

Transitional Math

Reducing Remediation While Increasing College Readiness

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NIU Center for P-20 Engagement

PWR Act

PaCE

Competency-based education

Endorsements

Transitional courses

Alphabet soup

Board:

ISBE

ICCB

IBHE

High
School

Community
College

University

HS: High school

CC: Community College

TM: Transitional math

OER: Open (free) educational resources

PWR: Postsecondary and Workforce
Readiness Act

ESSA: Every Student Succeeds Act

CCR: College and Career Readiness

IAI: Illinois Articulation Initiative



Where we are

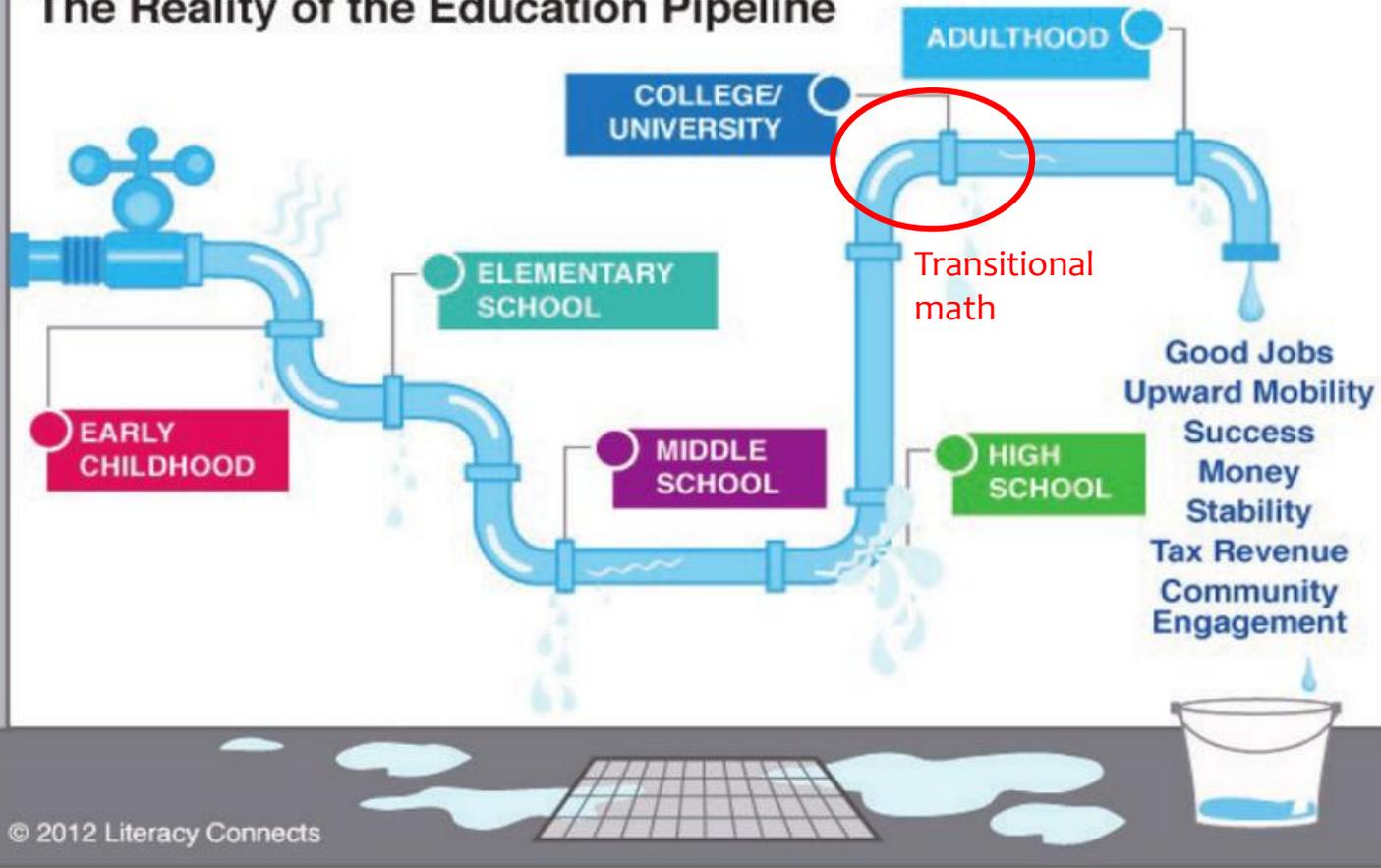


By the numbers

1. On average, 50% of community college students are enrolled in dev ed.
2. Many students avoiding 4th year of math or are in a course that does not serve their needs and goals.
3. Approximately 40% of Illinois residents have a high-quality post-secondary college or career credential. Illinois goal is 60% by 2025.



