The Research & Practice Behind Developing Effective K-14 Pathways

Mina Dadgar, Career Ladders Project
Robert Curtis, Connect Ed

California Community College Association for Occupational Education, 2015
Welcome and Introductions

• Mina Dadgar- Career Ladders Project

• Robert Curtis- ConnectEd
Who’s in the room?

Participant Introductions:

– Introduce yourself (name, role, organization)

– What motivated you to attend this session?
Outcomes

1. Understand the research based strategies for developing K14 pathways

2. Understand how these strategies have been implemented in specific contexts

3. Examine and provide feedback on a K14 Framework for Pathways

4. Explore how this could be utilized in your context
Agenda Overview

- Overview of K16 Pathway Framework
- Deep dive on Structures and Sequence
- Deep dive on Student Supports
- Reflection and Feedback
Where are We Losing Students?

Out Of Ten 9th Graders

3 Drop Out

3 Work After Graduation

4 Go To College

Out Of 4 College Students

2 Drop Out

1 Under Employed

1 Employed In Chosen Career

Each year dropouts represent $320 billion in lost lifetime earning potential

Navigating College and Career Readiness

Career
Employers
Jobs
Community Colleges
CSU/UC
K12
Students

ConnectEd
The California Center for College and Career
Triads

• What are key elements for a pathway? What do pathways look like in your institution?

• What collaboration are you doing or have you done with K12?
  – Successes?
  – Challenges?

• What are your challenges related to student credential attainment?
K16 Pathway Framework
How and Why We Developed the Framework

1. CCPT
2. New collaborations between K12 and CC
3. Lack of clear shared understanding of what is a high quality K14/16 pathway.
4. Need for research, tools and resources to support implementation and development.
HIGH QUALITY PATHWAYS FOR ALL

SYSTEMIC INTERVENTION

<table>
<thead>
<tr>
<th></th>
<th>PK-8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved Structure &amp; Course Sequence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College Credit &amp; Dual Enrollment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proactive Student Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accelerated Remediation &amp; Improved Placement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated Instruction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workforce Connections &amp; Work-Based Learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

STUDENT OUTCOMES

<table>
<thead>
<tr>
<th></th>
<th>PK-12</th>
<th>POST-SECONDARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS Success &amp; Completion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College Access &amp; Enrollment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College Success &amp; Completion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment in Chosen Career</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Key Pathway Components for Community College
Completion?

• Of first-time college students who enrolled in a community college in the fall of 2008, 39 percent earned a credential from a two- or four-year institution within six years. National Student Clearinghouse Research Center, Shapiro & Dundar, 2014
Dual Enrollment

✓ Dual Enrollment is Effective:
• Students are more likely to graduate from HS
• More likely to enroll in college
• More likely to pursue a bachelor’s degree
• More likely to persist in college
• Less likely to take basic skills courses in college


• Dual Enrollment helps high school students see themselves as college students and prepare for college level work (Karp 2008)
Improving Placement and Reducing Remediation

Long Remedial Sequence: Important Barrier to Students Accessing Pathways Courses

• About two thirds of all CC students in CA and nationally are assigned to remediation (Scott-Clayton 2012)
• The majority of students assigned to remedial courses do not complete their sequence.
• One third of students in remediation could have earned a B or higher. (Scott-Calyton, Crosta & Belfield 2012)
• Using GPA can substantially improve placement accuracy e.g. Cut sever error rate by half (Crosta & Belfield 2012)
Improving Placement and Reducing Remediation

Assignment to Remedial Courses by Race

Extensive interviews with community college students have shown that, even with support services open to all students, only the students with pre-existing college know-how tend to take advantage of them (Karp et al., 2008).

To ensure students who need the services the most access them, it is important that services are integrated with instruction and are pro-active (intrusive)
Community college students accumulate substantially more credits than are required for the credential the student eventually receives (Zeidenberg 2012; Jenkins & Cho 2014, complete college America).

Interviews with students reveal that many are surprised to learn that their courses do not count towards a major they eventually select (Nodine et al 2012).

