The Problems

- Large number of RVC students place into developmental math
- Most students only need statistics or liberal arts math to graduate
- Successful developmental math program but was one size fits all
- Students passing intermediate algebra but still not possessing skills needed in outcome non-STEM courses
Goals

Update content
Balance instruction
Diversify assessment
Differentiate pathways
Build college readiness
A New Pathways Option

In one semester, Mathematical Literacy for College Students gives a student at the beginning algebra level the mathematical maturity to be successful in statistics, liberal arts math, or intermediate algebra.
AMATYC New Life initiative
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New Life leads to Statway & Quantway
AMATYC New Life initiative

2009

New Life leads to Statway & Quantway

2010

Statway pilots begin

2011

MLCS pilot begins at RVC

2012

2013
2009
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2010
New Life leads to Statway & Quantway

2011
Statway pilots begin
MLCS pilot begins at RVC

2012
Quantway pilots begin

2013
Project begins to scale
MLCS Content Areas

1. Numeracy
2. Proportional reasoning
3. Algebraic reasoning
4. Functions

See packet for objectives
Approach: Integrated & Layered

Numeracy ➔ Algebraic Reasoning ➔ Proportional Reasoning ➔ Functions

Geometry, statistics, student success, mathematical success
30% of what is 42?

Solve the proportion.

\[
\frac{x - 4}{10} = \frac{3}{5}
\]
Students who can:

- Read and think critically
- Apply numeracy
- Use algebra
- Understand functions
- Use technology
- Solve problems with words
Students who can:

- Read and think critically
- Apply numeracy
- Use algebra
- Understand functions
- Use technology
- Solve problems with words
New student experience

Engagement

Connections

Productive persistence

Deliberate practice
Use of research & experience

Studied successful countries

Researched brain-based learning

Used lessons from RVC redesign
Challenges

- Materials
- Adjuncts
- Articulation Training
Outcomes

Although sample sizes are small...

- 50-60% pass MLCS
- Most students passing outcome course
- Many placing into college level

Longterm tracking data will provide a better picture and comparison
Implementation options: replace beginning algebra

- Prealgebra
- MLCS
- Intermediate Algebra
- STEM College Level Math
- Non-STEM College Level Math (Statistics, Liberal Arts Math)
Implementation options: support an emporium
Intermediate Algebra

STEM College Level Math

Non-STEM College Level Math (Statistics, Liberal Arts Math)

Implementation options: augment traditional sequence

Prealgebra

Beginning Algebra

Intermediate Algebra
RVC Course Sequence

1. **Accelerated Pathway: Liberal arts majors**
   - MTH 096A is an applied course based in real life applications. Passing it satisfies the geometry requirement.
   - MTH 096A: Mathematical Literacy for College Students
     - 6 CH, 16 weeks
   - Students who change their major can take MTH 095 after MTH 096A.

2. **Accelerated Pathway: Allied Health, Business, Education, Science, or Math majors**
   - Entry requires a higher initial placement than MTH 091 or A's in both MTH 088 and MTH 089.
   - MTH 096S: Combined Beginning and Intermediate Algebra
     - 6 CH, 15 weeks
   - MTH 096S is an intense course, covering MTH 091-094 in 1 semester.

3. **Modular Pathway: All majors**
   - Modules are slow and steady. All are offered every 8 weeks.
   - MTH 091: Beginning Algebra, Part 1
     - 2 CH, 8 weeks
   - MTH 092: Beginning Algebra, Part 2
     - 2 CH, 8 weeks
   - MTH 093: Intermediate Algebra, Part 1
     - 2 CH, 8 weeks
   - MTH 094: Intermediate Algebra, Part 2
     - 2 CH, 8 weeks

College Level:
- MTH 115
- MTH 220

College Level:
- MTH 100
- MTH 120
- MTH 132
- MTH 216
- MTH 115
- MTH 220
Implementation options: 4th year high school course

- Basic Math
- Prealgebra
- Algebra 1
- MLCS

- Prealgebra
- Algebra 1
- Geometry
- MLCS

- Algebra 1
- Geometry
- Algebra 2
- MLCS

Non-STEM College Level Math

Supports the Common Core
Questions
For More Information

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