The Reality of the Education Pipeline



TM: A simple, but not easy solution

Determine projected readiness in college math in junior year of HS instead of freshman year of college

HS student takes co-developed and portable course

Student receives college-level placement in math



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**
 - 4th year high school math courses designed to smooth transition to college and reduce remediation rates
 - Not dual credit or AP courses
 - Not for college credit



Transitional Math Overview

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

STEM (College Algebra)

Quantitative Literacy (QL)/Statistics

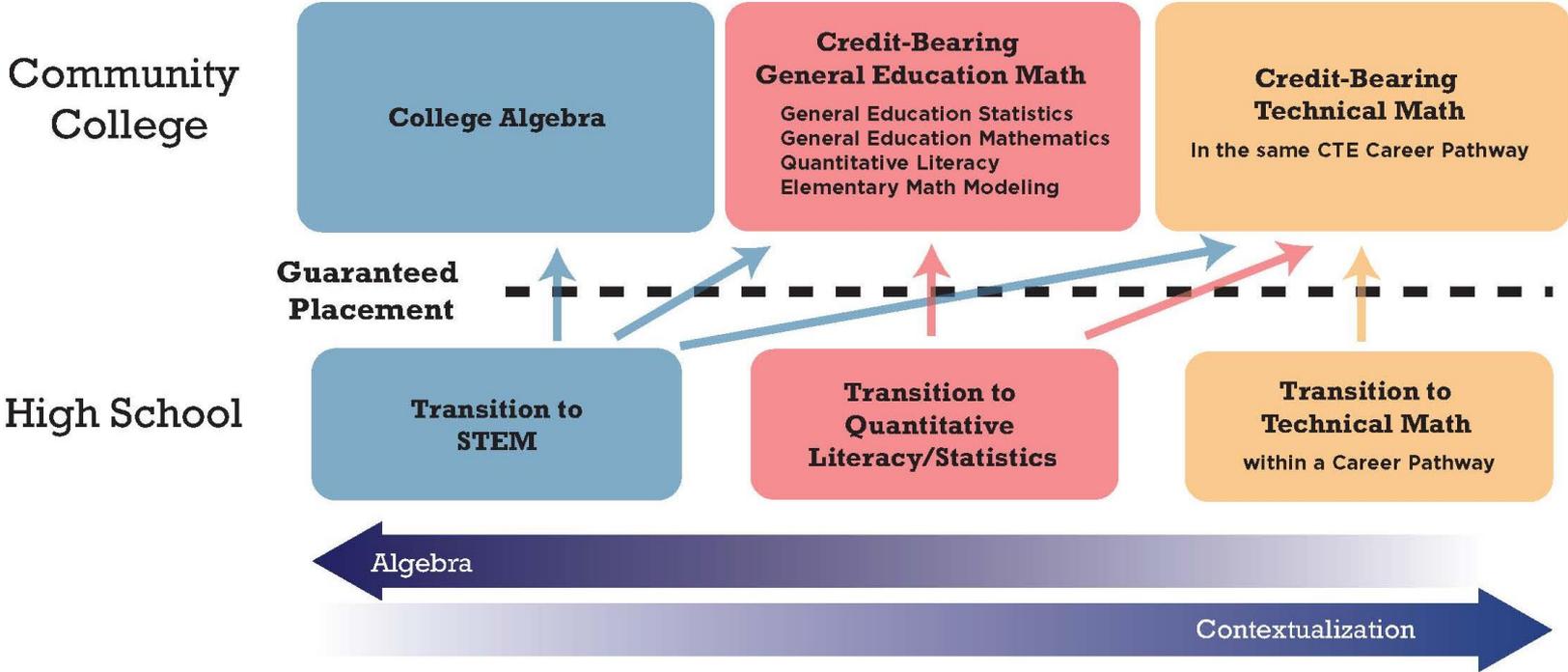
Technical Math

- High school courses designed to provide **guaranteed placement** at all IL community colleges and accepting 4-year universities
 - Placement determined by grade, not a placement test so HS students are held to same standards as CC students
 - Flexibility with implementation
- **Portability** beyond local colleges when courses meet statewide criteria
 - Policies
 - Competencies



Rethinking Math: 12th Grade to 1st Year College

Transitional Math Pathways



Students who change to a path requiring more algebra may take a placement test or use alternative options, such as bridge courses or co-requisite courses, to accelerate that change.

