

# Some New Evidence on What Matters in Student Learning

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Plenary session address to CIC Institute for Chief Academic Officers and Chief  
Advancement Officers. St. Petersburg Beach, FL, November 6, 2011

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Center for the Study of Higher Education

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# Wabash National Study of Liberal Arts Education (WNS)

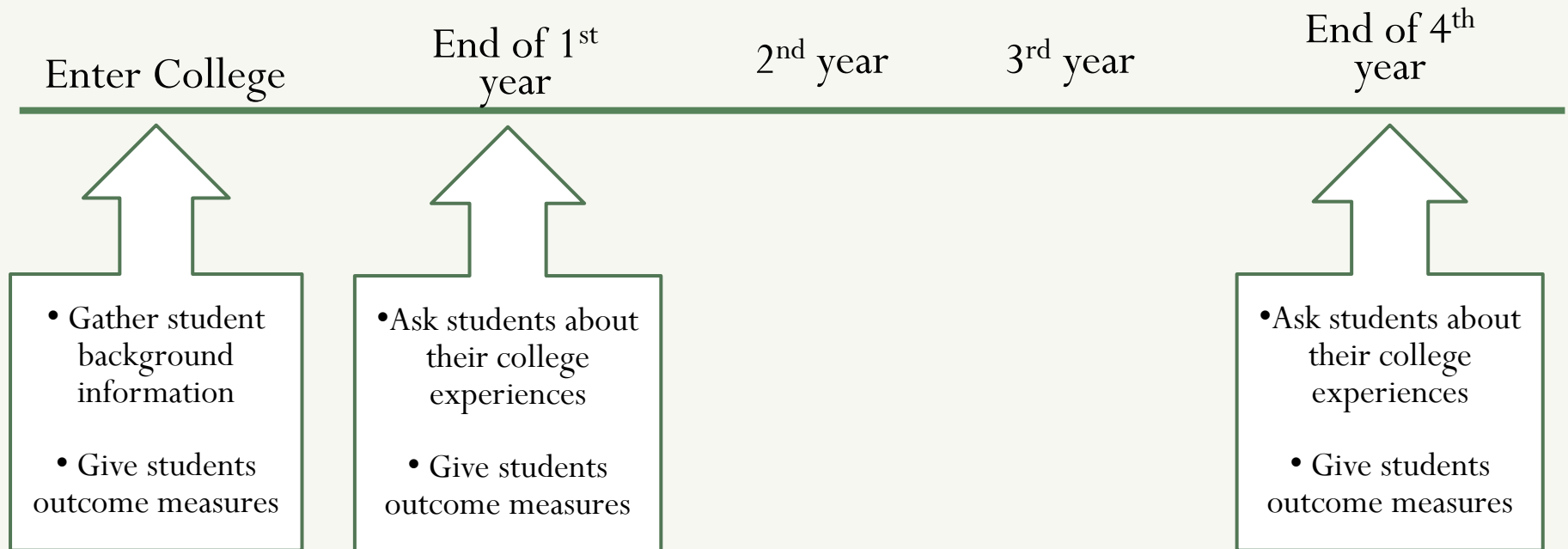
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# Wabash National Study (WNS)

- Funded by Center of Inquiry – Wabash College
- Begun in Fall 2006 (49 institutions and over 17,000 students)
- Design is Longitudinal



# NSSE Benchmark Scales as Significant Predictors of First Year Gains – Pretest Controlled (N=19 schools)

## Level of Academic Challenge

- Critical thinking skills (.43)
- Positive attitude toward literacy (.51)

## Active and Collaborative Learning

- Openness to diversity (.56)

## Enriching Educational Experiences

- Critical thinking skills (.44)
- Principled moral reasoning (.44)
- Universality-diversity scale (.57)
- Openness to diversity (.41)

## Supportive Campus Environment

- Universality-diversity scale (.48)
- Openness to diversity (.43)
- Psychological wellbeing (.73)

# Important Caution Using NSSE Scores

- Using 44 institutions we predicted average benchmark scores at end of first year using student precollege characteristics and experiences
- From 43 to 53% (average 49%) of between-institution differences in five NSSE benchmarks could be attributed to the characteristics of the students and institution enrolls
- Attributing benchmark scores totally to an institution's educational programs may be misleading

