A DEVELOPMENTAL APPROACH TO A SUMMER RESEARCH PROGRAM FOR COMMUNITY COLLEGE STUDENTS

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BACCALAUREATE & BEYOND CENTER
BRIDGES TO THE BACCALAUREATE PROGRAM

- Located at Purchase College
- Community College Students
  - URM
  - Low Income
  - First-Generation
- Objective is Degree Completion
- Very Successful!
DEVELOPMENTAL APPROACH

- **Emphasizing Developmental Trajectory**
  - Identify students’ starting place and develop practices to support development
  - Assess change over time in individual students
  - ePortfolios document change over time and invite reflection

- **Holistic**
  - Goals are academic, but emotional and social developments are critical for success
  - Help students draw connections between success in different domains
DEVELOPMENTALLY APPROPRIATE PRACTICES

- Students are in the exploration stage
  - Admit students broadly and provide activities to broaden knowledge of possible paths

- Students lack positive academic identity
  - Proactive instructions and skill development
  - Identity activities, mindset and grit interventions embedded in ePortfolios

- Primary attachment to home community
  - Bridging between home and academic worlds
    - Making faculty “human”
    - Community building with student scientists
    - Affirmations intervention
THE PROMISE OF EPORTFOLIOS

- Social pedagogy, High Impact Practice, Developmental

Antimicrobial Peptides 101: A Window to Our Research

A Normal Week vs An Awesome Week

A normal week in my student life starts by waking up early, commuting half an hour to Dutchess Community College, working a couple of hours in the Math and Science Center, attending my respective classes for

A I am...

The hardest question you can ask yourself is... *Who am I?*

First of all, I am **Ecuadorian**...

I am a constant **learner**...

I am an **easy adapter** of circumstances...

I am **friendly** with everyone...

And finally, I am a **chemistry lover** (and I have a picture to prove it!).

Doing Homework is the Best!

Enjoying life when math homework only had numbers.

Add comment  Details

My Mind in a Nutshell

Add comment  Details
OUTCOMES

- **Persistence**
  - No differences in GPA
  - Program alumni more likely to re-take classes
  - more likely to graduate in STEM

- **Identity Outcomes**
  - Academic Identity
  - Future Orientation
  - Scholarly Community
  - Growth Mindset
  - Grit
EVIDENCE OF IDENTITY SHIFT

- ePortfolio journal entries
- Significant increase between first and final week in:
  - Academic Identity
  - Future Orientation
  - Scholarly Community
- Early expressions of academic identity predicted later expressions

![Graph showing correlation and significance]

- Academic Identity: $r = 0.46, p < 0.0001$
- Future Orientation: $r = 0.22, ns$
- Scholarly Community: $r = 0.20, ns$
PROMPTS EVOKE IDENTITY STATEMENTS

- **Goals and Identity**
- **Science Values Affirmation**
- **Ideal Career**
- **How I Have Changed**

**Categories:**
- Academic Identity
- Future Orientation
- Scholarly Community

**Graph Data:**
- **Goals and Identity**: High academic identity, medium future orientation, low scholarly community
- **Science Values Affirmation**: High academic identity, low future orientation, low scholarly community
- **Ideal Career**: High academic identity, low future orientation, low scholarly community
- **How I Have Changed**: Medium academic identity, medium future orientation, low scholarly community
Comparing Mindset intervention in ePortfolios to worksheet

In ePortfolios more students
- Describe shifting mindset, Grit, and Academic Identity
- Provide a personal example
CONCLUSIONS

- Programs for first and second-year students should consider:
  - Need for exploration
  - Academic identity
  - Primary community

- ePortfolio use can be a powerful tool for developmental approach
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