High-Impact Educational Practices as Promoting Student Retention and Success

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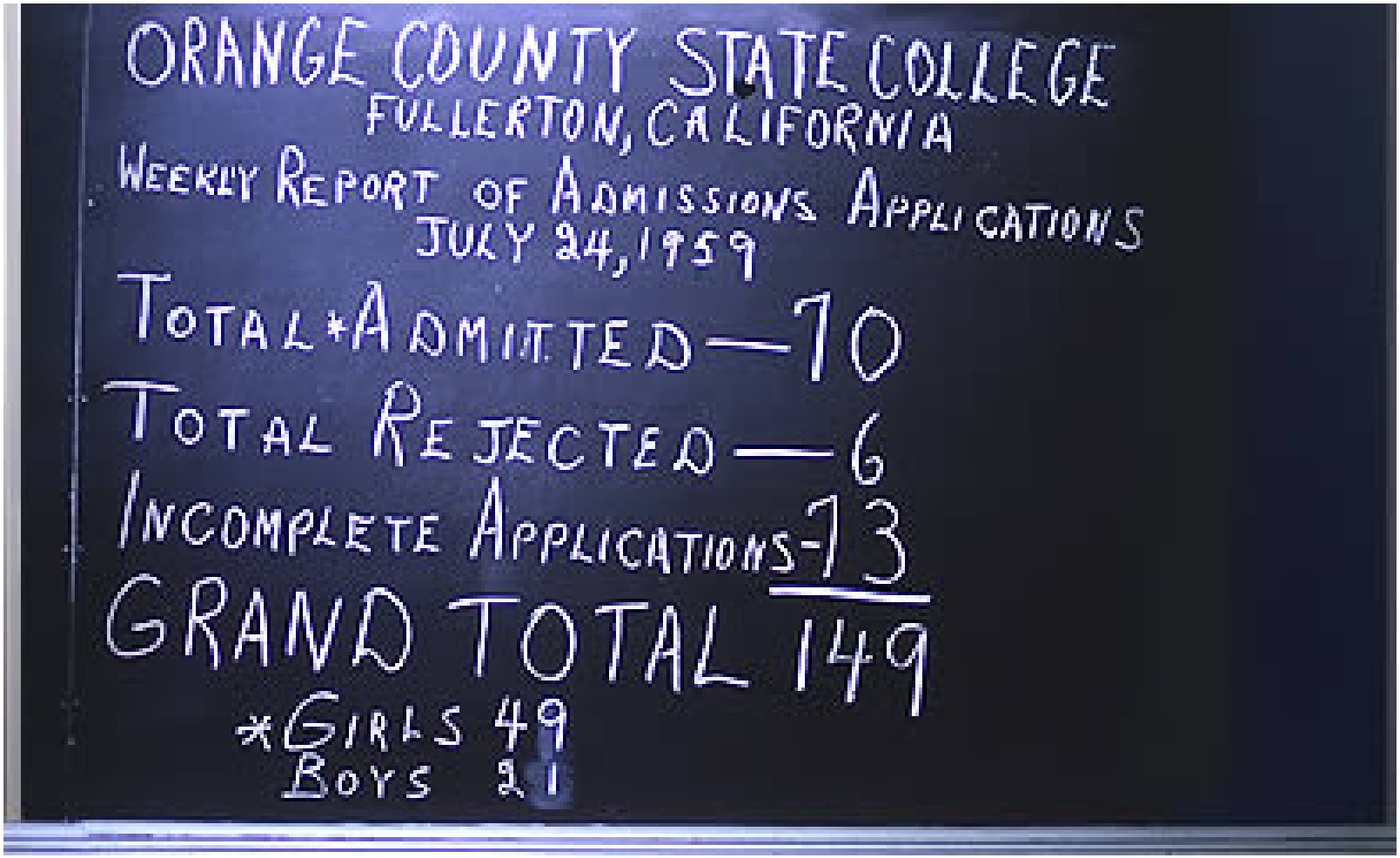
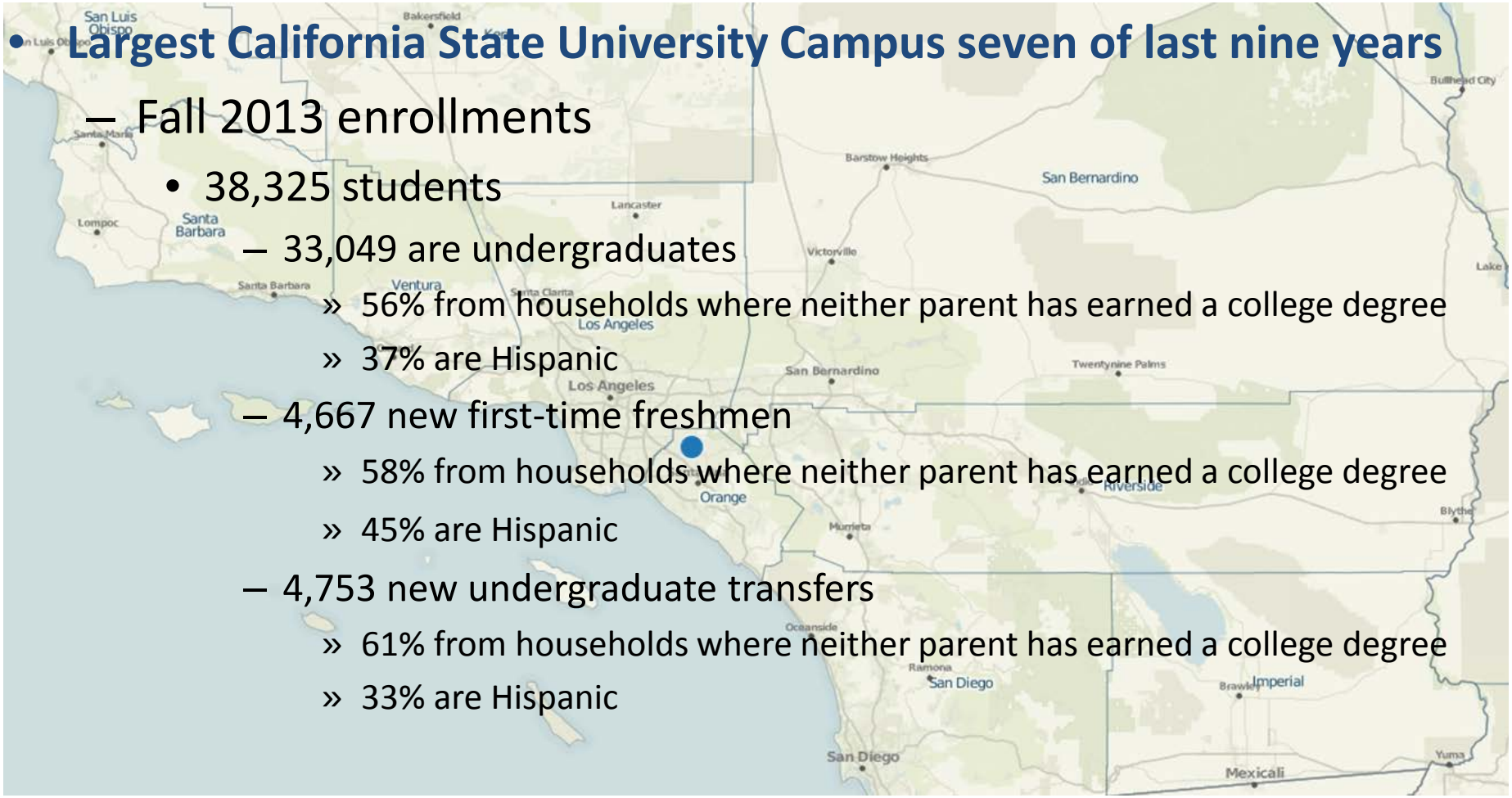