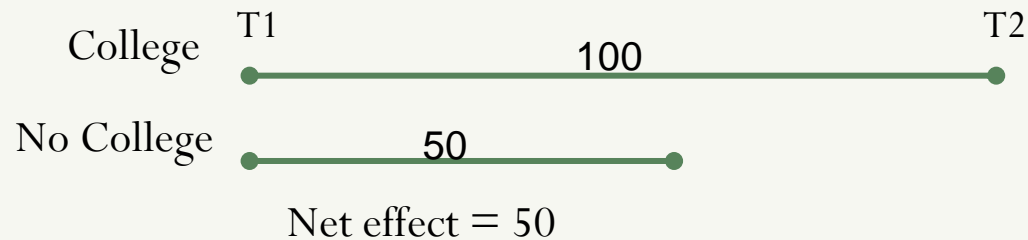
# Replicating *Academically Adrift*

- WNS offered different institutions, student sample and approach to measuring critical thinking (multiple choice vs. CLA-written)

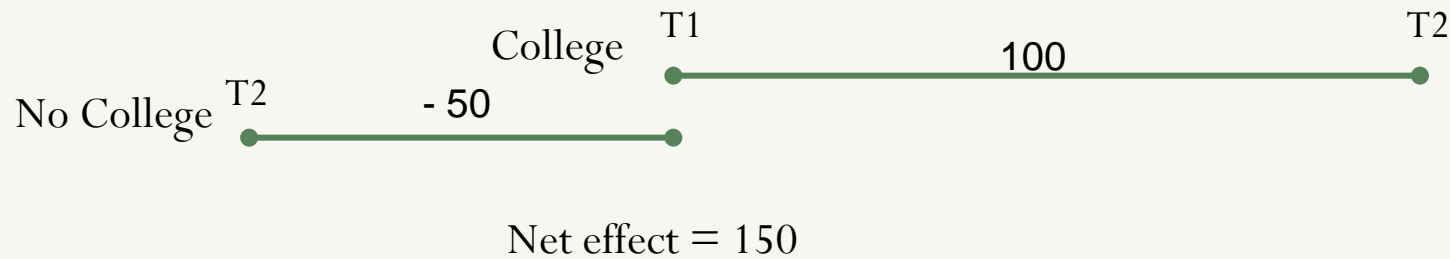
<u>Gain Scores</u>	<u><i>Academically Adrift</i></u>	<u>WNS</u>
1 year		4 percentile points
2 years	7 percentile points	
4 years	18 percentile points	17 percentile points
<u>Percent students making non-significant four year gain</u>	36%	33%
Time spent studying	13-14 hours/week	15 hours/week
Wrote 20+ page paper	49%	60%

# Cautions with Gain/Change Scores

- What is acceptable change in cognitive growth during college?
- Change can over-estimate the value-added of college



- Change can under-estimate the value-added of college



# Effects of Good Teaching Practices on First- to Second-year Persistence

- “Good teaching” defined as “organization and clarity of overall instruction received in first-year of college” (as reported by students)
- Nine-item scale – e.g., presentation of material is well-organized, class time is used effectively, teacher gives clear explanations, teachers effectively review and summarize material
- Controlling for background (e.g., precollege educational plans, ACT score, etc.) one S.D. increase in “good teaching” received increased odds of second year re-enrollment by about 30%
- Remained significant when first-year GPA considered
- Good teaching skills are learnable

# Do Diversity Experiences Foster Four-Year Growth in Critical Thinking Skills?

- Interactional diversity scale (nine items) e.g., made friends with a person of a different race, attended diversity workshop, had interactions with others with different religious/political views
- With controls for battery of precollege variables (including pretest and ACT score), the interactional diversity scale was significantly and positively linked to four-year gains in critical thinking skills
- Effect of interactional diversity most pronounced for students below ACT of 27 or below. Above ACT of 27 no effect.

