Best Practices in Developmental Math: Co-requisite Remediation and Transitions Math

Forum for Excellence Pre-session
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Co-requisite Remediation

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ICCB
Illinois’ Focus

The ICCB and the IBHE have committed to using data gathered to advance an agenda of scale that impacts the vast majority of students deemed underprepared for college-level work by spring of 2018. Through the pilot, IBHE and ICCB will produce Illinois data on co-requisite and pathway remedial programs. At this time, IBHE and ICCB will work to scale this work, by doubling the number of institutions offering co-requisite and pathways remedial programs in the state, which will ultimately reduce the time-to-completion rates of students entering postsecondary education.

The primary focus of Illinois’ CCA Co-requisite Pilot is to begin collecting baseline data across math and English co-requisite and pathway remedial programs. Second, it is to implement co-requisite and pathway remedial programs in community college and university Math and English departments. The ultimate goal is to scale across all public institutions in both disciplines.

Co-requisite Definition

A course design in which students who are assessed below college-ready in Math, English, or Reading are enrolled in a first-year college credit-bearing course and receive additional academic support or otherwise are instructed in college-level content and receive additional academic support concurrently with the college-level material. The model ensures that a student has the opportunity to complete a college-level gateway course within one academic year.
CCA Co-Requisite to Scale Pilot

1. **Data Collection:** Collect Baseline data across math and English co-requisite and math pathway programs.

2. **Implementation:** Implement co-requisite and pathway remedial programs in participating community college Math and English departments.

3. **Scale:** Use the data to advance an agenda focused on scale.
# Participating Institutions

<table>
<thead>
<tr>
<th>Universities</th>
<th>Community Colleges</th>
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</thead>
<tbody>
<tr>
<td>Southern Illinois University Edwardsville</td>
<td>Joliet Junior College</td>
</tr>
<tr>
<td>University of Illinois at Urbana-Champaign</td>
<td>Lewis &amp; Clark Community College</td>
</tr>
<tr>
<td>University of Illinois at Chicago</td>
<td>William Rainey Harper College</td>
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<tr>
<td>Southern Illinois University Carbondale</td>
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Baseline Data

Under Illinois’ traditional model, only 19 percent of remedial math students were completing gateway math courses within one academic year. Traditional remediation consumes time and money, without being successful by moving students into college-level course work and college completion.

During the 2016-2017 school year, seven pilot institutions implemented co-requisite and pathway remedial programs. Throughout the 2016-2017 academic year, the IBHE and ICCB conducted several report calls on each institution’s progress. After these seven institutions switched to co-requisite remediation, success rates have increased into the 70-80 percent range in both mathematics and English.
Co-requisite Remediation: Lake Land College
Overview of General Education Corequisite

Lake Land College

Two sections of coreq (15 students in each) feed into one section of Gen Ed (30 all coreq students)

Enrollment in coreq open to all non-stem students who place into developmental math classes

One instructor for the coreq and the Gen Ed class

Coreq focuses on background skills and concepts, homework assistance and test taking practice

Coreq course meets prior to Gen Ed course

Peer tutor available through the tutoring center

Graded Pass/Fail
One section of coreq each semester (15 students) feed into any of three Statistics courses taught by me

Enrollment in coreq open to all non-stem students who place into developmental math classes

One instructor for the coreq and the Statistics class

Coreq focuses on background skills, current concepts, homework, projects, test taking skills and college skills

Coreq course currently meets twice a week for 50 minutes, in a previous semester it met once a week for 2 hours

Peer tutor available through the tutoring center

Graded Pass/Fail based on attendance
Major Decisions:
1. 3 +2 versus 5
2. All coreq students or mixing of co-req/non-coreq students?
3. Same instructor for coreq as transfer course
4. Graded versus Pass/fail
Successes

- Increased completion, retention, graduation, and student satisfaction rates

Challenges:

Class level:
- Keeping the co-req material separate from the class and not repeating between the two
- Students not realizing the “sweet deal” of the co-req and what to do with no attendance
- What to do if they pass the co-req but not Gen Ed or Stats.

