



Documenting the Academic Impact of Study Abroad: Results from the GLOSSARI Project

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Significance of Study Abroad in Higher Education

- 200,000+ U.S. students currently go abroad each year
- About 8% of all UG degree recipients have part of their education abroad
- Students can earn up to one-fourth of their academic degree from overseas study

- Study abroad participation among all U.S. students increased 20% since 2001.
- Georgia participation tripled within 10 years (1998-2008)
- New federal funding initiatives to increase study abroad



- Strong research efforts to assess second language acquisition learning outcomes from study abroad
- Some very good studies on documenting gains in intercultural sensitivity and personal growth
- Limited attention paid to knowledge and skills acquired abroad
- Increased public scrutiny of SA investment requires rigorous investigation of learning outcomes attributable to intentional design of programs



Assessments of student learning on study abroad programs

Assessments of "global competence" for accreditation (IEPs)

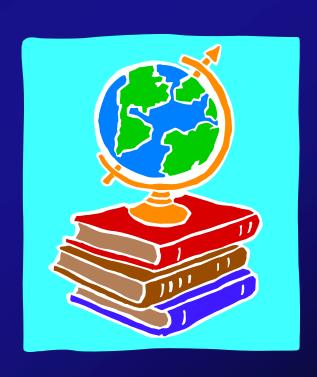
NAFSA Task Force on Assessment



- Consumers: Students & parents
- Institutional Leadership: Presidents, provosts, deans
- Program directors & administrators
- Skeptics and critics



- GEORGIA
- **LEARNING**
- Outcomes of
- **S**TUDENTS
- **S**TUDYING
- ABROAD
- Research
- INITIATIVE





- Large, diverse public higher education system
- 283,000 students at 35 institutions
- 4 research universities, 15 comprehensives (including 3 HBCUs), 16 two-year/four-year schools
- 425+ study abroad programs of all types (exchange/immersion, faculty-led, short-term, etc.)
- System-level International Education Office (until 2009)
- System-level Institutional Research (IR) Office
- Regents strategic mandate to increase study abroad since 1995
- Began detailed data collection on USG students abroad in 1999
- Began GLOSSARI research project in 2000

Pretty good laboratory for conducting research on student learning & study abroad

Federal Grant Support to Accelerate the GLOSSARI Research Project

- GLOSSARI project began in 2000-01 with modest internal funding
- U.S. Department of Education: International Research & Studies Program Grant for 2006-2010
- GLOSSARI research team headed by Prof. Don Rubin (University of Georgia)
- Six components examine discipline-specific and cross-disciplinary learning outcomes

The GLOSSARI project acknowledges the support of the University System of Georgia and a U.S. Department of Education International Research and Studies Program Grant.



- ✓ Identify cognitive learning outcomes attributable to
 - diverse study abroad experiences
 - for students at a wide variety of public institutions
- ✓ Identify impact on <u>academic performance indicators</u>
- ✓ Identify impact of study abroad on <u>core liberal arts aspirations</u> (critical thinking, leadership, adaptability, etc.)
- ✓ Identify <u>program characteristics</u> that optimize learning outcomes to guide future program development
- ✓ Identify <u>student characteristics</u> that predict
 - likely participants
 - successful participants
- Refine, replicate, and disseminate methods for assessing the impact of study abroad on student learning outcomes.

A preview of what we've learned so far....

Study abroad <u>can</u> produce:

- ✓ Better navigational skills & knowledge of cultural context
- ✓ Improved academic performance upon return
- ✓ Higher graduation rates (esp. for at-risk students)

But the results are not axiomatic and the findings are not absolute.





The Six Phases of GLOSSARI

Phase I: Learning Outcomes of SA Participants & Non-Participants

Phase II: Pre- and Post-participation Learning Outcomes with multiple measures

Phase III: Teaching the same course content abroad & at home

Phase IV: Academic performance measures among SA participants and non-participants

Phase V: Program design features that make a difference

Phase VI: Impact 2- to 5-year post-graduation

Phase I: Learning Outcomes of SA Participants & Non-Participants

Challenge: How to assess generic learning outcomes across multiple study abroad programs?

- Available survey/test instruments did not measure knowledge acquisition, more focus on attitudinal/behavioral change
- Created new self-report survey (Intercultural Learning Outcomes—ILO) based on model by A. F. Fantini (SIT)
- 29 questions predominantly "I know how to.."