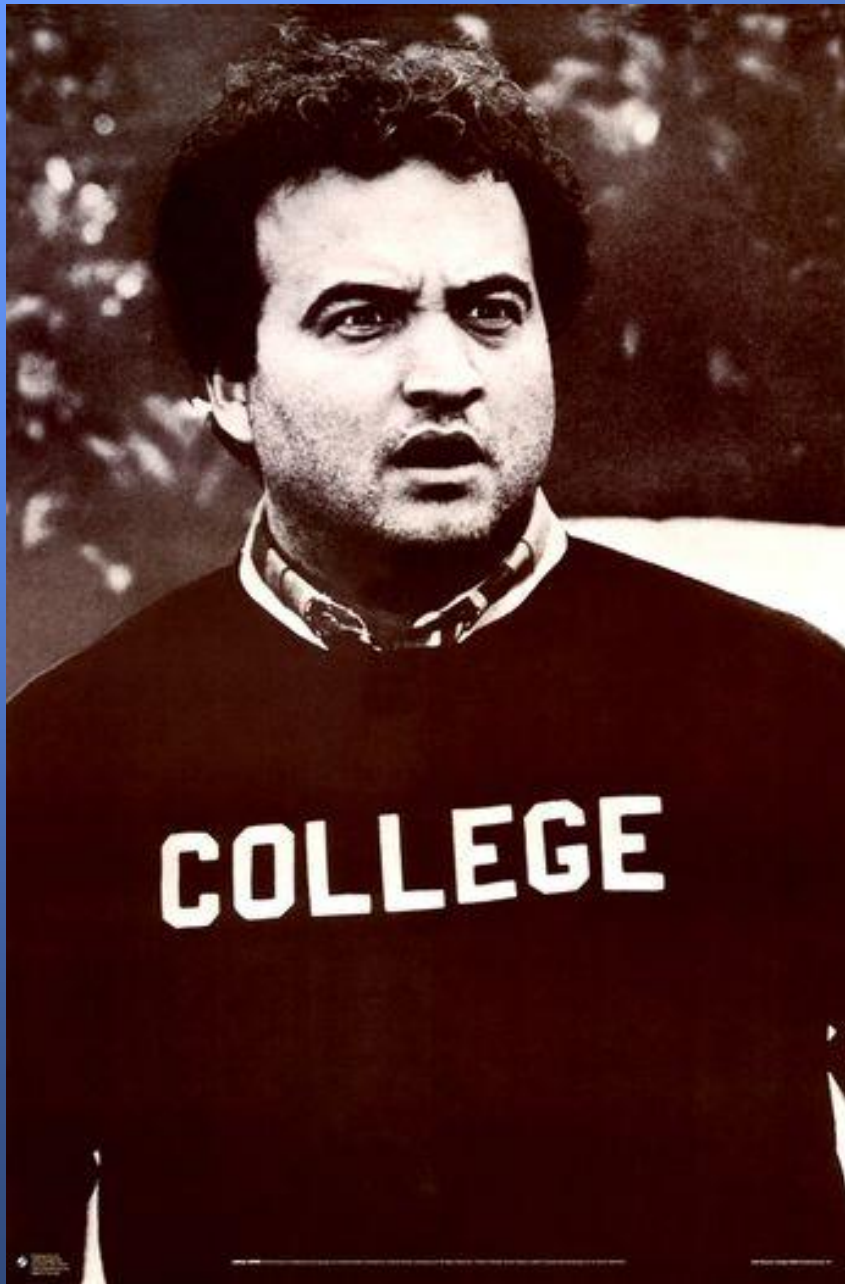
# Does Study Abroad Affect Intercultural Competence?

- Empirical evidence for effects of study abroad weak
- Problem is controlling selection effect
- WNS permitted control of selection effect (intent to study abroad)
- Net of selection effect, study abroad significantly enhanced orientation toward engaging in diverse social and cultural activities
- Selection and accentuation

## Some Distinctive Impacts of Liberal Arts College (vs. other types of four-year institutions)

- Higher levels of student-perceived good teaching and high quality interaction with faculty
- Higher levels of student-perceived academic challenge and high academic expectations
- Greater net movement toward liberal political views





Ernie Pascarella  
(1985)



Pat Terenzini  
(1985)

# A Modest Map

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# Curricular and Classroom Effects on Academic and Cognitive Learning

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## Instructional approaches

- Supplemental Instruction (+15 %ile pts)
- Information Technology-enhanced instruction (+12 %ile pts)
- Collaborative/cooperative learning (+18 to 20 %ile pts)
- Active learning (+10 %ile pts)
- Service learning (+, but size unknown)

# Curricular and Classroom Effects on Academic and Cognitive Learning

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## Effective instructor behaviors:

- Clarity and understandableness (e.g., uses examples, identifies key points)
- Expressiveness/Enthusiasm (e.g., speaks emphatically, maintains eye contact)
- Preparation and organization (e.g., provides outlines, clear objectives, uses class time effectively, makes connections, signals transitions)
- Availability and “approachability”
- Quality and frequency of feedback to students
- Demonstrated concern for, and rapport with, students