In California student to counselor ratio is about 1 to 1,000. There is little time for individual career counseling. Also, program requirements are not clearly defined or communicated (Venezia et al 2009; Dadgar et al 2012).
Improving Structure and Sequence:
Course Requirements for Business at a small CA Community College

BUS001A
BUS002
BUS010

MATH250
MATH251D
MATH253

MATH200B
MATH201
MATH204B
MATH210D

MATH205A
MATH211B
MATH253

MATH205B
MATH202
MATH211D

ECON001
ECON002

MATH001
MATH002
MATH016A
MATH050

MATH013
MATH002
MATH016A

MATH052C
K14/16 Greater Structure: Pathway Mapping and Programs of Study
What is Pathway mapping

• Powerful **process** to identify, align, and strengthen K14 pathways across systems

• A way to communicate the benefits of pathway education to all stakeholders

• Roadmap to high quality pathways

• Identify gaps
What Pathway Mapping is *not*

- Course content
- Alone, it won’t make any changes to program.
Benefits of Pathway Mapping

① Identify gaps in the current pathway
② Design includes program of study, transitions, post sec. completion, WBL & industry engagement.
③ Creates a clearer/bigger picture of the pathway
④ Communicate importance of pathway education to ALL stakeholders
⑤ Inform or leverage other funding sources/initiative (i.e. Perkins Funding, CCSS, NGSS)
Why is the K12 Program of Study important?

- Sets the direction for the pathway
- Clarifies the vision of where you are going
- Becomes the marketing tool for students and parents
- Helps to determine where the pathway outcomes will be taught
- Informs the master schedule development
Components of High Quality Pathways

A comprehensive four-year program of study integrating:

• Rigorous academics
• Real-world technical skills
• Work-based learning
• Personalized supports
# Architecture, Construction, & Engineering Sample Pathway

<table>
<thead>
<tr>
<th></th>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>English 1</td>
<td>English 2</td>
<td>English 3</td>
<td>English 4</td>
</tr>
<tr>
<td>Math</td>
<td>Algebra 1</td>
<td>Geometry</td>
<td>Algebra 2</td>
<td>Pre Calc</td>
</tr>
<tr>
<td>Science</td>
<td>Physics</td>
<td>Chemistry</td>
<td>Biology</td>
<td>AP Physics</td>
</tr>
<tr>
<td>History</td>
<td>World History</td>
<td></td>
<td>US History</td>
<td>Government &amp; Economics</td>
</tr>
<tr>
<td>For. Lang</td>
<td></td>
<td>Spanish 1</td>
<td>Spanish 2</td>
<td>Spanish 3</td>
</tr>
<tr>
<td>Technical</td>
<td>Intro to Engineering &amp; Design</td>
<td>Construction Technology</td>
<td>Computer Aided Design</td>
<td>Engineering Design and Development</td>
</tr>
<tr>
<td>WBL</td>
<td>Company Tour</td>
<td>Job Shadow</td>
<td>Project for a company</td>
<td></td>
</tr>
</tbody>
</table>
### Samples

**Northern California Career Pathways Alliance**

#### Industry Certification
- National Security Associate
- POST (Peace Officer Standards and Training) Commission

#### Pre-Law Pathway
- A.A. Political Science
- A.S. Administration of Justice: Corrections
- A.S. Administration of Justice: Law Enforcement
- A.S. and A.S.T. Administration of Justice

#### General Education

#### Mid-Level Certificate
- Law Enforcement Certificate of Achievement
- Corrections Certificate of Achievement
- Homeland Security Certificate of Achievement

#### Loss Prevention Certificate of Achievement
- ADJUS, required courses
- Security Academy, ADJUS 164 Coop Ed

#### Entry Level Certificate
- Work Keys (Police Officer/Security)
- Baton License
- Powers to Arrest
- OC Spray Certification (Pepper Spray)

#### Security Specialist, 12 units

#### Summer Bridge

#### Transition Supports and Activities for West Contra Costa Unified School District Students (includes Summer Bridge Prep)