Phase I data collected at 13 diverse institutions within University System of Georgia

- U of GA; Ga Tech; Ga Southern U; Valdosta State U; Kennesaw State U; GA College & State U; U of West Ga; Armstrong Atlantic State U; Columbus State U; Gainesville State Coll; GA Perimeter Coll; Ga State U; Savannah State U
- Includes Research I's, HBCU's, Regionals, 4-years, and 2-years

Phase I: Learning Outcomes of SA Participants & Non-Participants

Self-reported learning outcomes (ILO)

- Total of 4 waves in current data set
 - N=1065 (pretests)
 - N=755 (posttests)
 - N=115 (all SA pretests)
 - N=96 (all SA posttests)
- Domestic (non-study abroad) comparison groups selected to match institution and class standing (and in some cases major)
- More rigorous control of test timing (within 2 week window) and other variables to reduce internal & external threats to validity



- Factor analysis conducted through all administrations of ILO—interpretable "simplex" solution sought
- Seven original factors (six interpretable) reduced to five
- 29 of 32 original questions consistently load in all administrations
- Construct validity and internal consistency reliability supported

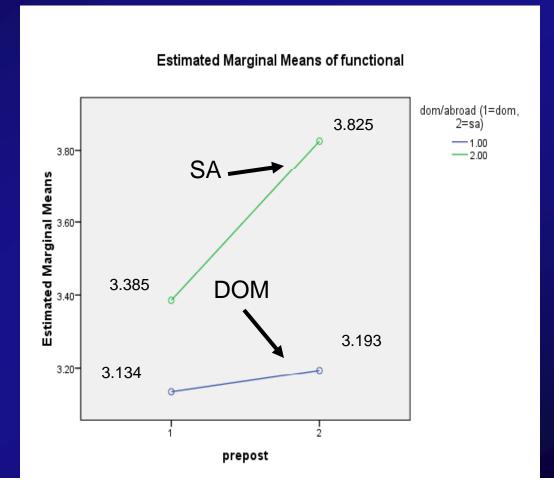


- Knows how to compare and contrast culture
- Knows norms and taboos
- Knows how to locate information in a newspaper
- Knows how to buy toothpaste and can opener
- Knows how to give coherent directions
- Knows how to talk way out of tough situation

ILO Factor 1: Functional Knowledge of Cultural Practices (continued)

- Knows different ways to express ideas
- Knows what's funny
- Knows how to take a train or a bus to reach a destination
- Knows how to use a public telephone
- Can locate safe clubs or bars
- Knows how to pacify an angry person

Finding: There is a significant increment in functional knowledge among study abroad students but not among the control group.

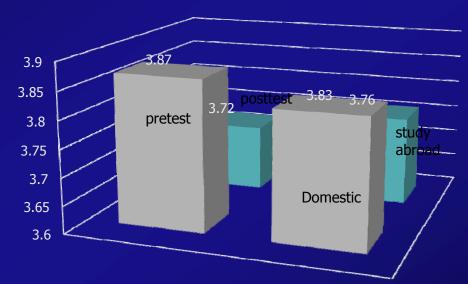


Learning Outcomes Factor 2: Knowledge of World Geography (5 questions)

- Can name six countries in Africa
- Can name capitals of four countries in South America
- Can name four rivers in Europe
- Can name three rivers in Asia
- Can name seven continents

Finding: Reported knowledge of world geography <u>decreases</u> across time for study abroad and control group students alike.

Knowledge of Geography



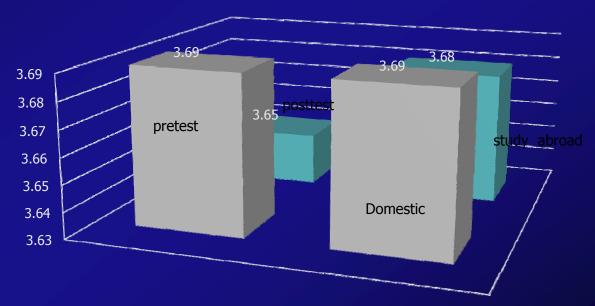
There is no significant difference between study abroad and domestic students. Both report a decline in knowledge of world geography

ILO Factor 3: Knowledge of Global Interdependence (5 questions)

- Understands how freedoms in U.S. compare with those in other nations
- Can explain presence of U.S.troops abroad
- Can explain aspects of U.S. foreign policy
- Understands how foreign markets might affect one's own career
- Understands how foreign manufacturing affects pricing in U.S.

Finding: There is no significant difference in knowledge of global interdependence between study abroad and control group students, either at pre-test or post-test.

