Strategies to Improve STEM Student Transition to and through Calculus
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Introduction
Data collected through a national survey of math department chairs at associate’s granting colleges provides information about the current state of the sequence of courses from Developmental math to Precalculus to Calculus II (DPC2) in the US. This data can be used to develop ideas and strategies to improve student transition into and through the DPC2 sequence at your own college.

Your Institutional Characteristics
Strategies to improving student transition in the DPC2 sequence can vary depending on institutional characteristics. For each variable below, select the choice that best describes your college. Many of these variables come from the Carnegie Classification of Institutions of Higher Ed.

Geographic region: West Southwest Midwest Southeast Northeast

Size (FTE): Very small Small Medium Large Very Large
<500 FTE 500-1999 2000-4999 5000-9999 10000+

Urbanicity: City Suburban Rural Town

Primary degree: Associate’s, mainly transfer (< 30% Career & Technical)
Associate’s mixed Transfer/Career & Technical (30-49% Career & Technical)
Associate’s, mainly Career and Transfer (50%+ Career & Technical)
Associate’s and Bachelor’s degrees, but majority Associate’s

Minority Service Institution (MSI) status: PBI or HBCU HSI TCU AANAPISI None Unsure
PBI (Predominately Black institutions); HBCU (Historically Black Colleges and Universities); HSI (Hispanic Serving Institutions); TCU (Tribal Colleges and Universities) and AANAPISI (Asian American and Native American Pacific Islander Serving Institutions).

Interested in knowing more about your institutional characteristics? You can look up your institution in the IPEDS database at https://nces.ed.gov/ipeds/datacenter/InstitutionByName.aspx

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Situating Your College in the TLC3 Data

MATH PLACEMENT

Multiple options used for placement
- Not employed
- Currently being proposed
- Currently being implemented
- Fully implemented

Policies to adjust placement after term begins
- Not employed
- Currently being proposed
- Currently being implemented
- Fully implemented

Use local data on effectiveness of placement
- Not employed
- Currently being proposed
- Currently being implemented
- Fully implemented

Use local data on effectiveness of placement disaggregated by age, gender, race/ethnicity, or FT/PT
- Not employed
- Currently being proposed
- Currently being implemented
- Fully implemented

COURSE OFFERINGS AND INSTRUCTION

Differentiated pathways for STEM and non-STEM at the developmental level
- Not employed
- Currently being proposed
- Currently being implemented
- Fully implemented

Course options for students at the precalculus level (e.g., stretched out, compressed, traditional)
- Not employed
- Currently being proposed
- Currently being implemented
- Fully implemented

Course options for students at the calculus level (e.g., stretched out, compressed, traditional)
- Not employed
- Currently being proposed
- Currently being implemented
- Fully implemented

Use of active learning strategies in class (e.g., lecture with small group work, flipped classes)
- Not employed
- Currently being proposed
- Currently being implemented
- Fully implemented

Use local data on effectiveness of courses in DPC2 sequence
- Not employed
- Currently being proposed
- Currently being implemented
- Fully implemented

STUDENT SUPPORT

Support services for STEM-interested students from underserved groups (e.g., MESA, TRIO)
- Not employed
- Currently being proposed
- Currently being implemented
- Fully implemented

Space for students to informally gather to work on mathematics
- Not employed
- Currently being proposed
- Currently being implemented
- Fully implemented

Tutoring at all levels of DPC2 (Dev Math, Precalc, Calc I and II)
- Not employed
- Currently being proposed
- Currently being implemented
- Fully implemented

Online tutoring available at all levels of DPC2
- Not employed
- Currently being proposed
- Currently being implemented
- Fully implemented

Supplemental Instruction or In-class Peer tutoring in Precalculus and/or Calculus
- Not employed
- Currently being proposed
- Currently being implemented
- Fully implemented

Early-alert systems after start of the term
- Not employed
- Currently being proposed
- Currently being implemented
- Fully implemented