From Very Small to Very Large in Half a Century



- **Largest California State University Campus seven of last nine years**
  - Fall 2013 enrollments
    - 38,325 students
      - 33,049 are undergraduates
        - » 56% from households where neither parent has earned a college degree
        - » 37% are Hispanic
      - 4,667 new first-time freshmen
        - » 58% from households where neither parent has earned a college degree
        - » 45% are Hispanic
      - 4,753 new undergraduate transfers
        - » 61% from households where neither parent has earned a college degree
        - » 33% are Hispanic

Degrees Earned 2011-12

(Summer 2011 through Spring 2012)

CSU Fullerton Rank	Source: National Center for Education Statistics IPEDS Data Center (Data extracted – July 2013)		
	In CSU	**In CA**	**In USA**
Bachelor's Degrees Earned – (6,724)	**1**	**3**	**23**
Bachelor's Degrees Earned by Hispanic Students – (1,950)	**1**	**1**	**6**
Total Degrees Earned – (8,308)	**2**	**7**	**46**

In 2012-13, CSU Fullerton Students Earned 9,046 Degrees

- 7,474 bachelor's degrees earned
  - 52% were among the first generation of their families to earn a college degree
    - 74% of Hispanic students earning a bachelor's degree were among the firs generation of their families to earn a college degree
  - 37% of students earning bachelor's degrees initially entered as first-time freshmen

