



# Fixing the Remediation Barrier in High School

PRESENTED BY  
Kathleen Almy  
CEO, Almy Education

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CollegeReadyMath

# A little about you...

## **In the chat**

State your position and institution

What do you want to gain from today's session?

# A little about me...

Taught college math full time for 20 years (still do PT)

Led college, state, and national math reforms since 2007

Wrote a textbook to support math pathways reforms

Led transitional math implementation for Illinois

CEO and founder of Almy Education

- Consult with HS and colleges
- PD
- Resources
- Membership (your STEM)

Work with HigherSchool on CollegeReadyMath



ALMY EDUCATION  
*Solving your math problems*

# The Problem

Large percentage of recent high school graduates taking developmental math, which reduces the chances of them completing college

Why?

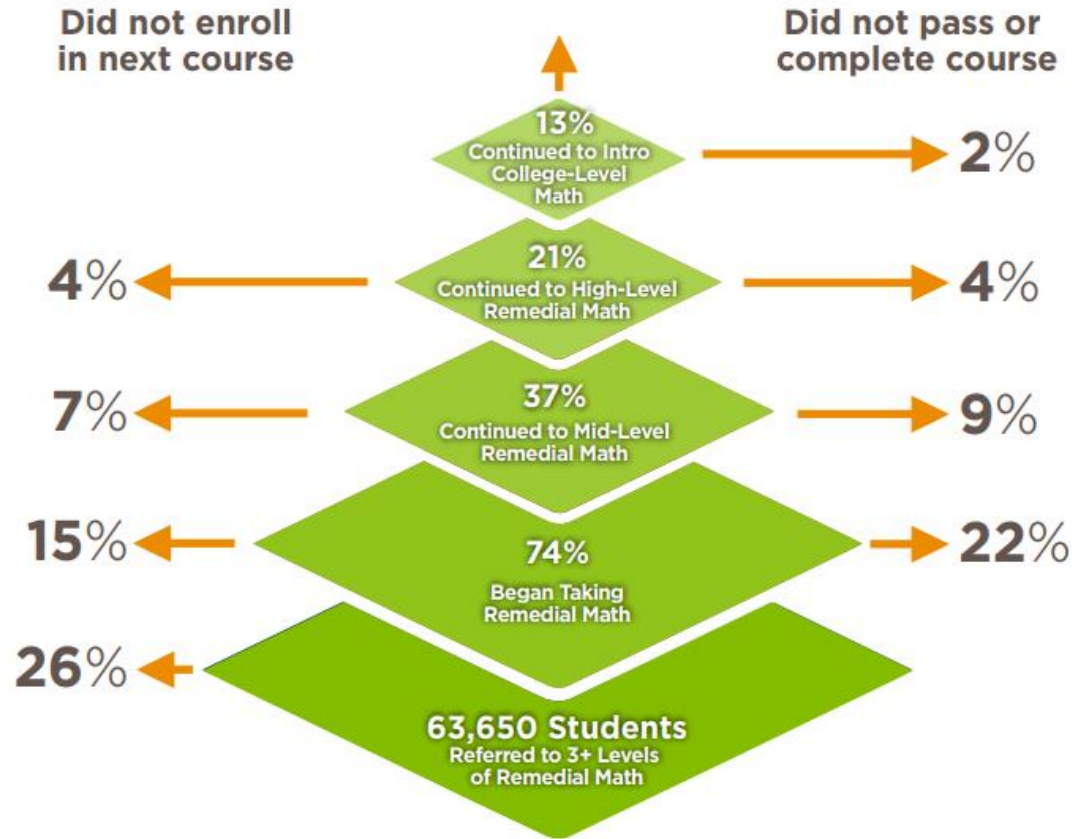
- Students may skip 4<sup>th</sup> year of math
- Plentiful options for dual credit and AP, but not for students below them
- Traditional placement tests often underplace students
- Placement by grades or GPA is still not common practice
- Many students are not ready for the rigors and expectations of college

Why else?

