South Texas Regional Convening
March 24, 2017
The University of Texas Rio Grande Valley
Welcome and Introduction

Havidán Rodríguez, *Provost and Executive Vice President for Academic Affairs, The University of Texas Rio Grande Valley*

James Hallmark, *Vice Chancellor for Academic Affairs, Texas A&M University System*

Martha Ellis, *Interim Director for Higher Education Services, The Charles A. Dana Center*

Nancy Stano, *Strategic Learning and Development Lead for Higher Education Services, The Charles A. Dana Center*
About the Dana Center

The **Charles A. Dana Center** at The University of Texas at Austin works with our nation’s education systems to ensure that every student leaves school prepared for success in postsecondary education and the contemporary workplace.

Our work, based on research and two decades of experience, focuses on K–16 mathematics and science education with an emphasis on strategies for improving student engagement, motivation, persistence, and achievement.

We develop innovative curricula, tools, protocols, and instructional supports and deliver powerful instructional and leadership development.
Who is in the room?

Four-Year Institutions
- Texas A&M International University
- Texas A&M University-Kingsville
- Texas A&M University-Corpus Christi
- The University of Texas at San Antonio
- The University of Texas Rio Grande Valley

Two-Year Institutions
- Coastal Bend College
- Del Mar College
- Laredo Community College
- Northeast Lakeview College (The Alamo Colleges)
- South Texas College
- Southwest Texas Junior College
- Texas State Technical College-Harlingen
- Texas Southmost College

Dana Center Staff

Presenters and Guests
Who is in the room?

<table>
<thead>
<tr>
<th>Four-Year Institutions</th>
<th>% Transfer Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Texas A&amp;M International University</td>
<td>93%</td>
</tr>
<tr>
<td>• Texas A&amp;M University-Kingsville</td>
<td>78%</td>
</tr>
<tr>
<td>• Texas A&amp;M University-Corpus Christi</td>
<td>55%</td>
</tr>
<tr>
<td>• University of Texas Rio Grande Valley</td>
<td>86%</td>
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</tbody>
</table>
Goals for the Day: What will we accomplish together?

1. Develop a shared understanding of math pathways regionally.
2. Work towards regional alignment for transfer and applicability.
3. Explore data on math pathways and transfer student success.
Agenda: Regional Coordination

• Session 1: Understanding math pathways & requirements

• Session 2: Aligning math regionally

• Session 3: Exploring data on transfer and mathematics pathways
The Dana Center Mathematics Pathways

A partnership of:

• The Charles A. Dana Center at The University of Texas at Austin
• All 50 community college districts in Texas, represented by the Texas Association of Community Colleges and the Texas Success Center

A systemic approach to improving student success by reforming developmental and gateway mathematics
DCMP Vision

All students have equitable access to and the opportunity for success in rigorous mathematics pathways that are aligned and relevant to their future aspirations, propelling them to upward economic and social mobility.

The DCMP seeks to ensure that ALL students in higher education will be:

• **Prepared** to use mathematical and quantitative reasoning skills in their careers and personal lives,
• **Enabled** to make timely progress towards completion of a certificate or degree, and
• **Empowered** as mathematical learners.
Institutions implement structural and policy changes quickly and at scale.

Mathematics pathways are structured so that:

1) All students, regardless of college readiness, enter directly into mathematics pathways aligned to their programs of study.

2) Students complete their first college-level math requirement in their first year of college.
Institutions and departments engage in a deliberate and thoughtful process of continuous improvement to ensure high-quality, effective instruction.

Students engage in a high-quality learning experience in math pathways designed so that:

3) Strategies to support students as learners are integrated into courses and are aligned across the institution.

4) Instruction incorporates evidence-based curriculum and pedagogy.
Quick structural change

Mathematics pathways are structured so that:
1) All students, regardless of college readiness, enter directly into mathematics pathways aligned to their programs of study.
2) Students complete their first college-level math requirement in their first year of college.