Retention and Graduation Rates

- One-Year Retention Rate Trend

Student Type at Entry / Cohort Inital Entry Semester

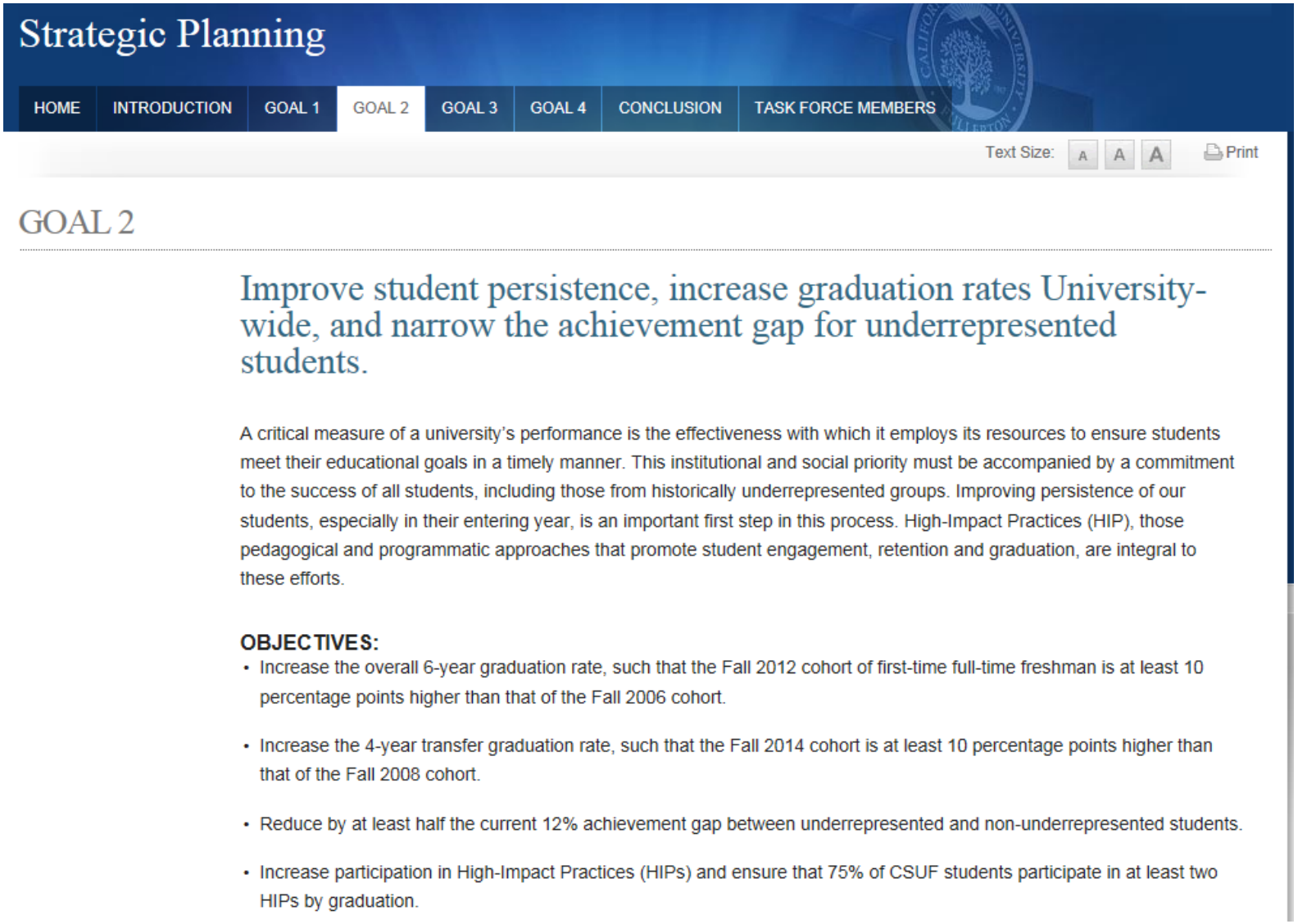
	First-Time Full-Time Freshman								
Ethnic-Race Grouping	Fa04	Fa05	Fa06	Fa07	Fa08	Fa09	Fa10	Fa11	Fa12
Non-Underrepresented	84%	78%	81%	81%	83%	86%	86%	89%	90%
Underrepresented	79%	77%	76%	77%	77%	81%	83%	88%	87%
Grand Total	82%	78%	79%	79%	80%	84%	85%	88%	89%

- Six-Year Graduation Rate Trend

Student Type at Entry / Cohort Inital Entry Semester

	First-Time Full-Time Freshman					
Ethnic-Race Grouping	Fa02	Fa03	Fa04	Fa05	Fa06	Fa07
Non-Underrepresented	52%	55%	55%	52%	56%	56%
Underrepresented	44%	45%	45%	46%	44%	49%
Grand Total	49%	52%	51%	50%	51%	53%

University Committment



What are High Impact Practices?

Excerpt from High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter, by George D. Kuh (AAC&U, 2008)

The following teaching and learning practices have been widely tested and have been shown to be beneficial for college students from many backgrounds. These practices take many different forms, depending on learner characteristics and on institutional priorities and contexts.

- **First-Year Seminars and Experiences**
- **Common Intellectual Experiences**
- **Learning Communities**
- **Writing-Intensive Courses**
- **Collaborative Assignments and Projects**
- **Undergraduate Research**
- **Diversity/Global Learning**
- **Service Learning, Community-Based Learning**
- **Internships**
- **Capstone Courses and Projects**

An overarching assumption is that the High Impact Practice is done well (with high quality).

Why are they important?