- Colleges and high schools are not aligned in practice or philosophy

# Student Progression Through the Developmental Math Sequence

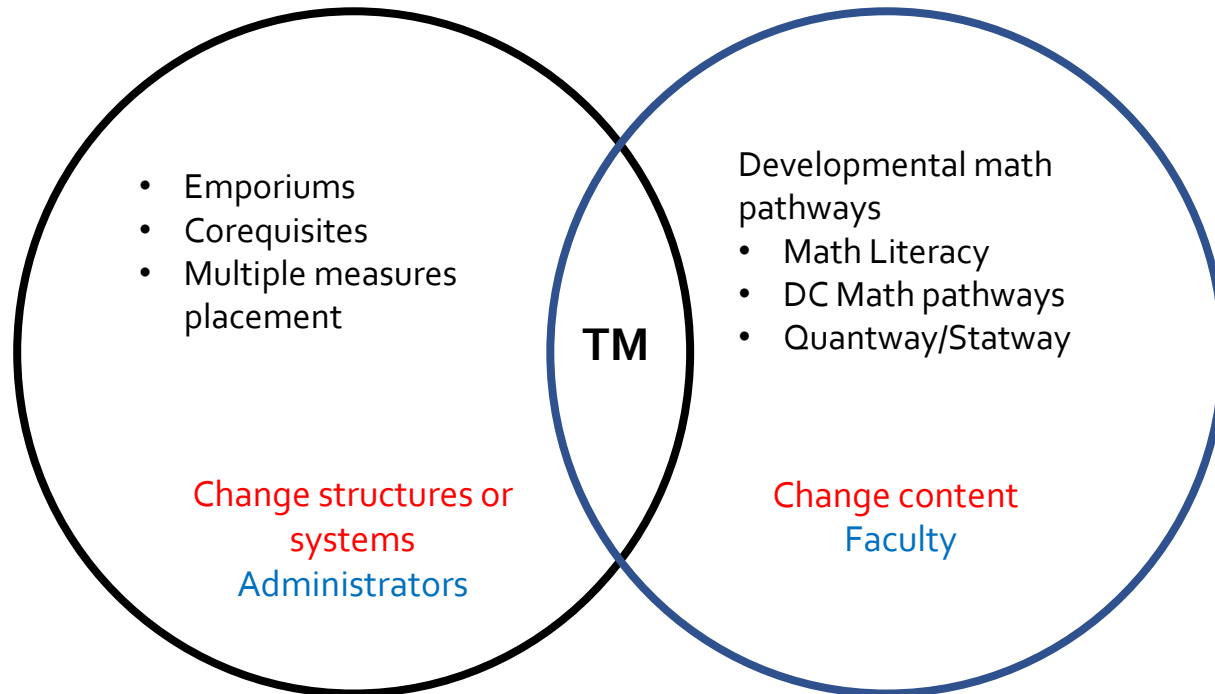
**11%** Passed Introductory College-Level Math



Source: Community College Research Center

# Solving the Problem

## Developmental math reforms



# Transitional (or transitions) courses

- Content delivered to high school seniors who are at risk of being placed into developmental courses; smooth transition to college.
- Can be for math, reading, or writing.
- Students may receive placement at a college or have placement determined with a college based on some agreement.

# How TM fits in with other reforms

Transitional math aligns with and supports other reforms to have a comprehensive approach to help students be successful in college-level courses.

## High School

### Transitional Courses

- HS students

## Developmental Level

### Pathways Courses

- Adult students
- Students not ready for one intense semester of math

## College Level

### Corequisite Courses

- Adult students
- Students ready for one intense semester of math



# Transitional courses nationally

CCRC conducted a nationwide scan of transitional (or transitions) courses.

Offered in 39 states, up from 29 states in 2012-13

Usually done at the local level instead of statewide

17 states changing focus to statewide implementations

*Fay, M. P., Barnett, E. A., & Chavarin, O. (2017). How states are implementing transition curricula: Results from a national scan. Retrieved from <https://ccrc.tc.columbia.edu/media/k2/attachments/ccrc-research-brief-how-states-implementing-transition-curricula-results-national-scan.pdf>*

