We describe the ePortfolio delivery of a growth mindset intervention to at-risk college students, comparing responses to graded and ungraded ePortfolio, handwritten, and typed response formats by examining conceptual mastery, application of concepts to self, and overall level of response.
BRIEF PSYCHOSOCIAL INTERVENTIONS

Brief activities that change world views

- **Sense of Belonging**
  - Convincing students that feelings of isolation are temporary improves URM academic success and retention

- **Values Affirmation**
  - Reflecting on values improves academic performance

- **Growth Mindset**
  - Viewing intelligence as malleable leads to increased persistence
  - Associated with grit
THE PROMISE OF ePORTFOLIOS

- Reflection, identity, and creativity
- Ease of delivery
- Bundling interventions
- Strengthen and lengthen effects
EVALUATING THE PROMISE

- Similar assignments
- Similar students
- Different delivery
- Different feedback
- Mindset Scale
- Grit Scale
HYPOTHESES

- Typing will evoke more content than hand writing
- Graded assignments will evoke more content than ungraded assignments
- ePortfolios will evoke more reflection than other formats
## COMPARISON GROUPS

<table>
<thead>
<tr>
<th></th>
<th>Summer Program Ungraded</th>
<th>Academic Classes Graded</th>
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</thead>
<tbody>
<tr>
<td>Worksheet</td>
<td>17</td>
<td>54</td>
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<tr>
<td>ePortfolio</td>
<td>21</td>
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<tr>
<td>Sample Size</td>
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<tr>
<td>Age</td>
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<tr>
<td>Females</td>
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<td>70%</td>
</tr>
<tr>
<td>URM</td>
<td>82%</td>
<td>52%</td>
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<td></td>
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MINDSET INSTRUCTIONS

- Watch Eduardo Briceno TED talk  [https://www.youtube.com/watch?v=pN34FNbOKXc](https://www.youtube.com/watch?v=pN34FNbOKXc)

- Describe differences in how individuals with fixed and growth mindsets approach learning *(conceptual information)*

- Do you view intelligence as fixed? *(reflection)*
  - Describe your reactions to an academic struggle
  - Propose responses that would establish a growth mindset

- Propose ways to help foster growth mindsets *(planning)*
CONTENT CODING

- Number of words produced
  - Concepts
  - Reflection
  - Planning

- Qualitative Ratings
  - Complete content
  - Mindset
  - Grit
QUALITATIVE CODING

Mindset

- **Growth** - I hate the word smart because once you call someone that, they don't plan to go beyond that… We learn something new everyday and that is what makes us grow.

- **Fixed** - Honestly and sadly I see intelligence as fixed. An academic struggle I have had is learning US History and I always let myself think that I wasn’t made for USH.

- **Shifting** - I used to see intelligence as fixed but lately I’ve been noticing that anyone has the potential to be great if they put their mind to it.

Grit

- I do well when I work hard. If I don't do well right away, I keep trying until I'm satisfied.
**RESULTS – WORD COUNTS**

- More reflection than concepts or planning
- Less content in worksheets
- More conceptual content in papers
- ePortfolios evoke similar responses regardless of grading

<table>
<thead>
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<th></th>
<th>Concepts</th>
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<th>Planning</th>
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<tr>
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<td>Ungraded ePortfolio</td>
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<table>
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<th>Concepts</th>
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<th>Planning</th>
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<tr>
<td>Graded ePortfolio</td>
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<td>162</td>
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In ePortfolios more students applied constructs to the self
- Shifting (ungraded)
- Growth (graded)
- Grit (graded and ungraded)

In worksheets students were less likely to provide complete answers
- Intervention increased endorsements of growth mindset
- Assignment format did not influence intervention efficacy
### Intervention Effects – Graded Assignments

- **68 did not write about grit** - No change in grit scores
- **33 wrote about grit** - Grit scores increased

<table>
<thead>
<tr>
<th>Grit Score</th>
<th>No Grit in Assignment</th>
<th>Grit in Assignment</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Test</td>
<td>Post-Test</td>
</tr>
<tr>
<td></td>
<td>3.18</td>
<td>3.22</td>
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</table>

Legend:
- Blue = Pre-Test
- Orange = Post-Test
Responded positively to all assignment formats

- Majority reported assignments were worthwhile, enjoyable and should be used in the future

Reported personal change as a result of the interventions

Adopted language indicative of effect

- I’m gritty
- I can’t do this…YET
CONCLUSIONS

- ePortfolios are better or equal to other formats
  - Reflection and application of concepts to the self
  - Grades didn’t matter
  - Complete answers
    - Papers evoked more words but not more complete answers

- Intervention efficacy was present in all formats

- Next Steps
  - Determine whether ePortfolio delivery leads to sustained intervention effects
THANKS

- LiveText
- Jada Cheek, Genesis Gonzalez, Morgan Hems, Alexa Lamarca, and JeanMarie Garofolo
- Students from Bridges to the Baccalaureate Summer Program
- Students in Child Development


GRIT INSTRUCTIONS

- Summer Program – ePortfolio or worksheet
- Academic Year - ePortfolio
  - Watch Angela Duckworth TED talk
    https://www.youtube.com/watch?v=H14bBuluwB8
  - Describe grit
  - Explain how a growth mindset is related to grit
  - Describe the most difficult thing you accomplished
  - Write a letter to your future self:
    - Describe a challenge you would like to accomplish
    - Describe some obstacles that might prevent success
    - Explain how you could overcome these obstacles