Kathleen Almy
Northern Illinois University

Math Literacy: The most versatile developmental pathways option
What is Math Literacy?
In one semester and 3 - 6 semester credits, Math Literacy gives a student at the beginning algebra level the mathematical maturity to be successful in statistics, liberal arts math, or intermediate algebra.
Approach to developing a student’s mathematical literacy

Geometry, statistics, student success, mathematical success embedded
Math Literacy Content: The power of context

- Authentic problem in context
- Theory and examples
- Practice
- Connect and apply concepts
- Homework
  (Even mix of skills, concepts, & applications)
Common use of Math Literacy: augment traditional sequence
Sound familiar?
You found a developmental pathways course like Math Literacy and worked to implement it at your school.
You taught the class and enjoyed it. You saw success with students in the class and the outcome class.

It was something different and it worked.
The next great thing came along and now pathways are out.

- Max one dev ed course
- Transitional courses at high schools
- No dev ed and/or required corequisites

Now what?
Issue:
The state will only allow us to have one developmental math course

Situation #1: Intermediate algebra is above developmental level
Issue: The state will only allow us to have one developmental math course

Situation #2: Intermediate algebra is developmental level

Takeaway: If you can only have one developmental math course, make sure it’s one that works.
Issue: The state wants us to implement transitional courses in the high schools

Non-STEM College Level Math

Basic Math | Prealgebra | Algebra 1 | Math Literacy
---|---|---|---
Prealgebra | Algebra 1 | Geometry | Math Literacy
Algebra 1 | Geometry | Algebra 2 | Math Literacy
Postsecondary and Workforce Readiness Act (PWR Act)

Public Act 99-0674 (HB 5729); signed by IL Governor on 7/29/16

1. Postsecondary and Career Expectations (PaCE)
2. Pilot of Competency-based High School Graduation Requirements
3. College and Career Pathway Endorsements on High School Diplomas
4. Transitional Math Courses
Transitional Math Courses Overview

Comprised of 3 pathways related to career pathways (meta majors):

- STEM, QL/Statistics, and Technical Math

- High school courses designed to provide guaranteed placement at IL community colleges (without a placement test)

- Developed and administered through high school and college partnerships

- Portability beyond local colleges when they meet statewide criteria

- Statewide scaling over next 3 – 4 years
Bring pathways to high school, not another algebra class

Learn about transitional math today at 12:40 (Fiesta 6)
Issue: My state is getting rid of dev ed and/or requiring corequisite courses.

Corequisite of non-STEM college-level course and Math Literacy

More than typical approach of only changing structure and gluing courses together

Change content and structure
Course: Statistics

Topic: Regression

Skill approach to corequisite remediation

• Identify slope and y-intercept from simple equations
• Graph simple lines using slope and y-intercept

Conceptual approach to corequisite remediation

• Work with simpler applied situations to practice interpreting slope and y-intercept in context
Kudzu vines are invasive and can exhibit incredible growth in favorable conditions. Suppose a vine’s length is given as \( L = 525 + 9t \), where \( L \) is in inches and \( t \) is the number of days since July 1. Identify and interpret the slope and \( y \)-intercept of this linear function.

**SOLUTION**

The slope is the coefficient of the independent variable, \( t \).

\[
m = 9 = \frac{\text{change in } L}{\text{change in } t} = \frac{9 \text{ inches}}{1 \text{ day}}
\]

The slope tells us that the vine is growing at a rate of 9 inches per day. The \( y \)-intercept is the ordered pair \((0, 525)\), which tells us the vine was 525 inches long on July 1.
Ways to extend the dev math pathways approach and content

**Audience**

- **High School**
  - HS student who would place into dev math

- **Developmental Level**
  - College student who would find a coreq to be too much

- **College Level**
  - College student who is closer to CL math

**Courses**

- **Transitional Courses**
- **Math Literacy**
- **Corequisite Courses**
Key takeaways:

The pathways approach is effective and can be used in multiple structures, not just standalone dev ed courses.

Pathways content makes new structures effective.
For more information

Kathleen Almy

kathleenalmy@gmail.com