**Table 1.**

**Scan Results: Implementation Scope and Subjects Offered**

State	Scope of Implementation				Subjects Offered		
	Statewide <sup>a</sup>	Local <sup>b</sup>	In Progress <sup>c</sup>	None	Math	English	Other
Alabama	X				X	X	
Alaska				X			
Arizona		X				X	
Arkansas	X				X	X	
California		X			X	X	
Colorado		X			X	X	
Connecticut		X			X	X	
Delaware		X			X	X	
Florida		X			X	X	
Georgia	X				X	X	
Hawai'i		X			X	X	
Idaho		X			X	X	
Illinois	X				X	X	
Indiana		X			X	X	
Iowa		X			X	X	X
Kansas	X				X		
Kentucky	X				X	X	X
Louisiana			X		X	X	
Maine				X			
Maryland		X					
Massachusetts		X			X	X	
Michigan				X			
Minnesota			X		X	X	X
Mississippi	X				X	X	
Missouri				X			
Montana	X				X	X	
Nebraska				X			
Nevada		X			X	X	
New Hampshire		X			X		
New Jersey	X				X	X	
New Mexico	X				X	X	
New York		X			X	X	
North Carolina	X				X	X	
North Dakota		X			X	X	
Ohio		X			X	X	
Oklahoma		X			X		
Oregon				X			
Pennsylvania		X			X	X	
Rhode Island		X					
South Carolina	X				X	X	
South Dakota		X			X	X	
Tennessee	X				X		
Texas	X				X	X	
Utah	X				X	X	
Vermont				X			
Virginia	X				X	X	
Washington		X			X	X	
West Virginia	X				X	X	
Wisconsin				X			
Wyoming			X		X	X	
District of Columbia				X			
<b>TOTAL</b>	<b>17</b>	<b>22</b>	<b>3</b>	<b>9</b>	<b>39</b>	<b>36</b>	<b>3</b>
<b>Total From the 2012-13 Scan<sup>d</sup></b>	<b>8</b>	<b>21</b>	<b>9</b>	<b>13</b>			

<sup>a</sup> State: Indicates that there is a state initiative to offer this intervention across a state, which includes oversight from a state agency.

<sup>b</sup> Local: Indicates that this intervention is offered in specific schools using locally developed approaches, without oversight by a state agency.

<sup>c</sup> In Progress: Indicates that preparatory activities are underway to implement an intervention.

<sup>d</sup> See Barnett et al. (2013).

# How the Illinois approach differs

The Illinois approach is not as simple as some state's efforts but it has the potential for greater buy-in and effectiveness

- Multiple **pathways** instead of a one-size-fits-all course
- Emphasis on **contextualized content** aligned to careers, not just algebra
- Not using a statewide curricula or text
- Equal **partnerships** between HS and CC to build trust and relationships
- Using **multiple measures** of placement
- Not funded with a large grant but being resourceful with a variety of funding sources

# Illinois at a glance

1. Over 700 high schools - 3 years of required math
2. 48 community colleges within 39 community college districts
3. Local control state
4. Unionized faculty at HS and CC levels
5. Two-year budget stalemate which has led to reduced enrollment
6. Many initiatives to reduce remediation but nothing at scale

**Moral:** If you can do it in Illinois, you can do it anywhere.

# Postsecondary and Workforce Readiness Act (PWR Act)

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

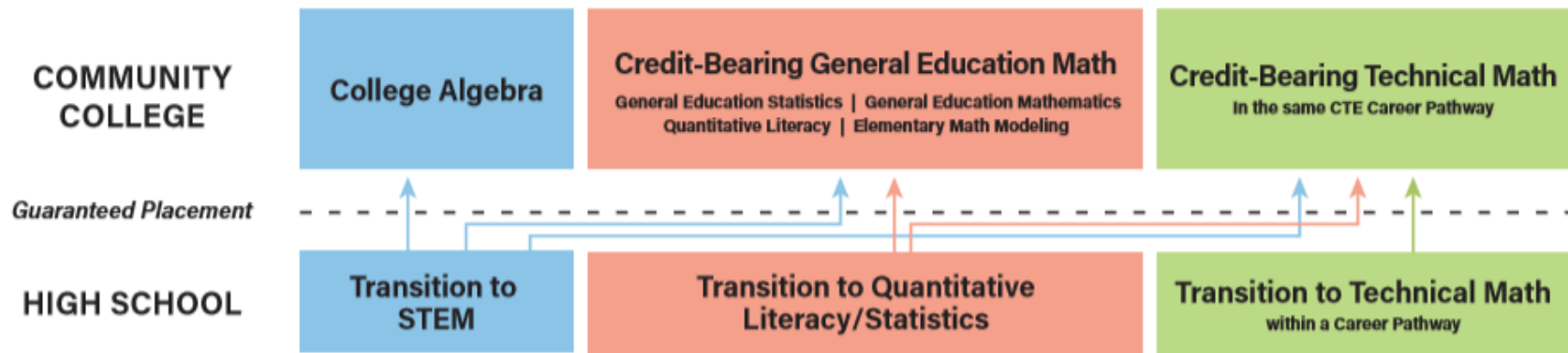
1. Postsecondary and Career Expectations (PaCE)
2. Pilot of Competency-based High School Graduation Requirements
3. College and Career Pathway Endorsements on High School Diplomas
- 4. Transitional Math Courses**

# Goal: Reduce Remediation

1. Determine who is not college-ready for math in the junior year using **multiple measures**. (projected readiness determination)
2. Enroll students in new **transitional** courses in the senior year that address math and college readiness.
3. Provide **guaranteed placement** at all IL community colleges and some universities without a placement test. Placement lasts 18 months.