Continuous improvement

Students engage in a high-quality learning experience in math pathways designed so that:
3) Strategies to support students as learners are integrated into courses and are aligned across the institution.
4) Instruction incorporates evidence-based curriculum and pedagogy.
What is the “Right Math”? 

Community College Student Enrollment into Programs of Study 

- Require Calculus: 20% 
- Do not require Calculus: 80% 

Four-Year Student Enrollment into Programs of Study 

- Require Calculus: 28% 
- Do not require Calculus: 72% 

What is the “Right Math”?

Associate's Degrees Awarded

- Require calculus: 23%
- Do not require calculus: 77%

Bachelor's Degrees Awarded

- Require calculus: 38%
- Do not require calculus: 62%

Author’s calculations based on data from the Texas Higher Education Coordinating Board, 2013: Degrees Earned by CIP code
Example Pathways

MODERN MATHEMATICS PATHWAYS CONNECTED TO PROGRAMS OF STUDY

STATISTICS PATHWAY
Designed for students seeking a college-level statistics course as a part of their general education requirement for majors in the fields including:
- Nursing
- Social Work
- Criminal Justice

DEGREE PLAN COURSES: STATISTICS PATHWAY with embedded student success strategies

QUANTITATIVE REASONING PATHWAY
Designed for students pursuing a field of study in which general education math is a requirement. These fields include majors in:
- Communications
- Graphic Design
- Paralegal

DEGREE PLAN COURSES: QUANTITATIVE REASONING with embedded student success strategies

STEM-PREP PATHWAY
Designed for students seeking a STEM or mathematics-intensive major in fields including:
- Petroleum Engineering
- Computer Science
- Chemistry

DEGREE PLAN COURSES: STEM-PREP PATHWAY with embedded student success strategies

COLLEGE COMPLETION GOALS

- DEGREE
- CERTIFICATE
- LICENSE
- 4-YEAR TRANSFER
Evidence of Math Pathways Success

1 Year Math Initiatives

- Texas, NMP Curriculum Overall: 23%
- Texas, NMP Curriculum with back-to-back strategies: 43%
- Statway: 51%
- California Acceleration Project (CAP): 49%
- 1 Semester Corequisite Initiatives
  - Traditional Developmental-to-College Level Completion in 3 Years: 20%
  - Tennessee: 51%
  - West Virginia: 62%
  - Indiana: 64%

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Mathematics PATHWAYS
Scaling the DCMP Model in Texas

+ broader engagement with
all 50 community college systems and 29 four-year institutions
A Regional Approach to Scaling

Regional Coordinators

- Foster connections
- Synchronize mathematics pathways information and services
College Prep Mathematics Course

Designed for students who are not yet college ready in mathematics by 12th grade.

- Districts partner with at least one institution of higher education.
- Students who successfully complete the course are granted a TSI exemption at the partner institution.
The Dana Center offers the following supports...

- INSTRUCTIONAL MATERIALS
- PROFESSIONAL DEVELOPMENT
- ASSESSMENT RESOURCES
- TEMPLATE MOU
- EVALUATION

All students are prepared, enabled, and empowered.
Transfer & Applicability
Texas Transfer Context

78

149
Texas Transfer Context

...the percent of bachelor’s completers that had community college credit on their transcripts. Almost 40% had 30+ SCH.

...the average number of credits accumulated by a bachelor’s degree completer


Texas Transfer Context

Almost 40% had 30+ SCH. on their transcripts. The average number of credits accumulated by a bachelor's degree completer is 78. Highest in U.S. according to National Student Clearinghouse. Highest in 36-state sample according to Complete College America.
Supporting a Coherent System

Tools and Resources
• Transfer Inventory
• Transfer and Applicability FAQ
• Program of Study Briefs

Transfer Champions Initiative
• Engaging all universities through regional convenings
• 17 Transfer Champions with exemplary math pathways
• More than 20 MOUs
Lessons Learned: Regional Coordination Enables Institutional Change

• Common mathematics pathways framework
• Ensure transferability
• Map math pathways to programs of study for applicability
Trends Across Texas Universities