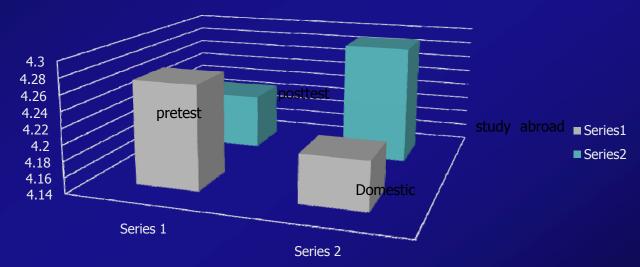
Knowledge of Global Interdependence



ILO Factor 4: Knowledge of Intercultural Accommodation (2 questions)

- Knows importance of flexibility in communicating with people from other nations
- Knows importance of patience in communicating with people from other nations

Finding: Irrespective of time of testing, study abroad students exceed the control group on knowledge of interpersonal accommodation Knowledge of Interpersonal Accommodation

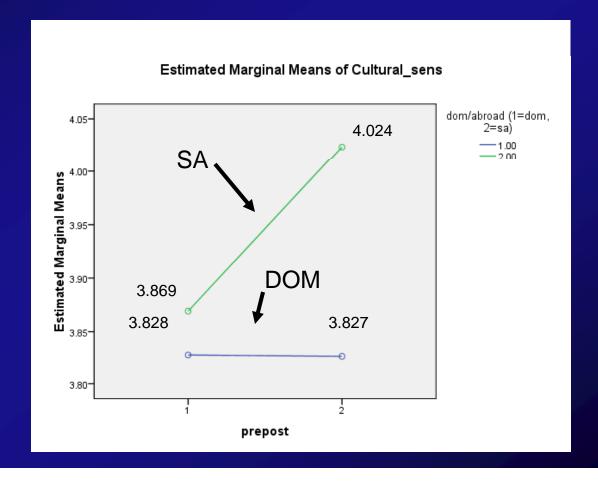


The greater knowledge of interpersonal accommodation by study abroad students is <u>not</u> attributable to studying abroad.

Learning Outcomes Factor 5: Knowledge of Cultural Context (3 questions)

- Knows how different settings affect one's own style of interacting
- Understands significance of language and culture differences
- Knows how cultural settings affect one's own reactions and interactions to others

Finding: Students who studied abroad grew in knowledge of cultural context; control group students were static.





- Focus groups with SA program directors
 - Yielded only minor changes in wording
- New administrations of ILO
 - 5 factor structure remains intact
 - Reliabilities of the 5 scales remain consistent (alpha ranges .67-.88)



Phase I Replication

- Replication study of ILO currently underway at San Diego State University
- SDSU building an important SA learning outcomes assessment process.



SAN DIEGO STATE UNIVERSITY

Minds that move the world



Phase II: Assessing Learning Outcomes of Study Abroad Students with Multiple Measures

- Lots of confusion among international educators about which instrument(s) to use in study abroad assessment
- Key finding of Phase II emphasizes critical primary importance of <u>what</u> you want to assess; choice of instrument flows from that.



- How do different measures commonly used in study abroad assessment correlate with each other?
- How do sub-measures within each instrument correlate with each other?
- How do SA assessment instruments (IDI, CCAI, ILO) correlate to other instruments (IST, CCTST) that seek to measure related skills/knowledge/attitudes?

Phase II: Concurrent Validity Studies

- a) Association between self-reported knowledge (ILO) and tested knowledge (IST)
- b) Correlations with other testing instruments
 100 study abroad students take 4 concurrent
 assessments at both pre-test and post-test
 - 1. Intercultural Learning Outcomes (ILO)
 - 2. Intercultural Development Inventory (IDI)
 - 3. Cross-Cultural Adaptability Inventory (CCAI)
 - 4. California Critical Thinking Skills Test (CCTST)

Comparison of Self-Reported Knowledge (ILO) and Tested Knowledge (IST)

- Cross-tabulating IST# correct or detail of response with ILO degree of certainty (all p-values significant)
 - Military concern in North Korea
 - X^2 (8df)=27 [pretest]; X^2 (8df)=86 [posttest]
 - Effects of world markets on career
 - X² (8df)=19 [pretest]; X² (8df)=46 [posttest]
 - Can tell joke
 - X^2 (8df)=5.0 [pretest]; X^2 (8df)=68 [posttest]
 - 4 European rivers
 - $X^2(16df)=42$ [pretest]; $X^2(16df)=229$ [posttest]
 - 4 South American capitals
 - $X^2(16df)=54$ [pretest]; $X^2(16df)=214$ [posttest]
 - 6 African nations
 - X² (24df)=59 [pretest]; X² (24df)=229 [posttest]

ILO vs. IST Findings:

Students' self-reported knowledge levels on the ILO are consistent with their demonstrated knowledge on IST

