Academic Success for Hispanic Students, Research and Practice

Supporting Engineering Based Linked Learning: a P-20 Partnership that Works

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Ventura County P-20 Council
2007 - Ventura County Regional Collaborative P-20 is established with support of ARCHES

ARCHES: Alliance for Regional Collaboration to Heighten Educational Success

- fills unique role improving California’s education system
- promotes strategic framework of deep collaboration between educational, business, and community
- closes achievement gaps
- increases college readiness, enrollment, and completion rates for historically underrepresented students
Continuing the VC P-20 & ARCHES Partnership

- **Grant Support**: ARCHES provides grants and technical assistance.
  - provided 3 subsequent grants to the VC P-20 to establish the Engineering Design Career Pathways (EDCP) Linked-Learning California Partnership Academy at Hueneme High School

- **Research and Evaluation**: ARCHES aids in ensuring optimal development and helps establish the potential for replication.

- **Collaborative Support**: ARCHES mentors and connects collaboratives and provides technical assistance to help sustain regional alliances.

- **Professional Learning Community**: ARCHES aids in
  - identifying, sharing, and promoting effective, research-based practices;
  - accessing professional development;
  - and advocating for public policies that lead to educational attainment and elimination of the achievement gap.
What is the Ventura County P-20 Council?

The Ventura County P-20 Council serves as an engine to advance academic achievement and eliminate performance gaps thereby promoting college completion, career preparation, and lifelong learning for Ventura County.

The Ventura County P-20 Council envisions a strong collaboration among educational, business, and community organizations to create a culture that supports the knowledge and workforce needs of our region.
DISCUSSION

What are current or planned collaborative partnerships in your region?

Who are the stakeholders?

How do you identify & engage the appropriate partners?
P-20 Structure & Membership

Core Council

A small Executive Leadership group comprised of:

- the Presidents of higher education institutions in the region, including Cal State Channel Islands & Cal Lutheran University;
- the Chancellor of the Ventura County Community College District;
- the County Superintendent of Schools;
- the President of the Ventura County 12th District PTA;
- the Commanding Officer of Naval Base Ventura County; and
- the Directors/CEOs of First Five, Ventura County Economic Development Assoc., Workforce Investment Board, United Way-Ventura County, Economic Development Corporation-Ventura County, Limoneira, Oxnard-Port Hueneme Boys and Girls Club and United Way-Ventura County.

The Core Council provides the vision and direction for the Regional Council, as well as, the authority and resource commitment to support the work of the P-20 Council as a whole.
What do we do?

Encourage the belief that ALL children can complete a college degree and/or attain a successful career.

Promote academic models that enable student success in college and career paths.

Utilize accurate data as guideposts.

Increase public awareness of the link between an educated citizenry and a healthy economy.
P-20 Pathway to Successful Careers
Ventura County

1. Number of Students ready for Kindergarten *
2. Number of 3rd graders reading at or above proficient *
3. Number of 8th graders scoring at or above proficient *
4. CAHSEE pass rate (first time test-takers)

1. Number of students completing A-G sequence
2. Number of Students Taking SAT
3. Number of students participating in EAP

1. 2 year and 4 year College attendees
2. CSU/UC Acceptance Rate
3. Community College Success - First time Freshman
   • Number of students enrolled as non-remedial
   • Retention/Persistence
   • Completers-all success
4. 4-year college success - First-Time Freshman
   • Retention/Persistence
   • Completer

* = Must be defined
Hueneme High School
ENGINEERING DESIGN CAREER PATHWAY

2008 ARCHES Planning Grant
2009 2011 ARCHES Implementation Grant
2011 Summer Bridge Programs Implemented
2012 First graduating cohort
(More than 20% of EDCP Graduates from Cohort #1, 2012, were accepted into a 4 year university.
All EDCP Graduates were registered to attend Oxnard College, Ventura College, UC or CSU)
2013 Cohort expanded
2014 OUHSD adopts district-wide linked learning model for all district (11) academies with National Academy Foundation affiliation
Establishing the EDCP Academy

• P-20 Expanded Council assisted with concept, grant support & letters

• Established a strong Advisory Board with professionals in the field, to advise and to mentor students

• Business Professionals Commitment to mentor students, strong partnership with Navy base

• Cross-Institutional Faculty Planning

• Parental involvement, parent nights
Challenges & Barriers
Establishing the EDCP Academy

• Student Status – Entry to Naval Base
• Managing personalities and change
• Turnover of administration and staff
  – 3 Principals within 5 years
  – Change of Asst. Principal /academy support facilitator
  – Academy teacher turn-over
  – New Superintendent