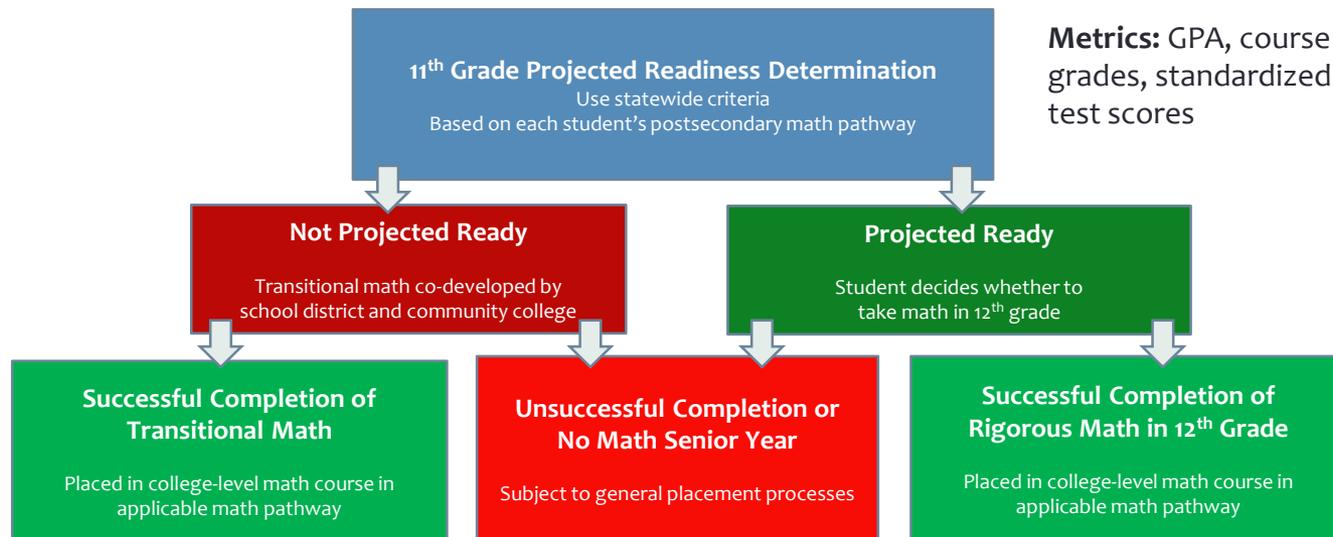


Transitional math logistics

- Students must have met graduation requirement to take transitional math
- Placement lasts 18 months after receiving it
- Courses will be transcribed at high school level using ISBE course code
- Courses can be one semester or one year (allows for senior year dual credit)



Junior year: determine college readiness



College-Level Math Projected Readiness Criteria

The following recommendations define benchmarks for projected readiness in college-level math as required by the PWR Act.

Eleventh Grade Students *Projected Ready* for College-Level Math

All Illinois high school juniors should be assessed on their college readiness regarding mathematics after the first semester of the junior year.

A high school junior who has successfully completed state math graduation requirements and meets *at least two of the following criteria* is projected to be ready for college level coursework in mathematics when arriving at a postsecondary institution in Illinois. This determination is conditional based on enrollment in a senior year of math.

- B or better in Algebra 2
- C or better in a course higher than Algebra 2
- GPA ≥ 3.0
- Standardized Assessment: Math SAT or PSAT ≥ 530 or Math ACT ≥ 22
- Placement test score (such as ALEKS, Accuplacer, Compass, local placement instrument, etc.) into college-level math at the partner community college after taking their placement exam
- PARCC math score of 4 or 5
- Teacher and/or advisor recommendation of college-level math in the senior year

Students who are projected ready should be advised to enroll in the next course of their chosen pathway, preferably an Advanced Placement or dual credit math course, during the senior year.