Changes in Core Curriculum Entry-level Math Course Offerings in Texas 2010-2016

- Math 1342 Elementary Statistical Methods
- Math 1332 Contemporary Mathematics
- Math 1314 College Algebra

Number of Public Universities

2010: 17
2011: 19
2012: 20
2013: 21
2014: 22
2015: 24
2016: 27
Session 1: Understanding Math Pathways in the South Texas Region
Session Details:

• Progressive small group discussions
  • Phase 1 - Your institution
  • Phase 2 - Your sector
  • Phase 3 - Across sectors

• Resources
  • Session 1 Discussion Template
  • Regional Analysis Brief
  • Transfer Inventory
Session 2: Cross-Departmental and Cross-Institutional Mathematics Pathways Alignment

- Jeremy Martin, Policy Specialist, The Charles A. Dana Center
- Shanna Banda, Learning Resource Director and Lecturer, Department of Mathematics, The University of Texas at Arlington
Intra-institutional Implementation: Math Pathways Within An Institution
Inter-institutional Implementation: 
Math Pathways Across Institutions
UTA General Facts

About The Mavericks

• Degrees Offered (Fall 2016)
  85 Bachelor’s
  74 Master’s
  26 Doctoral
  1 Professional

• Enrollment (Fall 2016)
  39,714 total
  28,218 undergraduate
  11,496 graduate
  > 55,000 campus/online

• Diversity (Fall 2016)
  25 % Hispanic
  15 % African American
  10 % Asian
  12 % International
Redesign of Gateway Courses

• Pathway Based on Degree Plan.
Successful Shift

**Enrollment Fall 2014**
- MATH 1302 – around 750 students.
  - Previously greater than 1000 students each semester.
- MATH 1301 – around 780 students.
  - Previously around 240 students each semester.

**Enrollment Fall 2015**
- MATH 1302 – around 650 students.
- MATH 1301 – around 820 students.

- An online version of MATH 1301 is now available as well.
Success!!!

• Numerous academic achievements
  (Emporium implementation and Advising adjustment)
  
  ➢ MATH 1301 passing rate increase from 75% (Fall 2012) to 83% (Fall 2015)
  
  ➢ MATH 1302 passing rate increase from 47% (Fall 2012) to 63% (Fall 2015)
  
  ➢ MATH 1308 passing rate increase from 63% (Fall 2012) to 68% (Fall 2015)
  
  ➢ Algebra completers (MATH 1301/1302) increase from 630 (Fall 2012) to 966 (Fall 2015)
Texas Regional Transfer Convenings
Lessons Learned:

Results of Regional Analysis
University Redesign

Transfer Champions
- Stephen F. Austin State University
- Texas Tech University
- University of Houston-Downtown
- University of North Texas
- The University of Texas at Austin
- The University of Texas-Pan American
- The University of Texas at Tyler
Challenges

• Building ownership for change; creating new courses and requirements
• Offering new courses is no guarantee of uptake; small numbers of sections
• Mobility and transfer; advising and program alignment
Recommendations

MULTIPLE MATHEMATICS PATHWAYS IMPLEMENTATION PROCESS

- DEFINE the problem
- ENGAGE administrators and faculty
- SITUATE math pathways in a broader redesign
- INVOLVE advisors
- COMMUNICATE regularly with transfer partners
- COMPARE school requirements and policies

ENSURE new math pathways are transferable and applicable to majors

Within Your Institution

With Transfer Partners
Session 3: Exploring Data on Transfer and Mathematics Pathways

- Lucy Kellison, Graduate Research Assistant, The Charles A. Dana Center
Session Details

• Goal: use data to create actionable steps for improving transfer and pathways implementation within and across institutions.