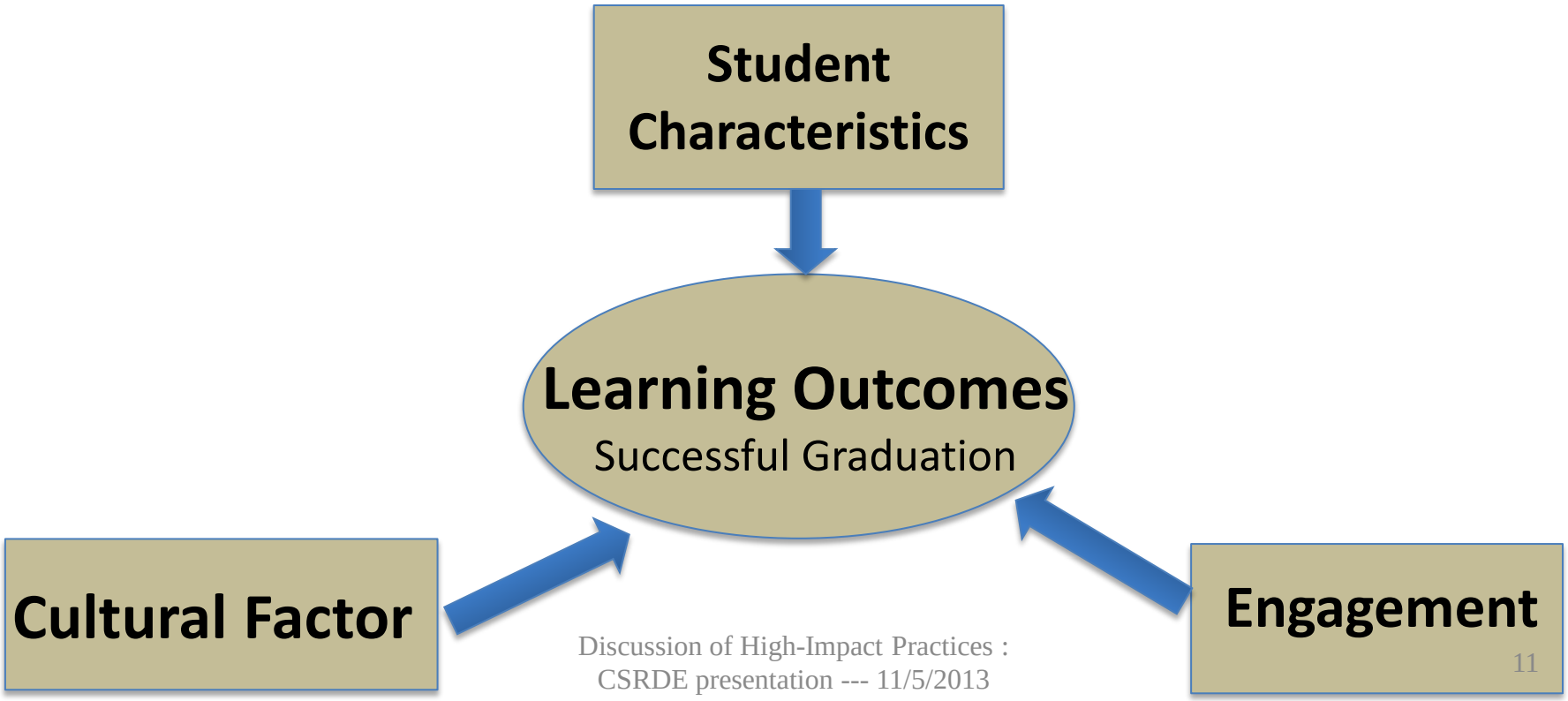
- If done well they augment the academic experiences of our students
- They provide opportunities to better connect with the subject matter and/or the university as a whole
- They provide opportunities for academic and social connections to evolve through collaborative experiences

Some CSU Fullerton Exemplars

- **Learning Communities**
  - Freshman Programs
  - ECS Scholars
- **Supplemental Instruction**
  - Math
  - Biology
- **Internships, Civic Engagement, Capstone Courses**

Quick thoughts on Retention / Graduation

- **Central Mission of Higher Education Institutions**
  - Higher Education Institutions are ultimately responsible for student retention (Tinto, 2002)
- **Astin's Theory of involvement, Tinto's Integration Model, Pascarella's Causal Model of College Student Change**
- **Link between retention theory & practice?**



Closing the Gap : HIPS (High Impact Practices)

- Deepen Engagement & learning Kuh (2008)

- Culturally-Responsive Practices

- **First-year seminars and experiences ***
- **Common intellectual experiences ***
- **Learning communities ***
- **Collaborative assignments and projects ***
- **Diversity/global learning ***

- **Collaborative Learning Approach**
  - 1) Learning Community , 2) Supplemental Instruction
  - Maximizing College Impact on Learning Outcomes
  - Culturally-Responsive <===> Collectivistic Culture

Closing the Gap : HIPS (High Impact Practices)
Culturally-Responsive Practices

- **Research on Collaborative Learning**
  - **Collectivistic Culture**
    - Focus on valuing needs of group or family instead of individuals
    - View themselves as members of groups
  - **Collaborative Learning in early research**
    - (1) Achievement gains for all (race, gender)
    - (2) Social Climate in the classroom
  - **Underrepresented students**
    - Collaboratively-Oriented learning preferences
  - **Vygotsky's Zone of Proximal Development**
    - Closing the gap between low achievers and high achievers

What We Have Found

* Learning Community

- Students build academic and social cohesion
- Collaborative pedagogy, active learning, mutual responsibility for group (Tinto, 2008)
- Maximize college impact (Kuh, 2008)