Notes

1. GPA references cumulative, unweighted GPA on a 4.0 scale.
2. A partner community college refers to the community college district for which the high school has a partnership Memo of Understanding for transitional math.
3. School districts may adjust senior math placements based on end-of-junior year GPA, course grades, and/or other assessments as available.
4. Students who are projected ready may take transitional math courses based on teacher and/or advisor recommendations.
5. Students who do not enroll in subsequent math courses their senior year are in jeopardy of not maintaining their “ready” designation.
6. A determination of readiness does not guarantee placement into dual credit courses in the senior year or college-level math courses at a college. Additional placement criteria may apply.
7. PSAT scores are predictive of SAT scores and measured on the same scale.

Eleventh Grade Students *Projected NOT Ready* for College-Level Math

A high school junior who has successfully completed state math graduation requirements but has not met at least two of the college-level math projected readiness criteria will be projected as NOT ready for college-level math and will be given transitional math opportunities in relation to their current math achievement and career interests. *A student should consult with a teacher and/or advisor to determine the appropriate transitional math pathway.*

TM
documents
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Transitional Math Pathway	Minimum Criteria for Enrollment
<p>College Algebra</p> <p>Results in guaranteed placement into College Algebra or any of the outcome courses associated with the transitional Quantitative Literacy and Statistics or Technical Math pathways. See note.</p>	<p>Successfully completed state high school graduation requirement in math and <i>at least one</i> of the following criteria:</p> <ul style="list-style-type: none">• B or better in Algebra 1 or a higher math course• Math GPA of 2.5 or higher• Teacher verification of transitional college algebra prerequisite competencies
<p>Quantitative Literacy and Statistics</p> <p>Results in guaranteed placement into IAI courses M1901 Quantitative Literacy, M1902 General Education Statistics, M1904 General Education Mathematics, M1907 Elementary Math Modeling or Technical Math. See note.</p>	<p>Successfully completed state high school graduation requirement in math</p>
<p>Technical Math</p> <p>Results in guaranteed placement into a technical math course within the career pathway. See note.</p>	<p>Successfully completed state high school graduation requirement in math</p>

Notes:

1. Students who have not selected a math pathway are placed by default into the QL/Statistics pathway.
2. GPA references cumulative, unweighted GPA on a 4.0 scale.
3. Students who have not completed state high school graduation requirements in math must be concurrently enrolled in a course to meet those requirements with a transitional math course.
4. A transitional math course cannot be used by a high school senior who has not successfully completed three years of math that fulfill the State's graduation requirements (see 105 ILCS 5/27-22, and ISBE's guidance: https://www.isbe.net/Documents/grad_require.pdf).
5. Local policies may require students with an SAT math score of 300 or below to enroll in foundational math instruction and supports either in lieu of, or concurrently with, a transitional math course.
6. The Transition to Technical Math course provides preparedness for most technical math courses that satisfy the math requirements for an AAS degree. Consult local technical math course requirements.

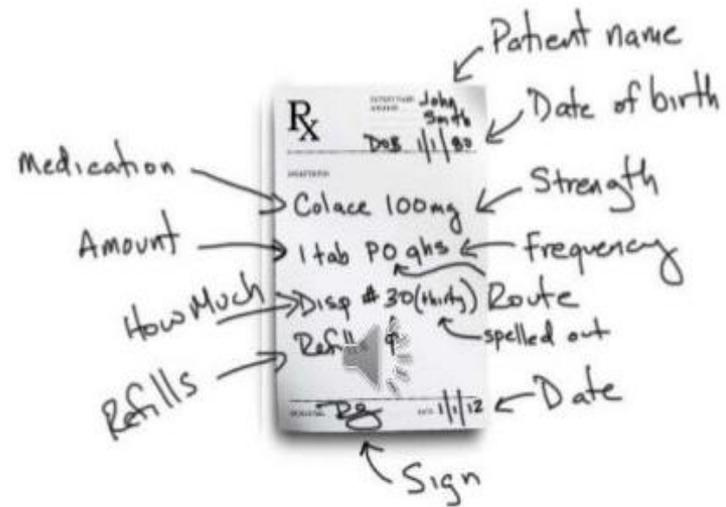
Curriculum contextualized to a high school senior

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)



Content aligns with the **Illinois Learning Standards**



Benefits of transitional math

Better serve underrepresented groups and increase equity and access

Improve a school's ESSA score in the CCR category

Reduced number of students in dev ed

- increased number of students in college math
- increased completion rates

Improved relationships and alignment between K-12 and colleges



Why would a student want to take a transitional math course?