# Curricular and Classroom Effects on Academic and Cognitive Learning

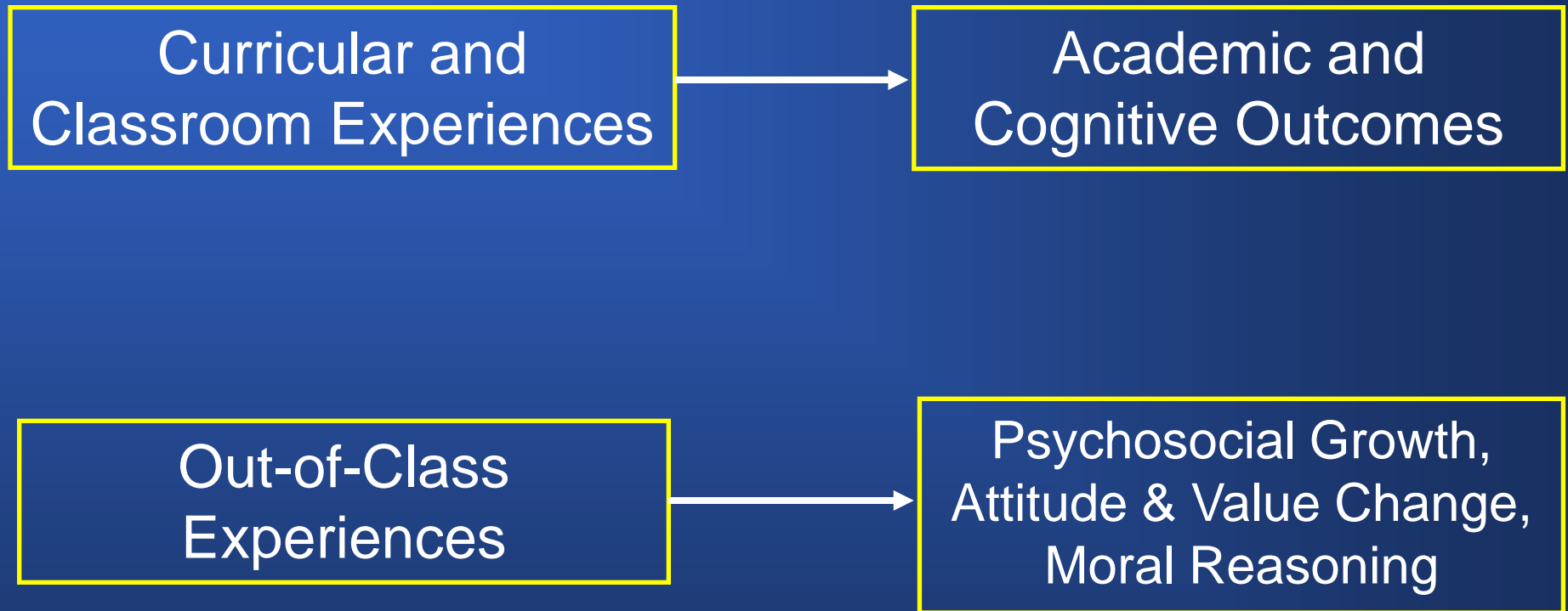
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**The Curriculum:** The most effective ones are:

1. interdisciplinary,
2. have an integrated core, that
3. emphasizes links across courses and ideas