<table>
<thead>
<tr>
<th>School</th>
<th>Instruction</th>
<th>WBL</th>
<th>Matriculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>De Anza H.S. Law Academy</td>
<td>Capstone</td>
<td>Summer Internship Center YD</td>
<td>CCC Application &amp; Early Assessment CCC Faculty visits</td>
</tr>
<tr>
<td></td>
<td>Law and Justice (Criminal Law)</td>
<td>CCC Faculty visits</td>
<td>Dual Enrollment: ADJUS 135 Law and Democracy</td>
</tr>
<tr>
<td></td>
<td>Intro to Law</td>
<td>Criminal Justice Guest Speakers Police SL Visit</td>
<td>CCC Faculty visits</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pinole Valley H.S. Law &amp; Justice Academy</th>
<th>Instruction</th>
<th>WBL</th>
<th>Matriculation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dual Enrollment: ADJUS 135 Law and Democracy</td>
<td>Summer Internship Center YD</td>
<td>CCC Application &amp; Early Assessment CCC Faculty visits</td>
</tr>
<tr>
<td></td>
<td>CCC Faculty visits</td>
<td>CCC Faculty visits</td>
<td>Dual Enrollment: ADJUS 121 Concepts of Criminal Law ADJUS 122 Criminal Procedure</td>
</tr>
<tr>
<td></td>
<td>Criminal Justice Guest Speakers Police SL Visit</td>
<td>CCC Faculty visits</td>
<td>Dual Enrollment: ADJUS 121 Concepts of Criminal Law ADJUS 122 Criminal Procedure</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Richmond H.S. Law &amp; Justice Academy</th>
<th>Instruction</th>
<th>WBL</th>
<th>Matriculation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dual Enrollment: ADJUS 135 Law and Democracy</td>
<td>Summer Internship Center YD</td>
<td>CCC Application &amp; Early Assessment Student Success Workshops with CCC</td>
</tr>
<tr>
<td></td>
<td>ROP Classes</td>
<td>CCC Faculty visits</td>
<td>CCC Faculty visits</td>
</tr>
<tr>
<td></td>
<td>ROP Classes</td>
<td>CCC Faculty visits</td>
<td>CCC Faculty visits</td>
</tr>
<tr>
<td></td>
<td>Criminal Justice Guest Speakers Police SL Visit</td>
<td>CCC Faculty visits</td>
<td>ROP Classes</td>
</tr>
</tbody>
</table>

#### Jobs & Wages
- Probation Officer, Correctional Treatment Specialist: requires B.A. Degree, $27-$50/hr
- Corrections Officer: $24-$32/hr
- Police Patrol Officer: $25-$29/hr
- Juvenile Counselor: Degree in Corrections $14-$40/hr

- Loss Prevention: $10-$28/hr
  - Retail/Grocery: $10-$20/hr
  - Transportation/Logistics: $19-$20/hr
- Armed Patrol Officer: $9-$20/hr
- Security Operator: $14-$19/hr
- Security Officer: $9-$19/hr
  - Police Aide: $10-$12/hr
  - Transportation Security Screener: $16-$22/hr
Greater Structure and Improved Course Sequence (K12)

<table>
<thead>
<tr>
<th>Pathway(s):</th>
<th>College(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDUSTRY CERTIFICATION</td>
<td>JOBS AND WAGES</td>
</tr>
<tr>
<td>Advance Level</td>
<td>Advance Level</td>
</tr>
<tr>
<td>Mid Level</td>
<td>Mid Level</td>
</tr>
<tr>
<td>Entry Level</td>
<td>Entry Level</td>
</tr>
<tr>
<td>General Education</td>
<td></td>
</tr>
<tr>
<td>Mid Level Certificate</td>
<td></td>
</tr>
<tr>
<td>Entry Level Certificate</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Academic Courses</th>
<th>Outcomes</th>
<th>Technical Courses</th>
<th>Work-based Learning</th>
<th>Integrated Projects</th>
<th>Student Supports</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Opportunities for Partnerships

Support for Pathway Quality

- Coaching
- Professional Development
- Alignment with Workforce and Economic Development

Engaged Partnerships

- Community Engagement
- Postsecondary Alignment
- K12

WBL Infrastructure

- WBL System Development
- Employer Engagement

Awareness and Advocacy

- Data, Research and Evaluation
- External Communications
- Policy and Advocacy

Backbone Organization

ConnectEd
The California Center for College and Career