Correlations are stronger at post-test (perhaps an attribute of reflection)

Correlations of ILO dimensions with measures of critical thinking, x-cultural sensitivity, and x-cultural development—Pre-test Correlations

- IDI was weakly correlated (r=.23) with the CCAI Perceptual Acuity scale.
- CCTST was very weakly correlated (r=.15) with Knowledge of Cultural Context from the ILO.
- Functional Knowledge (ILO) was weakly correlated (app r= .30) with the all CCAI scales except Personal Autonomy.
- Knowledge of Global Interdependence (ILO) was weakly correlated (app r=.25) with all four CCAI scales.
- Knowledge of Interpersonal Accommodation (ILO) was weakly correlated (app r=.30) with all four CCAI scales.
- Knowledge of Cultural Context (ILO) was weakly correlated (app r= .25) with CCAI Perceptual Acuity and CCAI Flexibility/Openness
- Knowledge of World Geography was uncorrelated with other measures at pretest

Correlations of ILO dimensions with measures of critical thinking, x-cultural sensitivity, and x-cultural development —Post-test Correlations

- In general correlations among the different scales were stronger at post-test.
- At post-test, IDI was moderately correlated with CCTST (r=.42) and weakly but negatively correlated with ILO knowledge of interpersonal accommodation (r=-.23).
- CCTST was weakly correlated with ILO Knowledge of Global Interdependence (r=.27)
- Knowledge of World Geography (ILO) was weakly associated (r=.24) with CCAI Flexibility/Openness.
- ILO Functional Knowledge was weakly correlated (app r=.33) with all four CCAI scales.
- ILO Knowledge of Global Interdependence was weakly correlated (app r=.21) with all CCAI scales except Flexibility/Openness
- ILO Knowledge of Interpersonal Accommodation was moderately correlated with 3 of 4 CCAI scales (app r=.46) and weakly correlated with the fourth (r=.26)
- ILO Knowledge of Cultural Context was weakly correlated with 3 of the CCAI scales (app r=..27) and moderately correlated with the fourth—Perceptual Acuity (r=.42).

Choosing the "right" assessment instrument depends on the outcomes you wish to measure

- ILO, IDI, and CCAI are <u>not</u> interchangeable.
- These cross-cultural study abroad assessment instruments do not correlate well with CCTST.
- Still verifying whether there is comparable progress (pre- to post-test) on these measures independently.

Questions/Comments on Phase II?

Phase III: Teaching the same course content abroad & at home

- 3 courses taught on-campus and abroad (faculty-led programs; had expected 20)
 - Novels of Jane Austen (Oxford SA n = 11; DOM n = 15)
 - French Revolution & Napoleon (Paris SA n=15; DOM n =11)
 - Intercultural Communication (Paris SA n=11; DOM n=36)
- Analyze student learning artifacts (exams, papers, projects, journals, etc.) from both environments by independent evaluators
- Qualitative complement to quantitative data—what is the value added to student learning by teaching a course abroad vs. at home?

Phase III: Teaching the same course content abroad & at home

- Case 1: The Novels of Jane Austen
- Finding: Disciplinary learning in DOM class exceeded that from SA class.
 - Assignments included midterm and final literary analyses plus group project that was a multimedia adaptation of a scene based on a novel.
 - Average final grades (independent raters): Dom = 3.39; SA=3.09
 - External expert raters: "In Class One [DOM], I saw more answers that demonstrated a deeper understanding, not just of Austen's body of work, but also of the political and social climate during the time of her writing."

Phase III: Teaching the same course content abroad & at home-2

- Case 2: French Revolution and Napoleon
- Finding: For integrative understanding SA>DOM, but for discrete factual knowledge, Dom>SA
 - Assignments included midterm and final essay exams, journals (SA) and group role play (DOM)
 - Average final grades (independent raters): Dom=3.08; SA=3.18
 - External expert raters: "Through interviewing multiple French people on the legacies of the Revolution in France, the [SA] students appear to have acquired a good understanding of how varied the responses can be, both from positive to negative, and from passionate to indifferent."
 - External expert raters: "). I also was generally unimpressed with ... the exams, where the [SA] students generally settled for vague platitudes regarding the death of the king.

Phase III: Teaching the same course content abroad & at home-3

- Case 3: Intercultural Communication
- Finding: For applied understanding SA>DOM, but for knowledge of theory, Dom>SA
 - Average final grades (independent raters): DOM=79; SA=83
 - Assignments included midterm and final essay exams, journals (SA) and group in-depth projects (DOM)
 - Average final grades (independent raters): Dom=3.08; SA=3.18
 - External expert raters: "What this led to was a better grasp of theory but a poorer ability to conceptualize its usefulness in day-to-day life.
 - I believe that overall Class 2 [DOM] learned the basic theory and its tenets more thoroughly than Class 1 [SA], but Class 1 was able to better conceptualize the messiness of intercultural interactions and the true differences (and similarities) that exist across cultures in a more realistic manner (due to immersion).