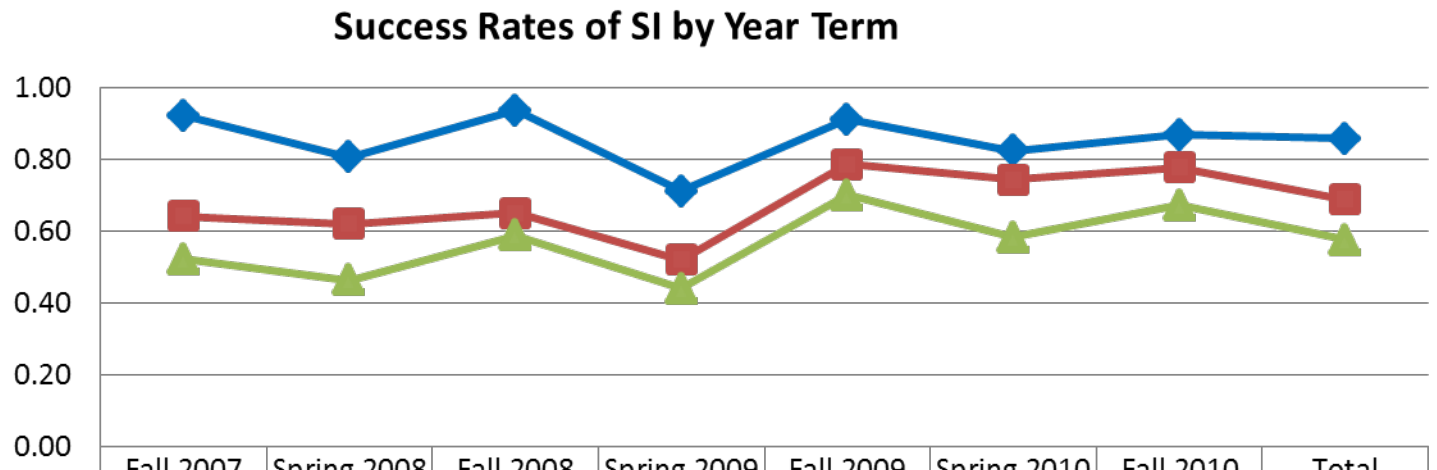
* Supplemental Instruction

- Peer-facilitated review session in a collaborative group learning setting
- Integrated support programs (Tinto, 2008)

Closing the Gap

Supplemental Instruction (SI) in BIOL 171

- **Dependent Variables**
  - **Success Rates (*Logistic Regression*)**
- **Independent Variables - SI, Previous GPA, UR, SI x UR**



	Fall 2007	Spring 2008	Fall 2008	Spring 2009	Fall 2009	Spring 2010	Fall 2010	Total
Participant	0.92	0.80	0.94	0.71	0.91	0.82	0.87	0.86
Total	0.64	0.62	0.65	0.52	0.79	0.74	0.78	0.69
Non-Participant	0.52	0.46	0.59	0.44	0.70	0.58	0.67	0.57

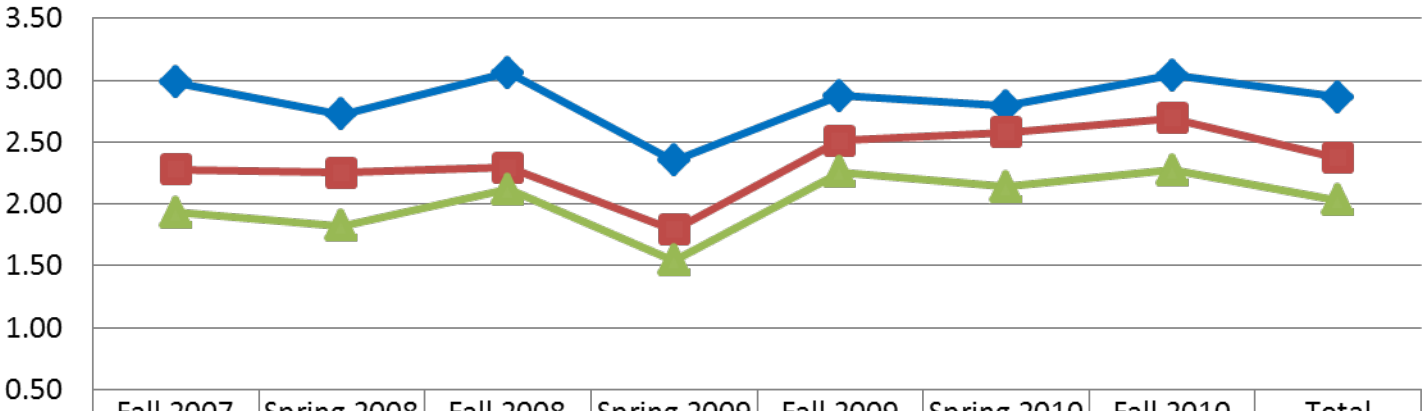
Closing the Gap

Supplemental Instruction (SI) in BIOL 171

- **Dependent Variables**
  - **Course Grade (ANCOVA) with covariate *Previous GPA***
- **Independent Variables - SI, UR, SI x UR**

Course Grade of SI Participants by Year Term

(4.0: A, 3.0: B, 2.0: C, 1.0:D, 0:F)



	Fall 2007	Spring 2008	Fall 2008	Spring 2009	Fall 2009	Spring 2010	Fall 2010	Total
Participant	2.98	2.73	3.06	2.35	2.87	2.79	3.04	2.86
Total	2.28	2.25	2.29	1.79	2.51	2.58	2.69	2.37
Non-Participant	1.93	1.82	2.12	1.54	2.26	2.14	2.27	2.03

Closing the Gap

Supplemental Instruction (SI) in BIOL 171

DV: Course Success Rates -- Logistic Regression

DV: Course Grade -- ANCOVA

Effects	Success Rates	Course Grade
Previous GPA	*	*
SI participation	*	*
Underrepresented/Non-Underrepresented	*	*
SI participation X Underrepresented/Non-Underrepresented		*