• Data Sharing
  – Collecting data regularly
  – New District data system implementation
  – Matching collected data with district data
    • By student
    • By data field definition
Successful Tactics
Establishing the EDCP Academy

• Student Status – Entry to Naval Base
  ➢ Collaborated with Naval Base staff for group entry and supervision while on Base
  ➢ Undocumented students: Provided specific FAFSA information

• Managing personalities and change
  ➢ Provided facilitation and support
  ➢ Brought needed resources
  ➢ Developed and expanded partnerships
Successful Tactics

• Turnover of administration and staff
  ➢ Provided facilitation and support
  ➢ Provided consistency and focus on mission and goals

• Data Sharing
  ➢ Maintained relationship with key personnel
  ➢ Consistent requesting format
  ➢ Provided expertise and support
DISCUSSION

What are some challenges or barriers that your local collaboratives may face as they move forward with initiatives?

What are some strategies for overcoming those challenges?
Academic Performance, Achievement Motivation and Self-Efficacy Outcomes in Linked Learning

• The Challenge
  
  – 25% (1.4M) of California’s K-12 students are English learners. Of this group...
  
    • 85% speak Spanish as their primary language
    • 85% are economically disadvantaged
  
  – Achievement Gap affects both ethnicity and SES

Latinos and African Americans less likely to graduate with classes needed for University

2011-12

*In Ventura County*

18.7% of Latinos and 24.4% of African Americans graduated from high school with A-G required courses.

Retrieved from http://data1.cde.ca.gov/dataquest/
Successful Program Strategies & Components

• Multiple Pathways, Career Academies & Linked Learning*

• Self Efficacy & Achievement Motivation**

* (Oakes & Saunders, 2008); (Kemple, 2004, & 2008)

** (Niehaus, Rudasill, & Adelson, 2011); (Weiser & Riggio, 2010)
Engineering Design Career Pathway Academy

- **Rigor, Relevance, Relationships**
  - College prep curriculum fulfills A-G requirements
  - Focus on a career pathway and CTE Frameworks
  - Teachers collaborate as instructors, mentors, and counselors

- **Academy**
  - Cohort, small learning community
  - Mirrors HHS on gender, ethnicity, free lunch

- **Partnership Focused**
  - Community Advisory Board
  - Community Mentors
# The Cohort Model Curriculum

<table>
<thead>
<tr>
<th>Grade</th>
<th>Shared Classes</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>10th Grade</td>
<td>English World Civilizations Biology Introduction to Engineering Design</td>
<td><strong>Boot Camp:</strong> AVID techniques Team building</td>
</tr>
<tr>
<td>11th Grade</td>
<td>English US History Chemistry Computer Engineering</td>
<td><strong>Oxnard College:</strong> Marine Engineering</td>
</tr>
<tr>
<td>12th Grade</td>
<td>English Government/Economics Physics Architecture &amp; Design Internships</td>
<td><strong>CSU Channel Islands:</strong> Engineering Innovation</td>
</tr>
</tbody>
</table>
## Engineering Design Career Pathway Academy

<table>
<thead>
<tr>
<th>COHORT</th>
<th>Enrollment (Graduated)</th>
<th>High School Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohort I</td>
<td>44 (33)</td>
<td>Graduated 2012</td>
</tr>
<tr>
<td>Cohort II</td>
<td>43 (31)</td>
<td>Graduated 2013</td>
</tr>
<tr>
<td>Cohort III</td>
<td>45 (37)</td>
<td>Graduated 2014</td>
</tr>
<tr>
<td>Cohort IV</td>
<td>40</td>
<td>Seniors</td>
</tr>
<tr>
<td>Cohort V</td>
<td>60</td>
<td>Juniors</td>
</tr>
<tr>
<td>Cohort VI</td>
<td>50 (increase to 70)</td>
<td>Sophomores</td>
</tr>
</tbody>
</table>
EDCP Goals

• All EDCP courses meet A-G criteria
• All 10th and 11th Grade Students Participate and Place in Local MESA Competition.
• 100% Pass Rate for 10th Grade CAHSEE
  – Math: 90% EDCP vs. 75% HHS
  – English: 90% EDCP vs. 70% HHS
• Above 60% Proficient and Advanced on CST Subject Tests.
• EDCP Attendance 97.4% vs. 94.8 HHS

• 100% of EDCP Grads Enrolled in a Community College or 4 year University.
2011 CST Percent Proficient/ Advanced: 11th Grade (Cohort 1)
2011 CST Percent Proficient/ Advanced:
10th Grade (Cohort 2)
Does the EDCP program make a difference?

