Strategies to Support All Students

The ECC Trilogy

Engagement
Having an orientation to the sciences and/or quantitative disciplines that includes such qualities as awareness, interest and motivation.

Capacity
Possessing the acquired knowledge and skills needed to advance to increasingly rigorous content in the sciences and quantitative disciplines.

Continuity
Institutional and programmatic opportunities, material resources and guidance that support advancement to increasingly rigorous content in the sciences and quantitative disciplines.

from Jolly et al. 2004
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*Engagement*

- Behavioral (relevance to social circumstances)
- Emotional (fun, intriguing, intellectually rewarding)
- Cognitive (willingness to master complexity, sense of when something has been mastered)
- Vocational (fulfilling long-term aspirations)
- Belief or confidence in ability to pursue STEM

*How to increase:* include socially relevant activities (outreach, service learning), career counseling, alumni interactions
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Capacity

• Logical-mathematical
• Spatial
• Naturalistic (recognize and classify objects)
• Linguistic
• Becoming life-long learners

How to increase: allow students to demonstrate what they know and can do, include teamwork, open ended questions, less emphasis on speed/timed exams, provide hands-on, real-world experiences
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Continuity:
Pathways or systems with resources for advancement
Structure needed for a student to flourish

How to increase: make aware of required higher level courses, what they need to do to position themselves for career or 4YC, opportunities for scholarships, internships, financial support, tutoring, counseling, and other support services.
Essential to have all 3 parts of ECC-Trilogy model!

“We don’t need to do it all, but we must see that it all gets done”
Specific Examples of Increasing Engagement:

- **El Paso Community College (EPCC) Geo-ventures Program**: curriculum based field trips
  
  https://www.facebook.com/GeoVenturesElPaso/

- **Service Learning program**

- **EPCCTejano Passport Program**
  
  https://www.epcc.edu/Services/TejanoPassport

Specific Examples of Increasing Capacity:

**Active Learning:** InTeGrate’s EJ & freshwater module

https://serc.carleton.edu/integrate/teaching_materials/freshwater/index.html
Specific Examples of Increasing Continuity:

Capstone Courses: research methods, field methods
Guided Pathways Maps