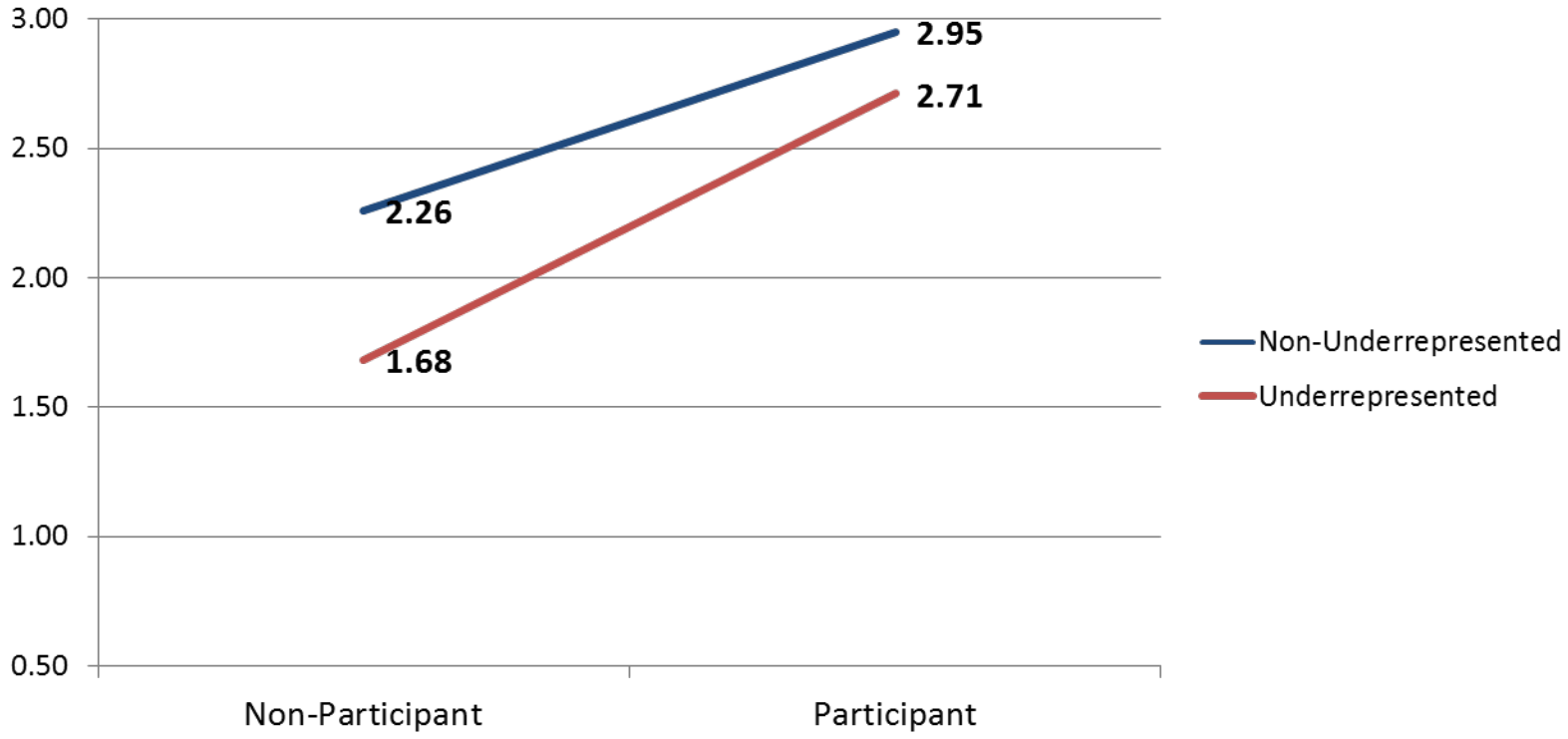
** P < .05*

Closing the Gap

Supplemental Instruction (SI) in BIOL 171

- **Dependent Variables**
  - **Course Grade (ANCOVA) with covariate *Previous GPA***

***Interaction Effects* between**
SI Participation x Underrepresented/Non-Underrepresented



Closing the Gap

Freshman Program (FP) - Learning Community

1-year Retention, 2-Year Retention, & 6-year Graduation GPA

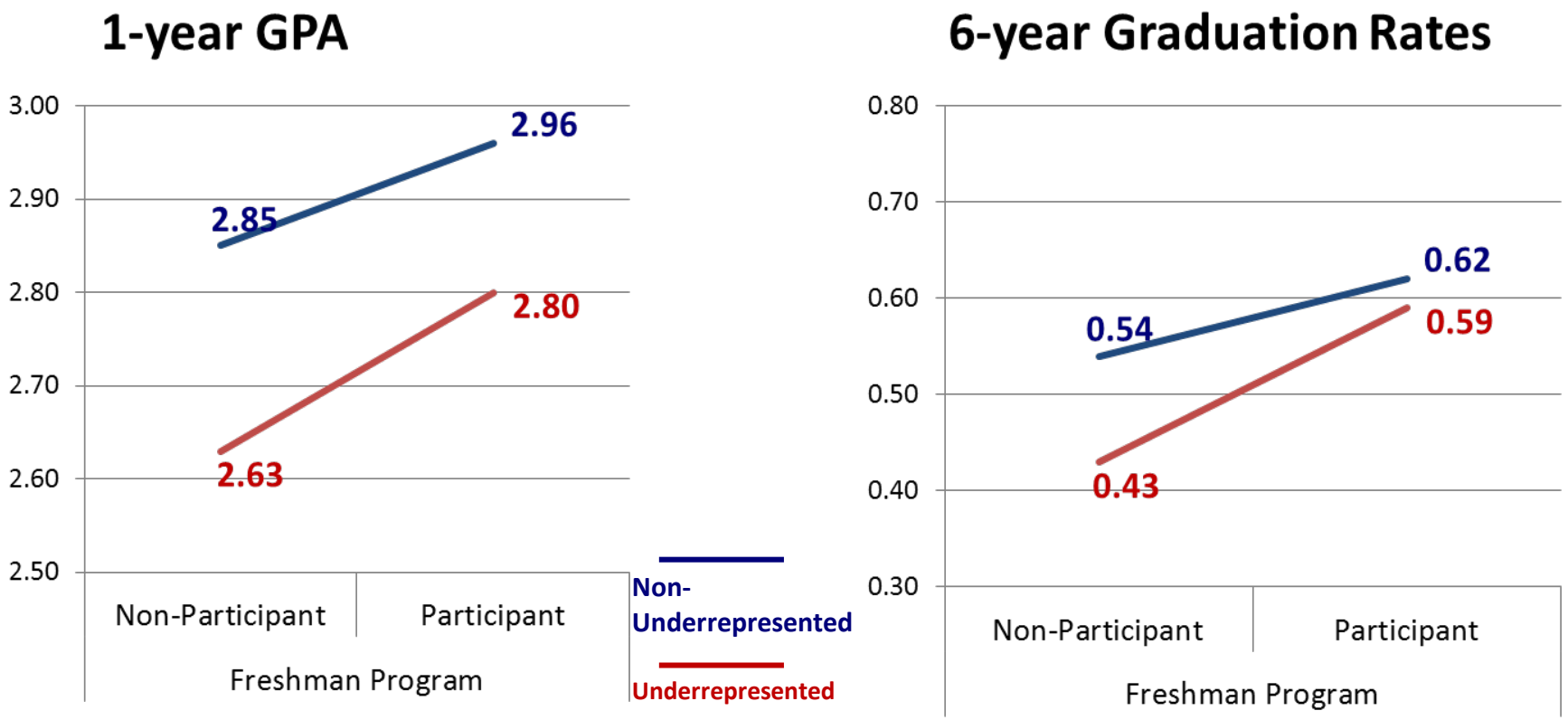
Effects	1-year		2-year		6-year	
	Retention Rates	GPA	Retention Rates	GPA	Graduation Rates	GPA
High School GPA	*	*	*	*	*	*
Parent Education	*	*	*	*	*	*
Freshmen Program	*	*	*	*	*	*
Underrepresented/Non-Underrepresented	*	*	*	*	*	*
Freshmen Program x Underrepresented/Non-Underrepresented		*		*	*	