- EDCP
- AVID
- English IV
EDCP Mirrors the High School

Gender

<table>
<thead>
<tr>
<th></th>
<th>EDCP</th>
<th>AVID</th>
<th>English IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>40.9%</td>
<td>48.1%</td>
<td>52.2%</td>
</tr>
<tr>
<td>Male</td>
<td>59.1%</td>
<td>51.9%</td>
<td>47.8%</td>
</tr>
</tbody>
</table>

Ethnicity

<table>
<thead>
<tr>
<th></th>
<th>EDCP</th>
<th>AVID</th>
<th>English IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic</td>
<td>90.9%</td>
<td>90.9%</td>
<td>89.5%</td>
</tr>
<tr>
<td>White</td>
<td>4.5%</td>
<td>4.5%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Asian</td>
<td>4.5%</td>
<td>5.3%</td>
<td>8.7%</td>
</tr>
</tbody>
</table>

Students Who Receive Free Lunch

<table>
<thead>
<tr>
<th></th>
<th>EDCP</th>
<th>AVID</th>
<th>English IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>74%</td>
<td>79.8%</td>
<td>78.3%</td>
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</tbody>
</table>
# English Proficiency & CST Scores

## CST English Scores

<table>
<thead>
<tr>
<th>CST English Scores</th>
<th>EDCP</th>
<th>AVID</th>
<th>ENGLISH IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELOW</td>
<td>9.1%</td>
<td>0%</td>
<td>9.1%</td>
</tr>
<tr>
<td>BASIC</td>
<td>59.1%</td>
<td>52.6%</td>
<td>45.5%</td>
</tr>
<tr>
<td>PROFICIENT</td>
<td>27.3%</td>
<td>36.8%</td>
<td>31.8%</td>
</tr>
<tr>
<td>ADVANCED</td>
<td>4.5%</td>
<td>10.5%</td>
<td>9.1%</td>
</tr>
</tbody>
</table>

## CST Math Scores

<table>
<thead>
<tr>
<th>CST Math Scores</th>
<th>EDCP</th>
<th>AVID</th>
<th>ENGLISH IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELOW</td>
<td>50%</td>
<td>31%</td>
<td>27.3%</td>
</tr>
<tr>
<td>BASIC</td>
<td>40.9%</td>
<td>52.6%</td>
<td>59.1%</td>
</tr>
<tr>
<td>PROFICIENT</td>
<td>4.5%</td>
<td>5.3%</td>
<td>4.5%</td>
</tr>
<tr>
<td>ADVANCED</td>
<td>4.5%</td>
<td>5.3%</td>
<td>0%</td>
</tr>
</tbody>
</table>

## CST English Proficiency

- **English Only**
- **Fluent**
- **Reclassified Fluent**

### English IV

- **AVID**
  - 79%
  - 16%
  - 5%

- **EDCP**
  - 86%
  - 14%

- **English IV**
  - 57%
  - 39%
  - 4%
Do EDCP students differ in Achievement Motivation, Self-Efficacy, Career Preparedness and Degree Aspirations?

- AVID students consistently outperform non-AVID students nationwide
- AVID & ENG IV convenience samples for Cohorts 1 & II (n = 140)
- Survey Graduating Seniors: Cohorts I & II
- Focus Groups: Cohort I only
No difference in Achievement Motivation
Self Efficacy Scales

• Self-Regulated Learning
• Self-Regulatory Efficacy
• Academic Problem Solving
• Enlisting Social Resources
• Academic Achievement
• Meet Others’ Expectations
• Social Self-Efficacy
• Self-Assertive Efficacy
• Enlisting Family/Community Support
• Work Together as a Family
• Leisure Time Skills, Extracurricular Activities
Self-Regulated Learning:
Get myself to do school work
No difference between AVID & EDCP

F (2,137) = 5.22,  p = .006  
AVID > ENG IV
Self-Regulated Learning:
I can get better grades if I finish homework.

<table>
<thead>
<tr>
<th></th>
<th>EDCP</th>
<th>AVID</th>
<th>English IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>30.4%</td>
<td>47.4%</td>
<td>52.2%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>39.1%</td>
<td>21.1%</td>
<td>26.1%</td>
</tr>
</tbody>
</table>
Self-Regulatory Efficacy
Resist peer pressure for bad behaviors

F (2,137) = 4.363,  p = .015
EDCP & AVID > ENG IV
EDCP more certain about Solving Academic Problems than ENG IV

Mean Score: Solve problems 50% of the time

F (2, 136) = 3.199, p = .04

No difference between EDCP & AVID
EDCP more likely to feel Math classes prepared them for future

F (2,132) = 4.105,  p = .019  
EDCP > ENG IV
Team Behaviors

I can work with someone who has different opinions than mine.