Administrative level
- Registering students during this pilot phase and the uncertainty of long term
- Spreading the word about co-reqs to advisors and counselors
- Rolling the course out to the entire school and maintaining the quality of the program
Successful Completion (C or better) Rates (Fa16/Spr17)
Gen Ed: 100% coreq versus 81% and 87% coreq versus 83.3%
Stats: 86.7% coreq versus 79.3% and 80% coreq versus 77.3%

Retention Rates (Fa16/Spr17)
Gen Ed: 100% coreq versus 87.9% and 95.7% coreq versus 88.3%
Stats: 93.3% coreq versus 89.6% and 93.3% coreq versus 85.2%

Student Survey results
Questions?
Contact Info

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Overview of Co-Requisites

Lake Land College

- Administrative Perspectives
Graduated Roll Out

- Spring 2016: 1 section
- Fall 2016: 2 sections
- Spring 2017: 3 sections
- Fall 2017: 3 sections
Implementation

Use of Existing Resources for Early Pilot

- TUT-010
- Math Anxiety

- Concept of Co-requisites is being tested while deeper conversations continue to happen
88% Success Rate

- 59 out of 67 students: successful in passing college-level co-requisite course
- 11 out of 67 students: tested into Intermediate Algebra and passed
- 48 out of 67 students: tested into Beginning Algebra and passed
Successes & Challenges

• 383 Credit Hours Saved
• 49 successful students tested into Beginning Algebra
• 10 successful students tested into Intermediate Algebra

• $50,939 saved
• $1,039 saved per student
Successes & Challenges

- Appropriate Model for Your Students
- New Co-Requisite Course Numbering
- Course Registration Programming
- Placement Score
- Student Registration
- Scheduling
• Give instructors the flexibility to make it work for your students

• Key Early Partners:
  • Admissions and Records
  • Information Systems
  • Student Services/Advisors

Let results pave the way!!
Questions?
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Transitions Math

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Research Associate, Mathematics
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Transitional math courses

Where we are

• Some IL high schools have been offering 4th-year courses for seniors not taking dual credit or AP courses to reduce college remediation

• Natural evolution of DM redesigns & pathways pilots

• Bridging the Gap (BTG) grant funds some existing transitions initiatives

• Doing so with local partnerships
  – Example: Rockford 205 & Rock Valley College Math Literacy pilot

Issues

• Not at scale

• No consistent requirements

• No portability
Postsecondary Workforce Readiness Act

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**
   - Provides urgency and portability
PWR Act Transitional Math Courses

Comprised of 3 pathways related to career pathways:
STEM, Technical Math, and QL/Statistics

- High school courses designed to provide guaranteed placement at IL colleges and universities
- **Reduce remediation** needed when students go to college
- Take existing 4\textsuperscript{th}-year course pilots to portability beyond local colleges when they meet statewide criteria
- Designed for seniors to give them a different experience their last year (from first 3 years or DM)
- Integrate contextualized learning, problem solving, and **college and career readiness**
- Align with the Common Core and the New Illinois Learning Standards
Transitional Math: A Student’s Perspective

11th Grade Projected Readiness Determination:
Use statewide criteria
Based on each student’s postsecondary math pathway

Not Projected Ready:
Transitional math co-developed by school district and community college

Successful Completion of Transitional Math:
Placed in college-level math course in applicable math pathway

Unsuccessful Completion or No Math Senior Year:
Subject to general placement processes

Projected Ready:
Student decides whether to take math in 12th grade

Successful Completion of Rigorous Math in 12th Grade:
Placed in college-level math course in applicable math pathway
Postsecondary Math Pathways

STEM
Career goals that require application of calculus or advanced algebraic skills

Technical
Career goals in technical fields that do not require application of calc, advanced algebraic, or advanced stats skills

Quantitative Literacy/Stats
Career goals outside of STEM or Technical – focus on general stats, data analysis, quant. literacy, problem solving
Transitional Math Pathways into Credit-Bearing Postsecondary Courses

- **Transitional Math**
  - Technical Math within a Career Pathway
  - STEM Math
  - Quantitative Literacy/Statistics
  - General Education Math
  - Gen Education Statistics
  - General Education Math
  - Elementary Math Modeling

- **Credit-Bearing Math**
  - General Education Math
  - Technical Math in the same CTE Career Pathway
  - College Algebra

Guaranteed placement from High School to Community College.
Transitions Courses & Policy Development

Includes administration, faculty, policy experts, and agency personnel at the K-12, community college, and university levels
Meeting since March to work on recommendations for entrance, exit, and portability

Faculty who are creating competencies to define required objectives in the courses

Statewide Panel

- STEM
- QL/Statistics
- Technical Math
Statutory Timelines for Implementation

By 6/30/18

- Statewide panel defines transitional math competencies and statewide criteria
- Development of model instructional units (subject to resources)
- IBHE adopts requirements for public universities to provide transparent criteria for student placement into college-level math courses; public universities publicize criteria

By 6/30/19

- ISBE and ICCB establish a phased implementation plan and benchmarks leading to full statewide implementation in all school districts
- *Note:* school districts can opt out of implementation by local board action

In 19-20 School Year

- School board of any district may elect to implement transitional math instruction, and community college must partner if it receives an implementation grant from ICCB
Status of IL Transitions Courses

• Statewide panel and subcommittees working since March
  – Public commenting period to come

• Illinois 60 by 25 Network supporting pilot implementation in 5 community college districts

• ICCB has issued new round of funding for additional support
  – BTG funded 10 colleges in FY17; 7 doing transitions
  – BTG is funding 15 colleges in FY18; 12 doing transitions
What’s next?

