANDS
XXXXXXXXXX

FIND OUT HOW



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GO BUILD
ALABAMA
MASTER A TRADE


AMERICA'S SKILLED WORKERS are a proud, elite group. As the future of our country's construction industry, you'll be tasked with helping to build a better tomorrow. Sign up today to become a part of this community. Master a trade, and discover there's no limit to what you can accomplish.

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ANDROID APP ON Google play

XXXXXXXXXX
THE SITUATION



About

Scholarship

S.W.E.A.T.

Jobs


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How do we change the prevailing misperception of skilled labor?

Make work cool again.

We're on a mission to help close the skills gap by challenging the stigmas and stereotypes that discourage people from pursuing the millions of available jobs. We're redefining the definition of a good education and a good job, because we don't think a four-year degree is the best path for the most people. We want people to understand the impact of skilled labor on their lives, and we're convinced that the solution has to start with a new appreciation for hard work.

Each year, we give away a modest pile of money through the [Work Ethic Scholarship Program](#) to help people get trained for skilled jobs that are in demand. We've proven that opportunities in the trades aren't alternatives to viable careers – they are viable careers. Through this program, we encourage people to learn a useful skill, and we reward those who demonstrate that they'll work their butts off. When it comes to hard work, there is no alternative. Since our inception, we've granted, or helped facilitate the granting of, more than \$5 million in Work Ethic scholarships and other like-minded programs or initiatives that also work to close the skills gap.



Additional areas to potentially be explored

- What progress in “closing the gap” do ECC sponsor companies feel have been made since the original study was embarked in 2007?
- What is being done outside of four-year degree programs to help “close the gap?”
- What role ECC effectively play (either directly or indirectly) in addressing any gaps in what academia is delivering and what is needed by industry?
- How can ECC help facilitate collaboration between industry and academia?
- Should ECC consider helping to promote already-existing programs aimed at “closing the gap?”
- What can be completed by the ECC Conference in August? And what will be presented?

Next Steps

- Engaged Future Leaders
 - Talent Pipeline
 - Address Skilled Labor Pool
 - Understand what is working and what needs future attention

Talent Pipeline – Panel Discussion

August 30, 2019

11:15am – 12:15pm

International Ballroom South

Filling Our Industry's Talent Pipeline: A Holistic Approach

J. D. Slaughter, President - S&B

Jim Rowings, Vice President Technical Development - Kiewit

Pat Suermann, Construction Science Department Head - Texas A&M University

Brandon Mabile, Business Development - Performance Contractors

Moderated by Steve Cabano, President - Pathfinder

We are all faced with labor challenges in the industrial construction sector—a perceived “gap” between academia and industry, Millennial and Gen-Z disinterest in engineering and construction, and craft retention. Various company programs, universities, industry organizations are overcoming the challenges from multiple angles. This forum will focus on how we can collaboratively attract, develop, and retain our future workforce.