Avoid a placement test

Save time and money when going to college

Address the math weaknesses they have in a new way



Meet your instructors!

"These classes are a great way to satisfy your math requirements and save money on tuition. Ask us for more information."



Briana Mills
Assistant Professor of
Mathematics



Andrew Mansheim
Instructor of Mathematics



Quad-Cities Campus
6600 34th Avenue
Moline, Illinois

East Campus
26230 Black Hawk Road
Galva, Illinois

Bridging the Gap!



Bridging the Gap!

www.bhc.edu/apply

Bridge the gap between high school and college by taking math classes this summer or fall at Black Hawk College.

To get started, call Advising at **309-796-5100** or apply online at www.bhc.edu/apply.

Math 108

IAI Code: M1 902

Catalog Description: Statistics for General Education focuses on mathematical reasoning and the solving of real-life problems, rather than on routine skills. The course consists of descriptive methods (frequency distributions, graphing, measures of location, and measures of variation), basic probability theory (sample spaces, counting, factorial rule, combinations, permutations, and probability laws), probability distributions (normal, binomial, and the Poisson distributions), statistical inference (interval estimation and hypothesis testing), correlation, simple linear regression, and analysis of variance.

Math 110

IAI Code: M1 904

Catalog Description: A course designed to contribute to the general education of any college student. Contemporary problems will be investigated and solved using the mathematical concepts of sets, logic, counting techniques, probability, statistics, and financial formulas involving exponential and logarithmic expressions.

NOTE:

After successfully passing Math 092 & Math 094 during your senior year in high school, you would be able to enroll in either Math 108 Statistics for General Education or Math 110 Math for General Education at Black Hawk College the following summer or fall without further placement tests. If you wait to enroll until the following January you will need to take a math placement test in the fall to determine placement.

If you plan to attend another college or university in the fall, take either class this summer and transfer your credits. By taking your liberal arts required math course over the summer, you may be able to complete your mathematics requirements for a B.A. before you start your freshman year!

Both courses are 3 credits at \$149 per credit or \$447.00 per class. Be sure to get your financial aid application done in October. Financial aid is now available to use during summer sessions.

Your savings if you pass Math 092 & Math 094 during senior year of HS and take Math 108 or Math 110 at BHC next summer or fall.

Developmental course (pre-college level)	Number of credit hours	\$149 Cost per Credit Hour	Cost of Textbook and software	Total cost per course
Math 078 Pre-algebra	3	\$447.00	\$177.30	\$624.30
Math Lit 092	3	\$447.00	\$170.00	\$617.00
Math Lit 094	3	\$447.00	NA	\$447.00
Totals for 2-semesters	9	\$1341.00	\$347.30	\$1688.00

Scaling Transitional Math

Colleges or high schools implementing, or planning to implement TM

Community College Districts	Public High schools
2017: 31 out of 39 (79%)	2017: 95 out of 721 (13%)
2018: 32 out of 39 (82%)	2018: 171 out of 721 (24%)
2019: 39 out of 39 (100%)	2019: 278 out of 721 (39%)

Statewide scaling over next 4-5 years

Goal: 100% of public high schools and community colleges

NOTE: All high schools are opted in by the law by default. Schools can opt out through their school boards provided they meet the law's requirements to do so. (See 110 ILCS 148/65, subsection 4c)



Accepting universities

Outreach has also started with IBHE's support to public and private universities. So far, these universities have committed to accepting placement or are in discussions:

Private

National Louis University

Lincoln College

Trinity University

Roosevelt University

Public

SIU - Carbondale

EIU

ISU (QL and tech pathways only)



Factors critical to transitional math success

MOU establishing expectations that have been agreed upon by HS and CC

Training and ongoing support for teachers, including a CC liaison

Comprehensive advising approach

Evaluation and improvement of courses over time

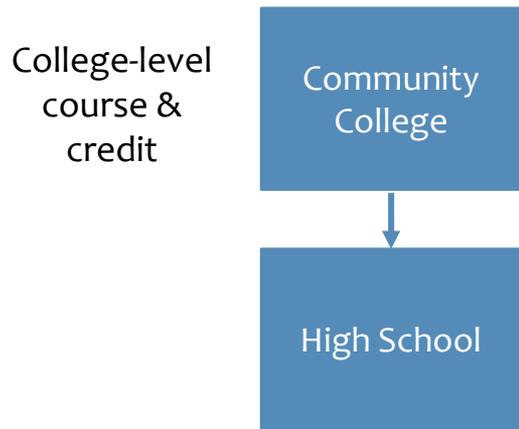
Working relationship between HS and CC and between faculty and administrators