• Public commenting period on policies and draft competencies
• Sample materials and syllabi for transitions courses
  – QL/Stats has the most progress, STEM and Tech math follow
• Sample Memos of Understanding between HS and colleges
• Professional Development and support for high schools and colleges as they implement and scale
• Sample materials and syllabi for transitions courses
Transitions Math
Black Hawk College
Overview of Transition and Summer Bridge programs at Black Hawk College

- Students will take the BHC Math Literacy for College I & II during their senior year in high school.
- Satisfies the prerequisites for our Statistics for General Education and Math for General Education courses.
Overview of Transition and Summer Bridge programs at Black Hawk College

- After successful completion of the prerequisite course they may enroll for their mathematics course during the following summer or fall.

- If students wait until spring term they must take a mathematics placement test.
Implementation

• Visit high schools (Administration, instructors, counselors education directors) before the next academic year planning is finalized, generally by October.

• Once on board, we worked with the teachers and high schools with our Memorandum of Understanding and Teacher expectations documents.
Successes

• Two high schools piloted 2016/2017
• Developed good relationships with instructors and administrators
• Helped one school change the prerequisite class based on this relationship
Successes & Challenges

CHALLENGES
(or things we learned)

• High schools often start classes August 1st.
• Seniors forget why they are taking Math their Senior year.
• Learning why they did not take next course in the spring.
• Tracking these students
• Enrolling them in the next class at BHC
<table>
<thead>
<tr>
<th>High School</th>
<th>Fall 2016</th>
<th>Spring 2017</th>
<th>“C” or better (both terms)</th>
<th>% passing both terms</th>
<th>% passing Spring Term and receiving placement</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>17/21</td>
<td>14/16</td>
<td>14</td>
<td>67%</td>
<td>88%</td>
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<tr>
<td>2-I</td>
<td>23/32</td>
<td>20/21</td>
<td>20</td>
<td>63%</td>
<td>95%</td>
</tr>
<tr>
<td>2-II</td>
<td>24/32</td>
<td>15/22</td>
<td>35</td>
<td>55%</td>
<td>68%</td>
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</tbody>
</table>
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Transitions Math
Kankakee Community College
Overview of Technical Transition Math Course
—Kankakee Community College and Kankakee High

• Targeted toward high school seniors that might not otherwise have taken a fourth-year math course

• Staffed by faculty comfortable with hands-on learning and group work settings

• Using ALEKs training to supplement in-class activities

• Students who complete this course successfully (C or better) will be able to transition directly into KCC’s Tech Math II course
How This All Started

- KCC applied for the Bridging the Gap grant
- Kankakee High had a need for a class suited for students who might not have taken math otherwise, but would eventually want to be part of the workforce
- Kankakee Area Career Center was concerned that there was a math deficiency that needed to be remedied
- The local community has jobs available and empty for lack of skilled workers
Implementation

- Faculty and staff from KCC and Kankakee High School met six times during Spring and Summer 2017

- Started from KCC’s Technical Math course objectives

- Discussed learning objectives and how this course could be different than other offerings at the high school

- Focused on real-world applications and group work
Implementation

- Explored textbook options and consulted faculty in KCC’s Vocational and Technical areas
- Started designing group projects that could be used in conjunction with the objectives
- Examples of projects
- Guest speakers in technical fields
Successes

- 80 students are enrolled for Fall 2017!!

- Greater communication between KCC and KHS

- Hopeful to have more students taking a fourth-year math course given this non-traditional feel

- Hopeful to have more students entering KCC at a higher level of math, able to get started in their careers earlier
Challenges

- Setting up design meeting times between KCC and KHS
- Staffing and supplying the course
- Setting up the “flag” in the registration system
Ideas for the Future

• Integrated Tech Math class also with Science objectives
  • Could be co-taught by math and science teachers for 2 periods and 2 credits

• Integrated Tech Math class with Vocational Tech classes
  • For schools with those programs already in place

• Communication with Career Center to pinpoint needed skills

• Utilize a Career Inventory to help guide the projects
Data

- In progress!!!
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Questions?
Next Steps

Professional development webinars

BTG timeline and reports

60x25 Meeting – Feb 6 & 7, 2018

NOTE: Additional information is available in folders