Result: Better prepared students start at college-level coursework, increasing their chances of completing a certificate or degree.

# Transitional Math Pathways



- Courses are based on a student's meta major. Default is QL.
- Content is contextualized and rigorous.
- Courses are transcribed by the HS using portability codes.
- Courses can be one semester or one year (allows for senior year dual credit).

# Transitional Math Overview

**Who:** seniors who have met or are meeting state graduation requirement

**When:** placement granted for 18 months; transcribed at HS level

**What:** portable course based on meta-major (one year or one semester); placement from grade

**Where:** at HS from HS teachers; dual credit qualifications do not apply; flexibility provided



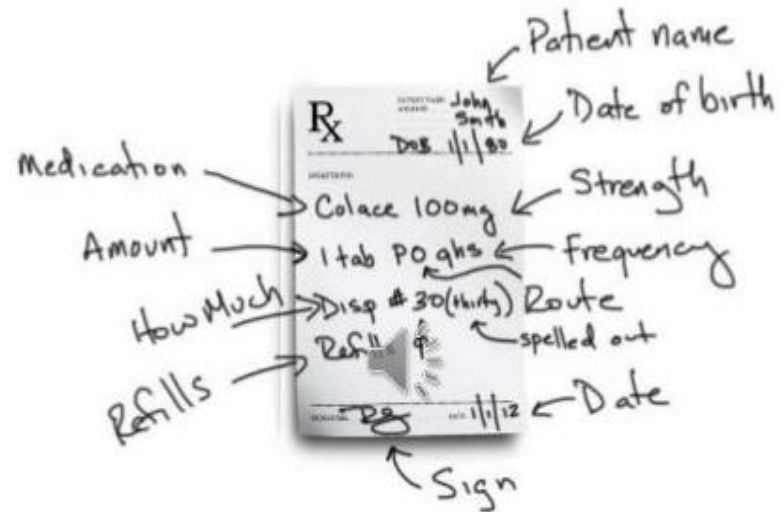
# Curriculum contextualized to a HS senior: future citizen, employee, and college student

A doctor orders dicloxacillin sodium 125 mg p.o. q.6.h. for a child who weighs 55 lb. The recommended dosage of dicloxacillin sodium for children weighing less than 40 kg is 12.5 to 25 mg/kg/day p.o. in equally divided doses q.6.h for moderate to severe infections. Is the dosage safe?

Abbreviation definitions

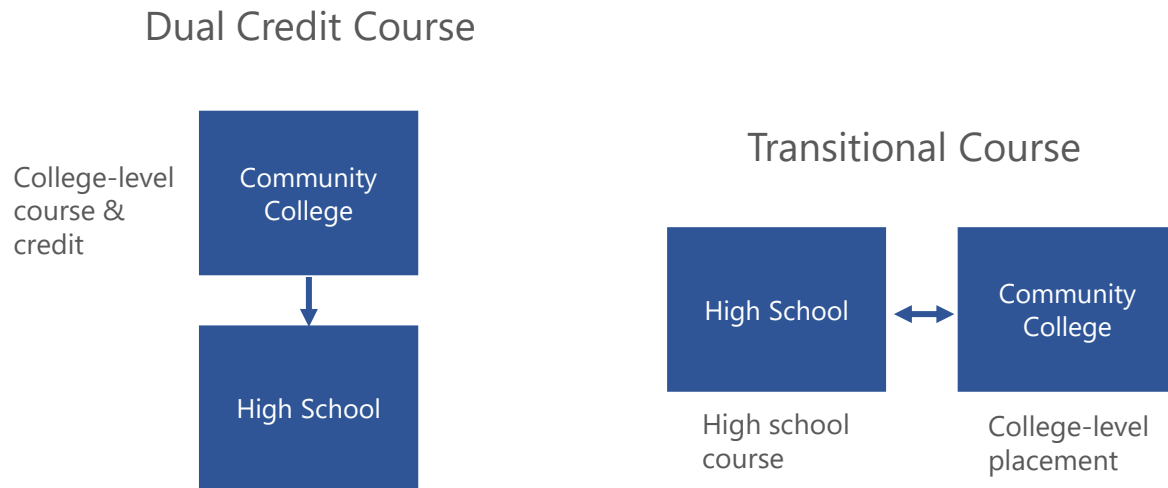
p.o. – medication is taken orally

q.6.h. – frequency of medication taken (every 6 hours in this case)