# A Modest Map

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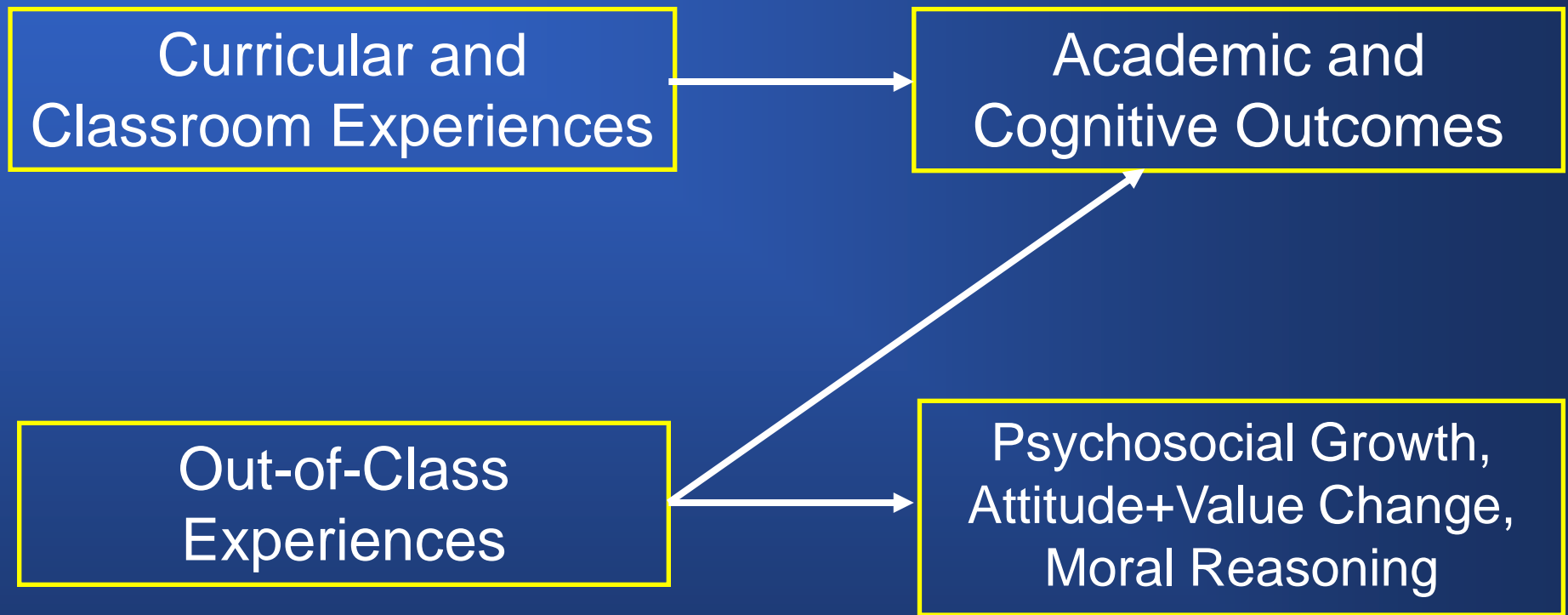
# Out-of-Class Influences on Changes in Psychosocial Areas, Attitudes, and Moral Reasoning

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- Interactions with peers, particularly those from a different racial/ethnic background
- Interactions with faculty members
- Community service (generic)
- Cultural awareness workshops
- Leadership development courses and experiences
- Involvement in co-curricular activities

# A Modest Map

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# **Out-of-Class Effects on Academic and Cognitive Learning**

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**Quality and level of student effort/engagement (+)**

**Interactions with peers (+)**

**Interactions with faculty members (+)**

**“Diversity” experiences (+)**

**Academic advising**

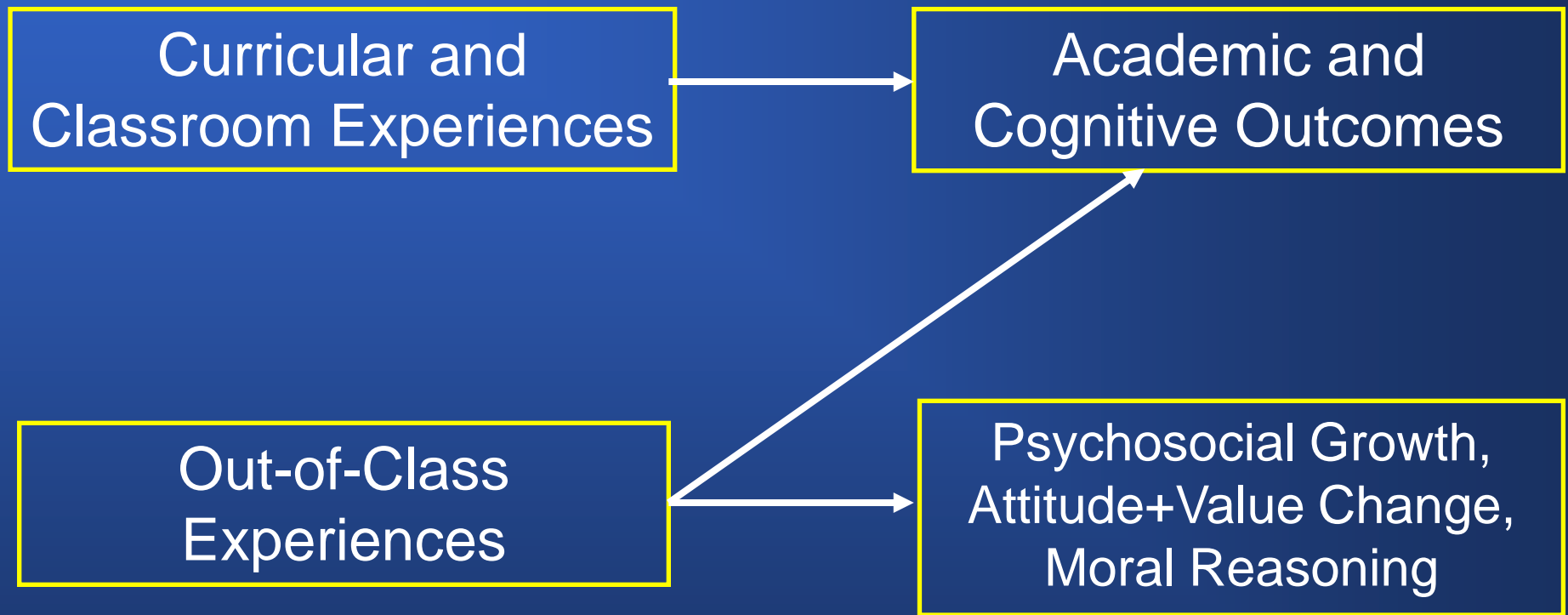
**On-campus work (+ if less than 15-20 hours)**

