Support Courses in Math

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About Cuyamaca College

› 9,586 students in fall 2018
› 65% of our students are under 24 yrs old
› 63% have waived or reduced tuition
› 37% first generation
› 35% Latinx
› 8 full-time & 23 part-time MATH faculty
› A multi-campus district (one of two colleges)
About Pasadena City College

› 28,800 credit student in Fall 2018
› 71% of our students are under 24 yrs old
› 61% have waived or reduced tuition
› 51% Latinx
› 48 Fulltime & 90 Adjunct MATH faculty
› A single campus (mostly)
Vocabulary & Abbreviations

› Parent course = the main content course (like precalculus or statistics)
› Support course = a separate course that students enroll in concurrently with the parent course
› Equity = Providing appropriate support; not all students need the same support
› IA = Intermediate Algebra
› JITR = Just In Time Remediation
Why did we create support courses?

› We looked at our throughput data – it was depressing (especially as it relates to equity)
› We looked at our placement test – it was shockingly inaccurate
› We attended conferences – this helped us make informed decisions as we moved forward
› We realized we needed to shorten our sequence of courses, but also that some students would need additional support to be successful
Our process...

› Got energetic teams together
› Looked at our data
› Developed our own materials
› Learned from others
› PCC used BSSOT and BSI funding
› Cuyamaca used BSSOT, BSI, and Equity funding
› Built on past successful projects
Cohort VS Blended

**COHORT**
› Same exact students in both parent & support course
› Same teacher teaches both

**BLENDED OR COMINGLED**
› A subset of students from the parent course enrolled in the support course
› Can be the same teacher or a different teacher
Cohort VS Blended

PCC CHOSE COHORT
› If the support is good, why not let everyone participate?
› Wanted teachers and students together
› Easier to schedule the blocks together
› No room for small sections, need something we can scale

CUYAMACA CHOSE COHORT
› Wanted teachers and students together
› Wanted to use JITR
› Easier to schedule the blocks together
› Need something we can scale
› Makes it better for the part-time faculty
Required VS Recommended Support

PCC LEANING TOWARDS RECOMMENDED
› We followed Cuyamaca and AB 705
› Don’t want to set the tone that “this class is full of weak students”
› How do we really know who needs the support?
› AB 705 does not allow required support without proof it increases success

CUYAMACA CHOSE REQUIRED
› We did this before anyone else in the state and there was serious concern about articulations and compliance
› Wanted students who have lower GPA to have a more likely chance of success
› In a multi-college district and our sister college was worried
Math VS Non-cognitive Content

PCC CHOSE BOTH  CUYAMACA CHOSE BOTH

› 1\textsuperscript{st} goal is to provide more time doing math
› 2\textsuperscript{nd} goal is to provide the tools necessary to become better students
› We have seen the power of metacognition in other math courses
› Helps close equity gaps
› It isn’t an AB 705 issue, it is a freshmen issue
Tennessee Community Colleges

- 52% of students passed both courses
- 36% of students failed both courses
- 3% of students passed only the credit course

ACT Math Score

Adapted from TBR Brief #3: Co-Requisite Remediation Full Implementation 2015-16
What does non-cognitive content look like in a Math class?

› Students learning about how neural pathways are formed
› Students reading Carol Dweck’s *Brainology* article and discussing Fixed and Growth Mindsets in Math
› Study skills in Math
  – Study plans, concept maps, note taking, test reflections
› Struggling as part of Learning Math

These are usually addressed with short readings and videos followed by class discussions
Metacognition & Affective Domain in action

› When to let Learners Struggle

› Praise
  https://www.youtube.com/watch?v=NWv1VdDeoRY

› Michael Jordan – Maybe it is my fault
  https://www.youtube.com/watch?v=9zSVu76AX3I

› Famous failures
  https://www.youtube.com/watch?v=zLYECIjmnQs

› Victim vs Creator mindset
  https://www.youtube.com/watch?v=47rQkTPWW2I
Lab Hours VS Lecture Hours can vary from campus to campus

LAB HOURS
› 3 lab hours = 1 unit
› Typically paid at a lower rate than lecture
› Not supposed to have additional homework outside of class

LECTURE HOURS
› 1 lecture hour = 1 unit
› What we are familiar with for scheduling and pay
› Should have 2 hours of homework for every lecture hour

Find out how lab hours work on your campus there is an incredible amount of variation. This decision impacts full-time and part-time faculty work loads. And it will determine how much your support course will cost students. AB 705 requires we “minimize the impact” on financial aid and units.
Lab Hours VS Lecture Hours

PCC CHOSE LAB
› Post AB 705 - Lower cost for students
› Subtle reminder that the additional time is NOT for additional lecturing
› Not assigning additional homework
› Adjuncts paid the same
› Fulltime paid less or same

CUYAMACA CHOSE LECTURE
› We did this before anyone else in the state and there was serious concern about articulations and compliance
› Part-time faculty are paid less
› Curriculum and other processes were more in favor of lecture
STEM VS non-STEM Support

PCC CHOSE BOTH!!!
› We started with PreStats in fall 2013
› Spread to IA summer 2018, we have no courses below IA
› Now developing support for STATS, Lib Arts Math, College Algebra, and PreCalculus
› Still following Cuyamaca

CUYAMACA CHOSE BOTH!!!
› Started with PreStats in fall 2011
› Wasn’t scaling & specifically didn’t help BSTEM students
› In fall 2016 stopped offering courses below IA and began offering support courses with College Algebra, PreCalculus, and Applied/Business Calculus
What do these support courses look like?
SUPPORT AT CUYAMACA

✓ Cohort
✓ Required
✓ Lecture hours – 2 units
✓ Metacognition and Affective Domain
✓ Math content
✓ Interactive
SUPPORT AT PCC

✓ Cohort
✓ Recommended
✓ Lab hours – 2 or 2.5 hours for 0.5 units
✓ Metacognition and Affective Domain
✓ Math content
✓ Interactive
Your Turn…

If you could make all the decisions, what would you choose? Why?

- Cohort or Blended?
- Required or Recommended?
- Lab hours vs Lecture hours?
- Additional ideas?
QUESTIONS??

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