** P < .05*

Closing the Gap

Freshman Program (FP) - Learning Community

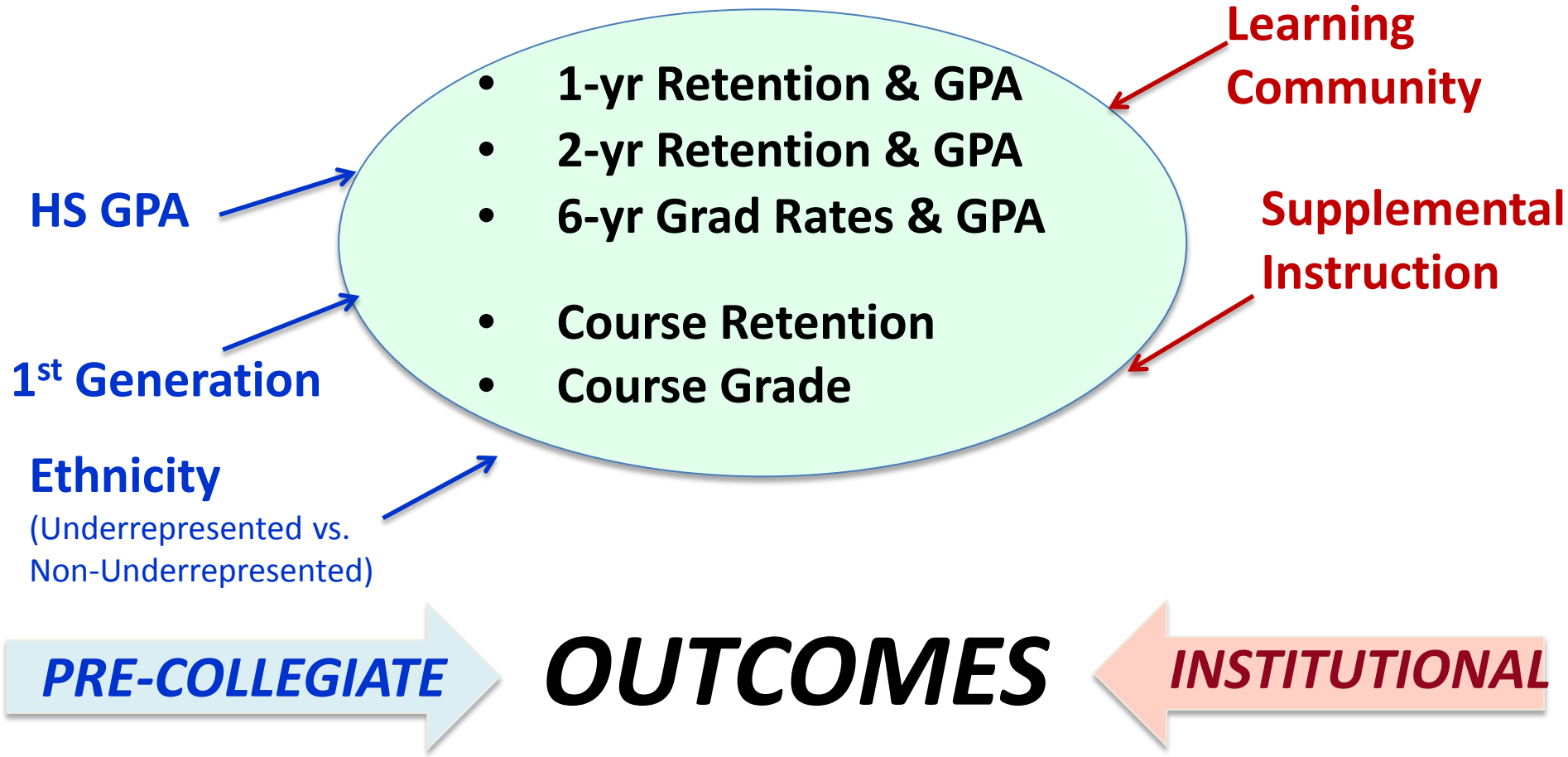
Interaction Effects between
FP Participation x Underrepresented/Non-Underrepresented