• Resources
  
  • Session 3 Discussion Template
  • South Texas Transfer Metrics
  • Math Pathways Data Sheets
### Institutional Transfer Data Sheet

In Fall 2015, 74.1% of all bachelor’s completers in Texas carried credit from 2-year colleges on their transcripts. 35.3% of bachelor’s completers had more than 30SCH and 38.8% of bachelor’s completers had between 1-29SCH from 2-year colleges. (A)

#### Transfer Student Success Metrics

<table>
<thead>
<tr>
<th>Top transfer partners</th>
<th>Developmental education prior to transfer</th>
<th>Persistence</th>
<th>Graduation rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 3 transfer institutions</td>
<td>Total student transfers in Fall 2015 (B)</td>
<td>Percentage of university’s total transfer population that come from sending college cohort, Fall 2015</td>
<td>Total transfer students who took developmental education prior to transfer, Fall 2015 (B)</td>
</tr>
<tr>
<td>College A</td>
<td>36,690</td>
<td>N/A</td>
<td>16,872</td>
</tr>
<tr>
<td>College B</td>
<td>24,783</td>
<td>24,708</td>
<td>22,806</td>
</tr>
<tr>
<td>College C</td>
<td>21,971</td>
<td>18,881</td>
<td></td>
</tr>
</tbody>
</table>

#### Top 5 declared majors, Fall 2015 (D)

<table>
<thead>
<tr>
<th>Curriculum area</th>
<th>Student enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Interdisciplinary Studies</td>
<td>24,783</td>
</tr>
<tr>
<td>2. Biology/Biological Sciences, General</td>
<td>24,708</td>
</tr>
<tr>
<td>3. Registered Nursing/Registered Nurse</td>
<td>22,806</td>
</tr>
<tr>
<td>4. Psychology, General</td>
<td>21,971</td>
</tr>
<tr>
<td>5. Kinesiology and Exercise Science</td>
<td>18,881</td>
</tr>
</tbody>
</table>

#### Native v. transfer student graduation rates (E)

<table>
<thead>
<tr>
<th>Institution Specific</th>
<th>Percentage of transfer students with junior standing in Fall 2011 graduating in 4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statewide average</td>
<td>65%</td>
</tr>
<tr>
<td>Institution Specific</td>
<td>N/A</td>
</tr>
<tr>
<td>Statewide average</td>
<td>65%</td>
</tr>
<tr>
<td>Statewide average</td>
<td>83%</td>
</tr>
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</table>
Closing
Goals for the Day: What have we accomplished together?

1. Develop a shared understanding of math requirements regionally

2. Work towards regional agreement for transfer and applicability

3. Explore data on transfer and math pathways
Next Steps

Dana Center
• Follow up with institutions’ point of contact
• Document institutional challenges and assets

Institutions
• Continue the dialogue with transfer partners
• Connect with regional coordinator
Meeting Evaluation

www.bit.ly/southtexasevaluation
A Closer Look: What’s the real problem?

It’s NOT

- Developmental math...
- College-level mathematics courses...
- Student supports...
- Programs of study...
- Transfer or policy...
A Closer Look:
What’s the real problem?

It IS the DISCONNECT between all these things
Contact Information

• General information about the Dana Center
  www.utdanacenter.org

• Dana Center Mathematics Pathways Resource Site
  www.dcmathpathways.org

• To receive monthly updates about the DCMP, contact us at
dcmathpathways@austin.utexas.edu
Support your work

Dana Center Mathematics Pathways Resource Site: http://www.dcmathpathways.org/

The Right Math for the Right Student at the Right Time

The Dana Center Mathematics Pathways seeks to ensure that ALL students in higher education will be:
- Prepared to use mathematical and quantitative reasoning skills in their careers and personal lives;
- Enabled to make timely progress toward completion of a certificate or degree; and
- Empowered as mathematical learners.

It takes coordinated action across all...
- Levels of the system (national, state, institution, classroom)
- Sectors of education (universities, colleges, K–12)
- Roles (policy, administrators, faculty, student services)

In order to...
- Redesign course and institutional structures that deter success;
- Modernize mathematics content and instruction;
- Eliminate policy barriers in placement, transfer, and applicability.
Staff Contacts

• Martha Ellis (interim director, higher education services)
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