**Fraternity membership (-)**

**Intercollegiate athletics (revenue-producing sports) (-)**

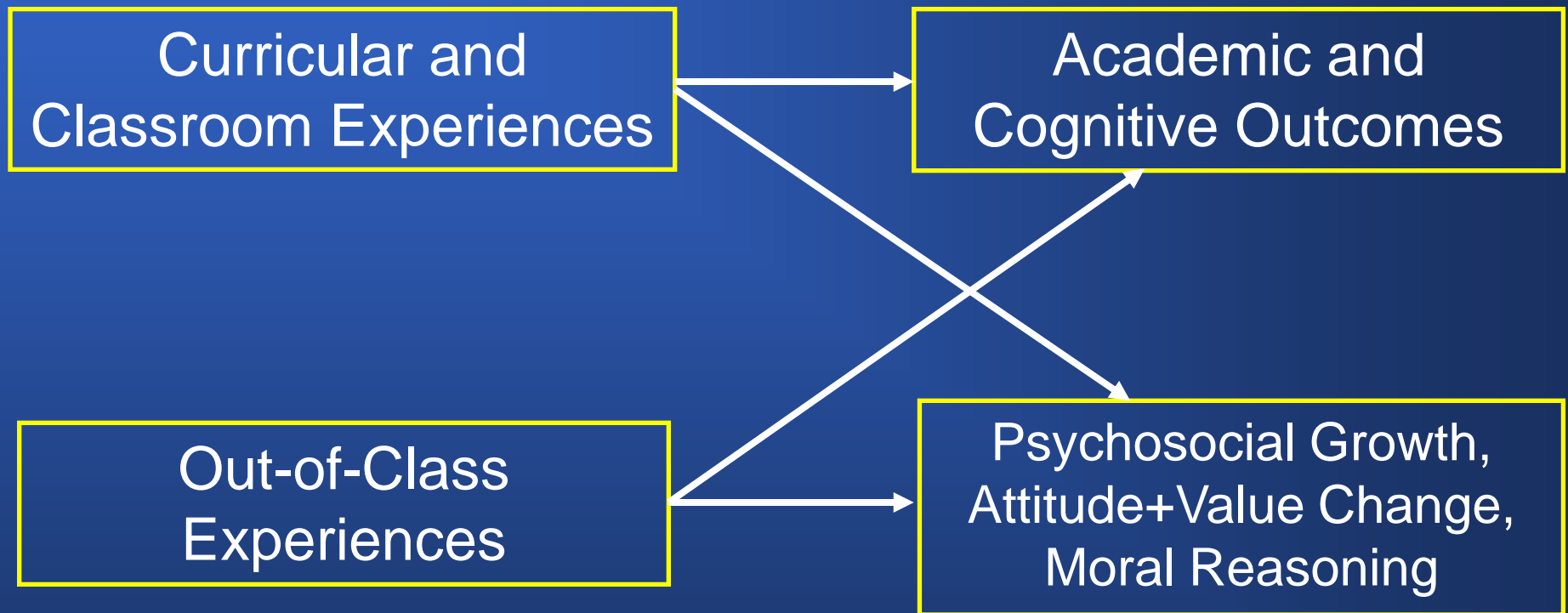
# A Modest Map

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# A Modest Map

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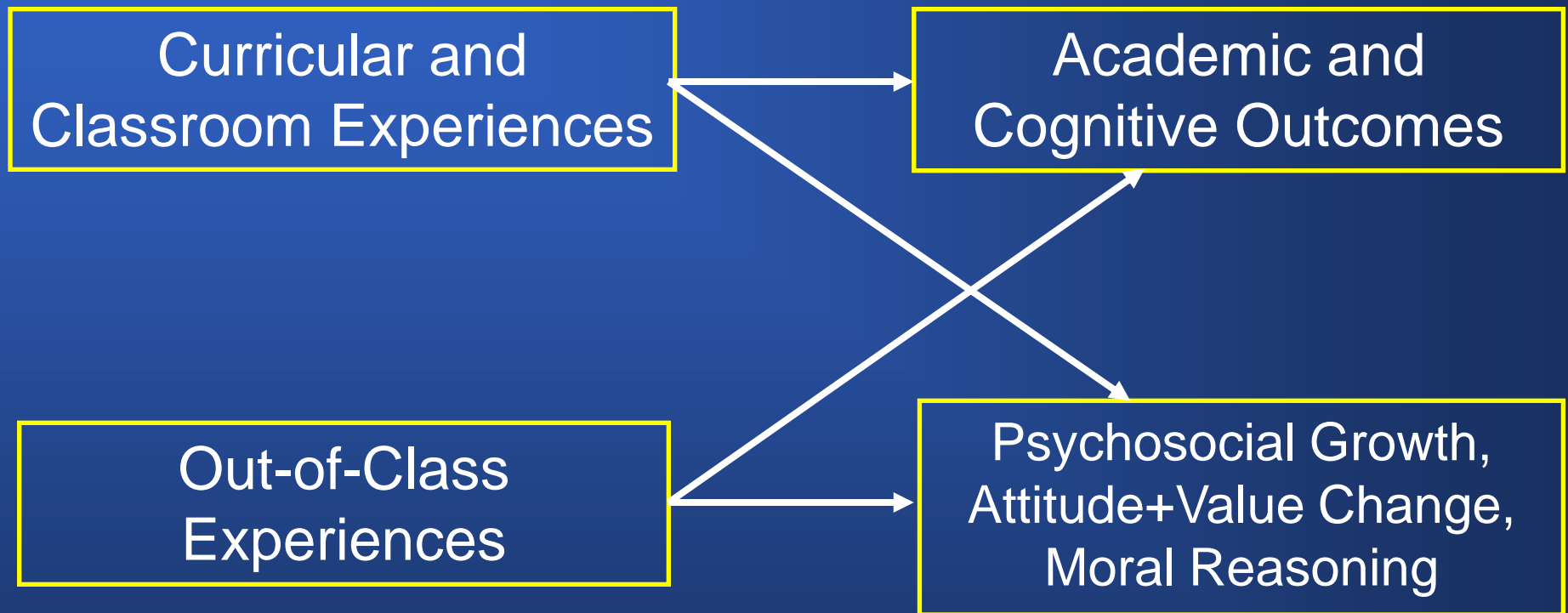
# Curricular and Classroom Effects on Changes in Psychosocial Dimensions, Attitudes and Values, and Moral Reasoning

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- Selected courses (e.g., women's studies, diversity and ethnic studies courses)
- Learning in multiracial-ethnic classrooms
- Service learning
- Environment within major department
- Membership in racial/ethnic organizations
- Active and collaborative teaching methods
- Study abroad

# A Modest Map

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# Learning Involves Interlaced Influences, Settings, and Outcomes

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- Multiple influences, operating in
- Multiple settings, affecting
- Multiple outcomes

# Characteristics of Experiences That Influence Student Learning

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1. Entail encounters with challenging ideas and people
2. Require active engagement with those challenges
3. Occur in a supportive environment
4. Emphasize meaningful, real-world activities
5. Involve relational, interpersonal activities
6. [Invite or promote reflection and analysis]