Conclusion

Collaborative Learning Approaches

→ High Impact Practices as Culturally-Responsive Strategy



Conclusion

We have observed the positive effects of Collaborative Learning Approaches of High Impact Practices Enhancing Student Success (retention/graduation/GPA)

- **Freshmen Program (Program Level)**
  - HS GPA, UR, Parent Education, FP participation
  - Interaction Effects of UR & FP -- more effective for UR
    - 1-yr GPA, 2-yr GPA, 6-yr Graduation Rates
- **Supplemental Instruction (Course Level)**
  - SI participation, Previous GPA, UR
  - Interaction Effects of UR & SI -- more effective for UR
    - Course Grade

Conclusion

Collaborative Learning Approaches
-- High Impact Practices as Culturally-Responsive Strategy

Supplemental Instruction, Freshman Program

- **Raised Achievement for All**
- **Narrowed Achievement Gap between Underrepresented and Non-Underrepresented**

Next Steps for our Institutional Research Efforts

- **Cognitive Learning Outcomes (college variable)**
  - **Supplemental Instruction Enhancing Student Success in STEM Courses**
  - **Learning Community Improving Retention/Graduation/GPA**

- **Affective Learning Outcomes (college variable)**
  - **Values, attitudes, satisfaction w/college, educational experience**
  - **NSSE survey data for those who persisted and graduated**

Implications

- **Collaboration of campus constituencies**
  - Leadership, faculty, staff, student, parents
  - Academic affairs & student affairs
- **Role of faculty development**
  - "*What faculty think and value makes a difference* with regard to the likelihood that students will participate in educationally effective practices" (Kuh, 2009b, p. 690)
- **Connection between student cultural characteristics & policy**

University Commitment

- University secured just under half a million dollars from CSU Chancellor's Office in baseline funding to support and expand supplemental instruction

- University is discussing expansion of Freshman Programs efforts through use of freshman interest groups

- University Student Academic Life Committee regularly reviews NSSE findings and college level plans to increase student engagement

Questions?

- Presentation available on our website at:

  www.fullerton.edu/analyticalstudies/planning/avp.html

Appendix A. Supplemental Instruction

Logistic Regression: Analysis Model of Success Rates

Effects	Coefficient (B)	Wald χ^2	P	Odds ratio
Previous GPA	.880	27.187	.000*	2.411
SI Participation	1.399	41.171	.000*	4.051
Underrepresented/Non-Underrepresented	-.704	18.000	.000*	.495
SI Participation by Underrepresented/Non-Underrepresented	.101	.096	.757*	1.106

** P < .05*

Appendix B. Supplemental Instruction

Two-way (SI Participation X Underrepresented/Non-Underrepresented) Analysis of Covariance on Course Grades

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Previous GPA	84.492	1	84.492	71.043	.000*
Participation	147.476	1	147.476	124.002	.000*
Underrepresented/Non-Underrepresented	39.481	1	39.481	33.197	.000*
Participation * Underrepresented/Non-Underrepresented	5.672	1	5.672	4.769	.029*
Corrected Total	1536.609	1034			
a. R Squared = .194 (Adjusted R Squared = .200)					

** P < .05*

Appendix C. Freshman Program

Logistic Regression: Analysis Model of Retention & Graduation Rates

Effects	1-year				2-year				6-year			
	B	Wald χ^2	p	odds ratio	B	Wald χ^2	p	odds ratio	B	Wald χ^2	p	odds ratio
High School GPA	.86	429.49	.000*	2.36	.82	505.47	.000*	2.26	1.1	480.46	.000*	2.86
Parent Education	.11	25.98	.000*	1.11	.08	20.58	.000*	1.09	.14	30.77	.000*	1.15
Freshmen Program	.22	8.71	.003*	1.25	.28	19.18	.000*	1.33	.32	17.78	.000*	1.38
Underrepresented/Non-Underrepresented	-.22	40.05	.000*	.80	-.19	36.16	.000*	.83	-.31	56.41	.000*	.733
Freshmen Program x Underrepresented/Non-Underrepresented	.19	3.21	.073	1.21	.11	1.46	.227	1.12	.24	4.18	.041*	1.28

** P < .05*

Appendix D. Freshman Program

Two-way (SI Participation X Underrepresented/Non-Underrepresented) Analysis of Covariance on 1-yr, 2-yr GPA, & 6-yr graduation GPA

Effects	1-year		2-year		6-year	
	F ratio	p	F ratio	p	F ratio	p
High School GPA	5115.585	.000*	4970.041	.000*	1388.785	.000*
Parent Education	204.828	.000*	183.252	.000*	64.611	.000*
Freshmen Program	120.228	.000*	42.930	.000*	21.060	.000*
Underrepresented/Non-Underrepresented	115.274	.000*	122.944	.000*	9.651	.002*
Freshmen Program x Underrepresented/Non-Underrepresented	5.747	.017*	4.073	.044*	2.025	.155

** P < .05*