F (2, 137) = 9.338, p = .000  EDCP > ENG IV

I know people learn in different ways.

F (2, 137) = 4.609, p = .012  AVID > ENG IV

- 63.5% (EDCP)
- 80% (AVID)
- 51.7% (ENG IV)

Percent Strongly Agreeing
Continuing my education after HS is important for my future career goals.

Percent Strongly Agreeing:
- EDCP: 78.8%
- AVID: 93.3%
- ENG IV: 67.2%

F (2, 137) = 4.096, p = .019
AVID > ENG IV
EDCP students more likely than ENG IV to Aspire to Graduate School

F (2, 137) = 4.218, p = .017  EDCP & AVID > ENG IV
Predicting Educational Aspirations

- Social Self-Efficacy +
- Achievement Motivation +
- Self-Assertive Efficacy -
- ENG IV -

$R^2 = 0.298$
Are there performance differences between EDCP and HHS students?

- Controlling for selection bias
- 2008-2011 Cohorts & matched on 8 factors, e.g. parent education, STAR Math & ELA, FRLE, ethnicity

- EDCP has higher GPA & CAHSEE scores

<table>
<thead>
<tr>
<th></th>
<th>Kernel Weighted</th>
<th>EDCP</th>
<th>HHS Match</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA**</td>
<td>2.4</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>CAHSEE Math*</td>
<td>383.8</td>
<td>369.3</td>
<td></td>
</tr>
<tr>
<td>CAHSEE ELA *</td>
<td>379.9</td>
<td>368.0</td>
<td></td>
</tr>
<tr>
<td>Ever Referred</td>
<td>14.8%</td>
<td>9.0%</td>
<td></td>
</tr>
<tr>
<td>Ever Suspended</td>
<td>18.7%</td>
<td>12.3%</td>
<td></td>
</tr>
</tbody>
</table>
Focus Group Themes (Cohort I Seniors)

- **Family:** Teachers and students become a supportive surrogate family
- **Safe:** EDCP is a safe environment to explore ideas and push/test themselves
- **Competence:** Confidence in academic ability increased over time
- **Ambiguity:** Students accept “not knowing the answer” as part of the process.
- **Mentorship:** Seniors protective of later cohorts but challenge and push them
Strengthening the Data Story

- Link Cohorts II & III to District Data
- Post HS Survey of Cohorts I & II
  - Self-Efficacy
  - Motivation
  - Educational Attainment & Aspirations
- Develop stronger pre-test design
DISCUSSION

What can you do to promote effective data sharing?

How can effective data sharing help galvanize collaborative partnerships?
Future of the EDCP Academy

- OUHSD one of 63 California Districts participating in AB790 Link-Learning Pilot
- OUHSD one of 16 Districts to receive a California Career Pathways Trust Grant
  - (EDCP one of 7 Academies in District to be funded by the grant)
- EDCP moving from a CA Partnership Academy model to a National Academy Foundation model
- OC and CI solidifying funding to continue summer programs and meet growing numbers of EDCP students.
Continuation Strategies

• Maintaining a dialogue and momentum
  – Advisory Board
  – Regional Education Leadership
    (CI President, VC Superintendent, Oxnard College President)
  – District and School Administration
  – Teachers, Parents, Community Partners

• Increased parental engagement

• Continued exploration of funding opportunities and additional partners

• Develop compelling arguments for working to strengthen data sharing
  – Stronger pipeline tracking for student success
  – Collaborative grant opportunities
Strengthening Partnerships

• Solution Summits
  – Engaging counselors, administration, parents and educators [across levels, institutions and disciplines] to identify gaps in the pipeline and barriers to student achievement AND work together to find solutions.
  – (OUHSD, Oxnard Elementary District, UCSB MESA, Oxnard College, CI)

• P-20
  – Facilitating the business/education connection across Ventura County
  – Raising awareness of the importance of supporting education from Pre-K to Career
  – Facilitating a regional partnership inventory and data story to better leverage resources and promote academic success

• PROMISE Program
  – Strengthening pathways through articulation and guaranteed college/university admission, as well as, increased support services in coordination with High School Districts and Community Colleges within Ventura County.
Questions?