Background and Context of the Cyberlearning Project

Increased globalization requires U.S. college STEM graduates to develop not just technical competencies in their specific disciplines but also key soft skills that are critical for job-readiness and career success.

- Key Challenge – Finding a Balance
  - Economic and logistical constraints on the one hand
  - Evidence-based best practices on the other (experiential education, guided reflection, safe learning environments, individualized feedback)

- Bi-Directional Problem
  - STEM fields need more and better instruction in soft skills
  - Intercultural leadership competency curricula need technology in order to scale beyond the few students who study abroad

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Virtual Reality Immersive Learning Environment

- VR is now a commonly used pedagogical tool in technical fields
  - Engineering, medicine, chemistry, aeronautics

- Immersive online learning environments have demonstrated capacity for soft skills development
  - MMPOGs, virtual military simulations, immersive second language learning environments

- VR stimulates active, experiential learning
  - Longer retention and faster recall than passive information transference

Project Goals

- **Goal 1:** To evaluate the impact of VR interventions on student growth in _empathy, curiosity, and openness_.

- **Goal 2:** To compare learner reactions to two types of VR media, _CGI versus 360-degree videos_ of human actors.

- **Goal 3:** To advance research methods for the social sciences by triangulating data from self-report measures with biometric data from non-invasive devices that monitor involuntary biological indicators of emotion and engagement.

Project Overview
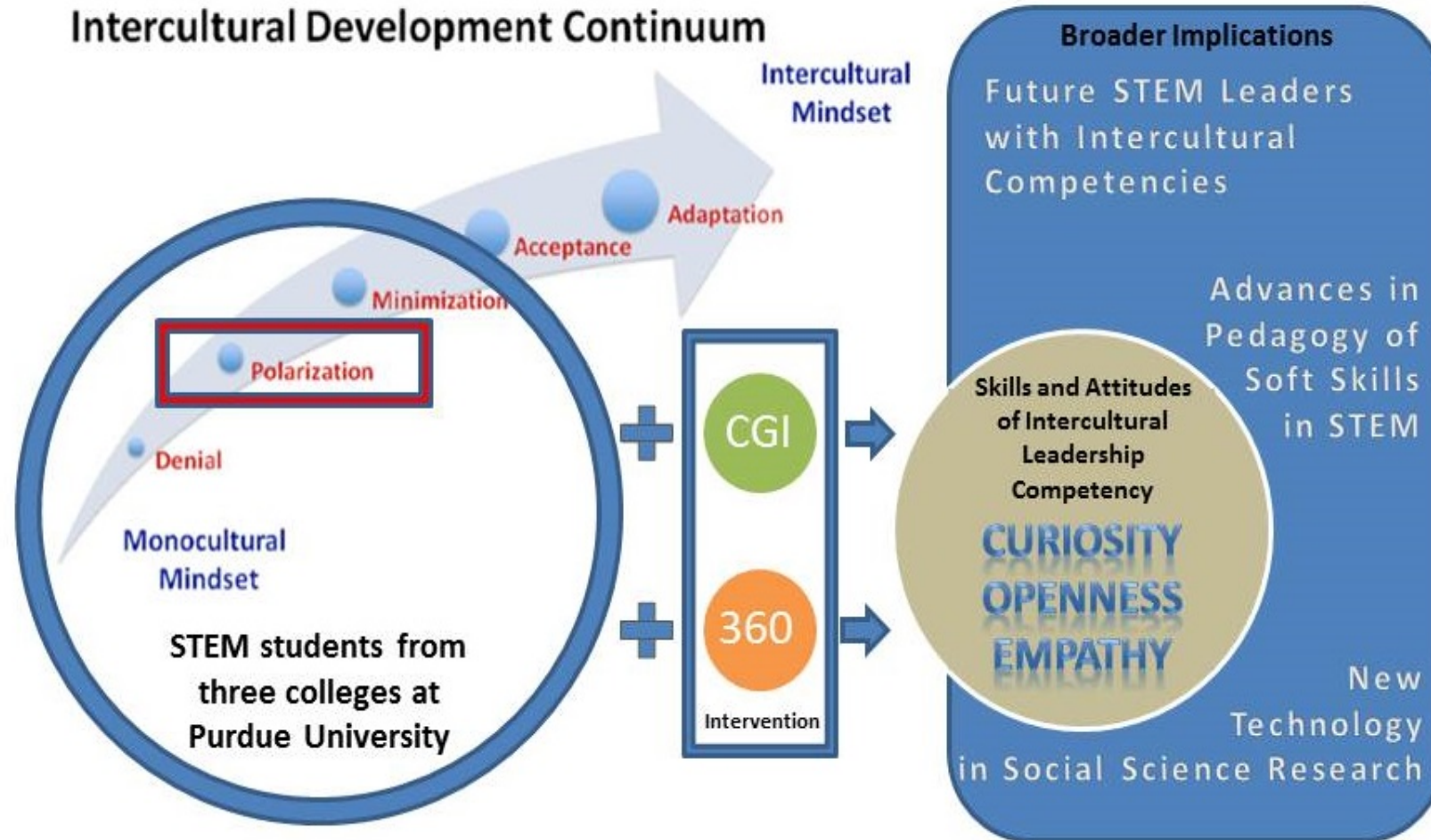
Adapted from the Intercultural Development Continuum (Hammer, 2012)

Project Deliverables

- **Develop sample VR simulations.** Six VR simulations – three storylines produced in each of two different genres of VR technologies (CGI versus 360-degree videos of human actors)

- **Study the educational impact of VR experiences.** Three phase mixed-methods research design
    - Quasi-experimental pre/post test design study of intervention effectiveness
    - Phenomenological study to understand learner experiences
    - Triangulation of biometrics with traditional measures

- **Disseminate the VR simulations and findings.**

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Project Impacts

- **Innovation**
  - Of the pedagogy of intercultural leadership competency development
  - Of the uses of VR to the social sciences
  - Of research methods in the scholarship of teaching and learning

- **Personal and Societal Impacts**
  - Learners develop greater empathy, curiosity, and openness
  - Future workforce more capable of effective intercultural teamwork
  - Empathy and openness also address broader issues such as social justice

Questions & Comments?

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