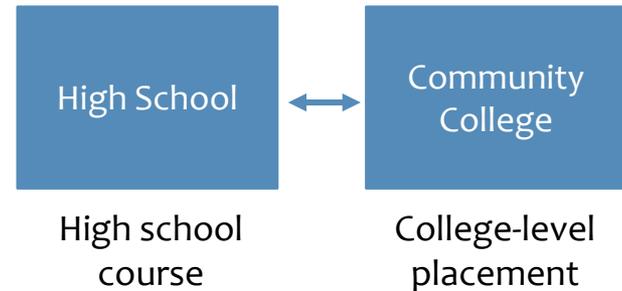
Making TM happen:

A different approach to high school partnerships

Dual Credit Course



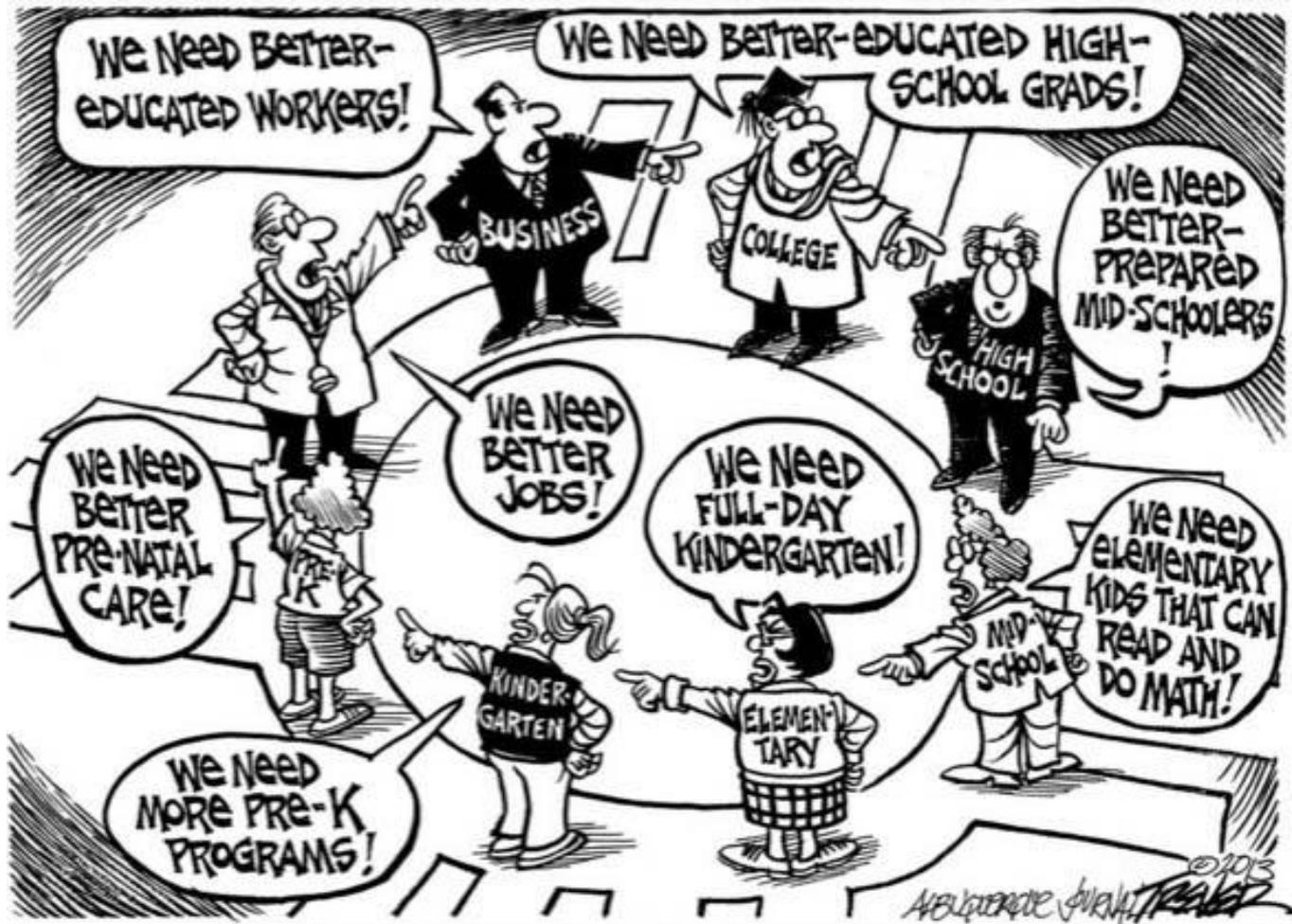
Transitional Course



Keys to success: communication and trust



Partnerships, not blame



Role of community colleges

Community colleges are essential to scale TM effectively. Specifically, they:

Ensure alignment of content and expectations

- Liaison
- Communication

Ensure quality and consistency are maintained

- Review all course outlines
- Submit a representative one