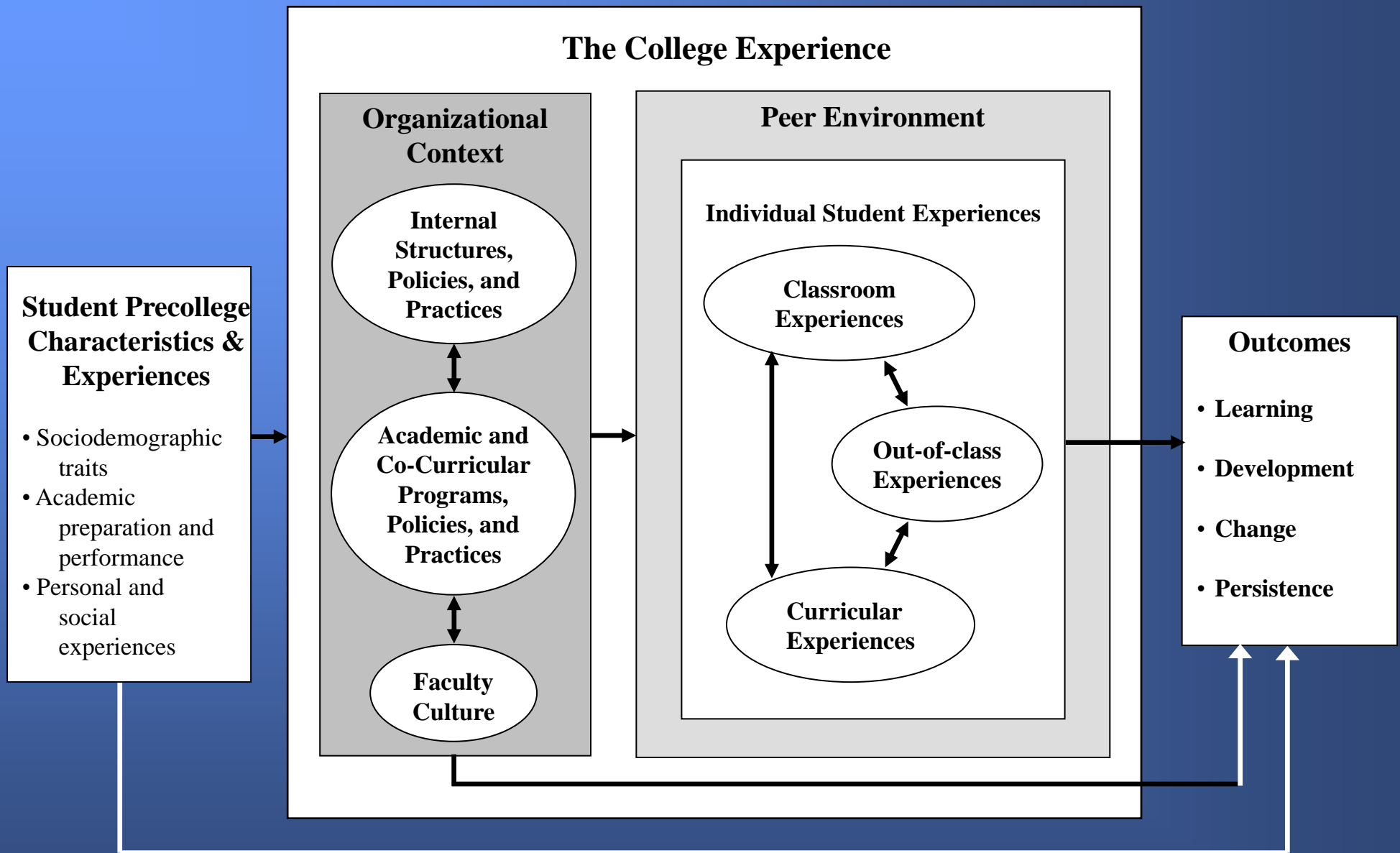
Virtually ALL student experiences that influence learning and change involve one or more of these characteristics.

And they are found virtually everywhere, unbounded by time or place.

# The Moral of the Story

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- ◆ *What* an institution, division, or unit does is less important to student learning and development than that *whatever* it does has one or more of the characteristics of effective learning experiences.
- ◆ “. . . there are many roads to becoming an educationally engaging institution.” (Kuh et al., 2005)



A comprehensive model of influences on student learning and persistence  
(Terenzini & Reason, 2005, 2010).

# Administrative & Programmatic Myopia

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## A Potentially Debilitating Focus on the Parts

- ◆ Operational concentration on “My Area/Unit”
- ◆ The search for “Best Practices”

# Implications for Practice & Policy

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1. Align what we do with what we know: Use the characteristics of effective learning experiences as touchstones for designing, developing, and evaluating programs, practices or policies.
2. Augment and complement student learning through students' out-of-class experiences as a source of significant influence on cognitive growth, as well as psychosocial development, persistence, and degree completion.
3. No silver bullets.
4. Think systemically and collaboratively.
5. Start early; re-think the first year

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