# Making Transitional Math Happen

## A Different Approach to HS Partnerships



# The Pathways Dilemma

- Many students in non-STEM pathway but their majors require college algebra
- Need other options to address placement requirements
- Full courses are not the only option; supplemental resources can be enough for some students (e.g., CRM from HigherSchool)

My Courses

COURSE CATALOG

Show all courses ▾ Order by title ▾



COLLEGEREADMATH

Next-Generation AccuPlacer  
QAS Exam Prep

★★★★★



COLLEGEREADMATH

\* SECTION 1: Algebraic  
Foundations

★★★★★



COLLEGEREADMATH

\* SECTION 2: Linear  
Equations and Inequalities

★★★★★



COLLEGEREADMATH

\* SECTION 3: Graphing Line...

★★★★★



COLLEGEREADMATH

\* SECTION 4: Systems of  
Linear Equations

★★★★★



COLLEGEREADMATH

\* SECTION 5: Factoring and  
Quadratic Equations

★★★★★



COLLEGEREADMATH

\* SECTION 6: Exponents and  
Radicals

★★★★★



COLLEGEREADMATH

\* SECTION 7: Operations and  
Applications of Radicals

★★★★★



COLLEGEREADMATH

\* SECTION 8: Rational  
Expressions

★★★★★



COLLEGEREADMATH

\* SECTION 9: Data Analysis

★★★★★

## Introduction to Algebraic Expressions

### Lesson Summary

In this lesson we introduce some basic ideas of algebra. The most important of these is that in algebra, we work with numbers as we do in arithmetic - except that we don't know what numbers they are! Therefore, we can only do those things that work for all numbers. To help clarify our thoughts, we use letters to stand for the numbers we don't know.

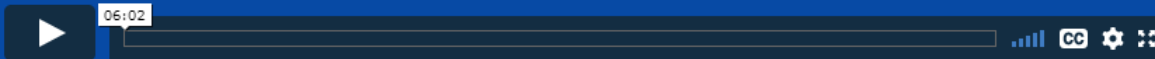
### Objectives

When you complete this lesson, you will be able to:

1. "Translate" words into the language of algebra.
2. Evaluate algebraic expressions.
3. Evaluate formulas and other expressions.



## Introduction to Algebraic Expressions



> Section 1a: Diagnostic Assessment

> Quick Reference Guide

∨ Section 1b - Lesson: Introduction to ...

📖 Introduction to Algebraic Expressi...

📖 Study Guide

🔗 Practice

> Section 1c - Lesson: Evaluating Alge...

> Section 1d - Lesson: Order of Operati...

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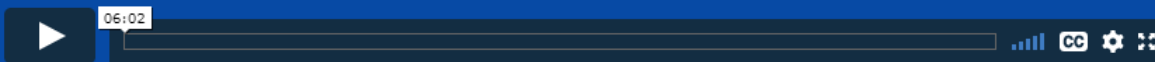
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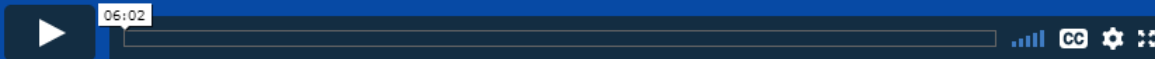
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# Benefits of transitional math

## **For high schools:**

- Increase equity and access
- Improve chances of college completion

## **For colleges:**

- Fewer students in dev ed, more students in college math
- Increased completion rates
- May increase college enrollment
- Can help a college's budget

## **For both:**

Build relationships and alignment between K-12 and colleges



# Discussion in Breakout Rooms

# Key Takeaways

- Bottom-up reform can still come with top-down mandates
- Collaboration and partnerships are paramount – across schools & agencies
  - **This work moves at the speed of trust.**
- Policy matters, but needs practitioners to be effective
- Consistency and flexibility are essential for buy-in and success
- TM does not compete with, but instead supports other reform efforts (e.g., completion, guided pathways, corequisites)
- Some students can benefit from bridge courses and/or online programs

# Contact Information

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