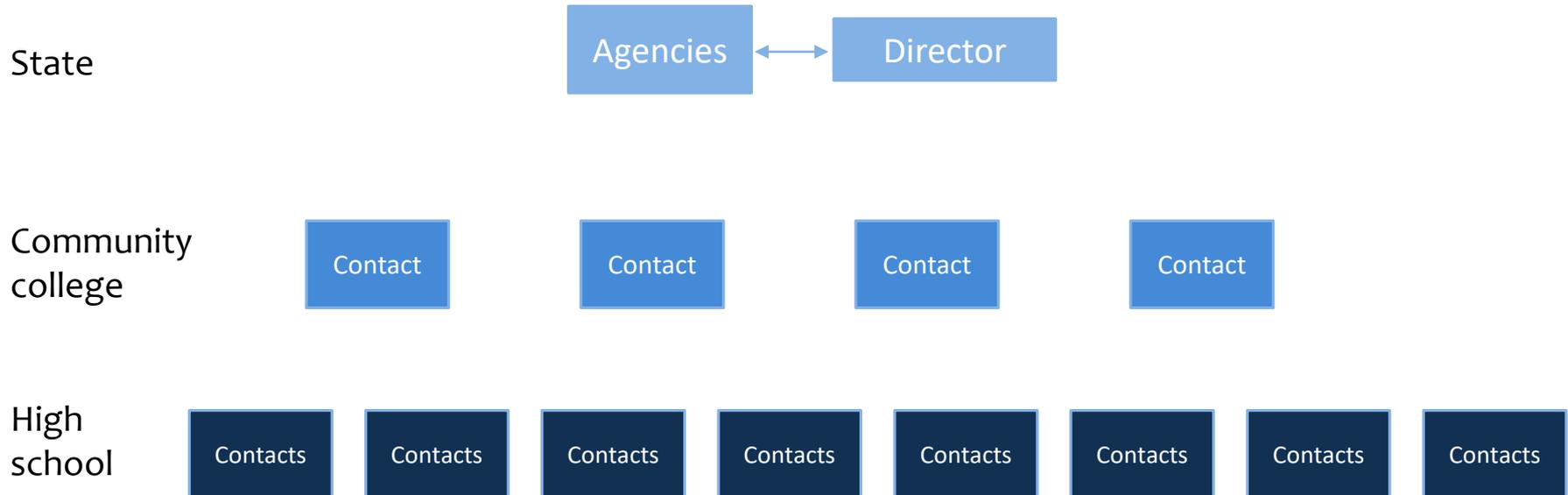
Provide mechanisms for scaling

- Points of contact
- Portability process



Communication approach to support statewide scaling

Broad effort across entire state as well as all levels of education and multiple state agencies.



Information will flow through CC's as well as directly to HS's.



Communication

Significant efforts have been made to communicate about PWR TM.

- Talks
- Webinars
- Newsletter articles
- Summits
- Consultations
- Press release
- Website

Feedback from these efforts has informed changes to policies and the law.

Additionally, there will be:

- More talks to teachers (HS and college), counselors, and admins
- A website built out with resources
- An e-Newsletter



Where we're going



Implementation status: significant engagement & fast pace

- ISBE and ICCB supporting statewide implementation of transitional math through grants and staffing
- Policies and competencies in the three math pathways adopted by all agencies. Final document in design now.
- A tracking/assessment process will be developed
- A monitoring and scaling approach is being developed
- More solutions for small schools being developed
 - Current options include co-oping a course, embedding competencies
 - Future options will include an online course (IVS) among other approaches
- Support coming for existing pilots to convert (curriculum map, MOU review)



Summits: Efficient way to start process

Format:

- 3 hours with HS and CC teams (admin, teachers, counselors)
- Gets everyone acquainted and up to speed
- Individual support for high schools
- MOU discussion

Held so far:

Sauk Valley CC
Rock Valley College
Illinois Central College
Kankakee CC
John A. Logan College
Harper College

Parkland College
Kishwaukee College
Carl Sandburg College
SWIC
Waubonsee CC
Kaskaskia College



Summit schedule

Coming this fall:

Elgin – August 1, 9 to 11 am (Kane County ROE)

Oakton – Sept 5, 12 to 3:30 pm

South Metropolitan Higher Ed Consortium joint summit (South Suburban, Joliet JC, Prairie State, Moraine Valley) – Sept 7, 9 – 3 pm

Black Hawk – Sept 12, 1 to 4 pm

Spoon River College – Sept 13, 9 am to noon

Richland College – Sept 13, 3:30 – 6:30 pm

Heartland CC – Sept 14, 9 am to noon

So. IL regional summit (SIC, RLC, Shawnee) – Sept 19, 1 to 4 pm

Highland CC – Sept 21, TBD

John Wood CC – October 5, 1 – 4 pm

McHenry CC – October 9 (tentative)

CLC – October 12, 12:30 – 3:30 pm

Lake Land – October 26, 1 to 4 pm

EFE 030 meeting for Triton high schools – Nov 2, all day (Hamburger U) – not a formal summit

All are welcome to any summit.

Contact Kathy to schedule one.



Memo of Understanding (MOU)

A statewide MOU template has been drafted and is with ISBE and ICCB for edits.

NOTES:

- The MOU template will be used for courses starting in fall 2019.
- CC districts will have one MOU for all transitional math courses at any high school who partners with them.
- High schools have flexibility with whom they partner, but local partnerships are encouraged if feasible.



Portability process: emulating what works



Portability of courses to be determined at the state level

Verify competencies and policies are met

Courses may be approved portable starting this fall for fall 19, but most schools will submit for spring 19 approval for fall 19 pilots.

Not approval to offer or name course



Portability panel status

The portability panel (HS & college, faculty & admin) begins work in August.

Planning for panel logistics is happening now.

Samples of course documentation will be created and available by fall.



Curriculum supports

Curriculum workgroup working now and making tremendous progress. Works this summer with August 31 as due date for items.

- Curriculum rubrics give specifics on what it means to attain a competency along with a sample task.
- Sample unit maps will show how the competencies can be organized into units.
- Sample tasks (lessons, projects, etc.) are being linked but additional tasks will be written.

More OER activities are being added to the IOER and will continue to be added. <http://ioer.ilsharedlearning.org/>



Curriculum and professional development

Working on funding to develop more resources and find existing ones.

Website development with resources and updates is under way.

Volunteers (math teachers) needed to work on tagging and writing OER items.

Professional development to come

- Current efforts are dedicated to getting resources, meeting legislative requirements, and developing course supports.
- PD will include face-to-face trainings as well as an online course that HS teachers can get CPDUs for.
- Training will be created for teachers and counselors.



2018-19 Pilots

Courses: use existing courses with adjustments if needed

Portability: none unless local agreements created

Resources: add to some available OER materials or use a college text

MOU: create an agreement where placement is based on course outcomes; use samples as a guide

Transcripting: by hand methods or local data agreements



2019-20 Pilots

Courses: use PWR transitional math courses

Portability: placement accepted at all CC and some univ for courses that are approved portable

Resources: use available developed OER materials or use a college text

MOU: create an agreement where placement is based on course outcomes; use statewide template

Transcripting: ISBE course codes stated on transcripts for ease of college placement



Questions?



For more information

Kathleen Almy

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(Email if you are interested in contributing to this project.)

Current website: www2.iccb.org/iltransitionalmath

Contains public commenting summary and recommendations as well as
policies and competencies document

Illinois Open Educational Resources (IOER) website: <http://ioer.ilsharedlearning.org>