- Hard to generalize from 3 case studies, but...
 - Students may acquire more "fact detail" from domestic courses than from study abroad
 - Students may acquire more knowledge of theory from domestic courses
 - Students may acquire better "applied knowledge" from studying abroad
 - Students abroad may acquire better context of realism in interpreting and demonstrating course knowledge

Questions/Comments on Phase III?

Phase IV: Academic performance measures (graduation and persistence rates, GPA)

Takes advantage of USG's unique ability to merge OIE study abroad databases with System-wide student records databases

OIE Databases Provides:

- 31,000 individual study abroad records (location, duration, class level & major at time of SA, etc.) from 35 USG institutions
- Program catalog database

USG Databases provide:

- Age, gender, race, etc.
- Matriculation/graduation
- High school GPA, SAT
- USG semester GPA
- Transfers w/in USG



- FT/FT Freshmen have less than 1-in-2 chance of graduating in six years
- FT/FT Freshmen who study abroad during college careers attain graduation rate of 88.7%

Challenge: How to control for potential bias of self-selection in determining effect of study abroad on student academic achievement?



- 19,109 usable unique student records in study abroad database (from 31,133 total)
- Drew random sample of 10% of students from USG system.
- For each subgroup of institution, semester, and class standing, the comparison group drew a sample from the subgroup of twice the # of study abroad students.
- If twice the # of study abroad students was more than 10% of the sample, the 10% sample was used as the subgroup.



- Clustered control group more closely matches SA group in institution, semester, and class standing than a random sample of students
- Same survivor status as SA group = comparable # of seniors, juniors, sophomores, freshmen
- Control group comprised of 17,903 students

SA v. DOM Graduation Rates among eligible students in each population (w/USG baseline)

	Four-Year	Five-Year	Six-Year
	Grad Rate	Grad Rate	Grad Rate
Study Abroad	49.6%	82.6%	88.7%
Students (SA)	(n=8,109)	(n=6,572)	(n=4,890)
Control Group	42.1%	74.7%	83.4%
Students (DOM)	(n=6,241)	(n=5,712)	(n=4,523)
Most Recent USG	24.0%	45.2%	49.3%
Totals (2008)	(n=24,482)	(n= 24,447)	(n=22,830)

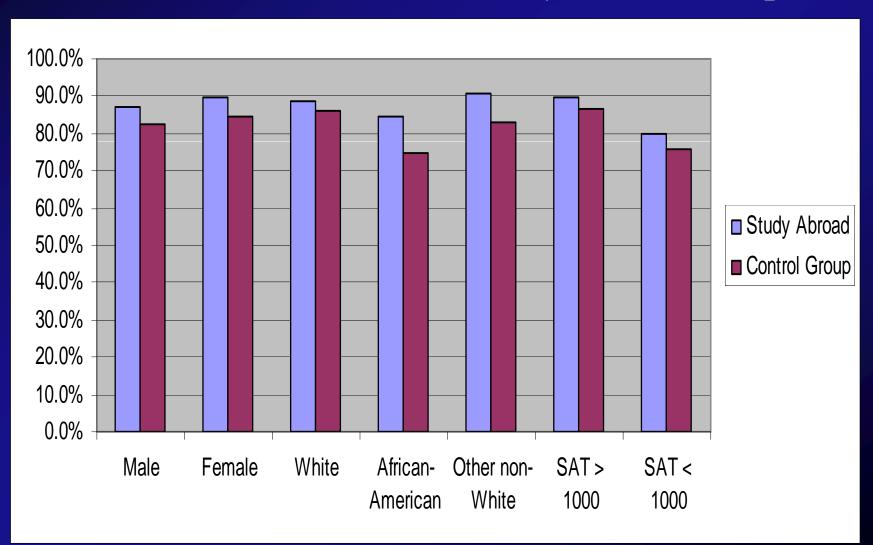


- Four-Year graduation rates of SA are <u>17.8%</u> <u>higher</u> than DOM rates
- Five-year graduation rates of SA are <u>10.6%</u> <u>higher</u> than DOM rates
- Six-year graduation rates of SA are <u>6.4%</u> <u>higher</u> than DOM rates

Effects hold consistently across subgroups of gender, race, and SAT

- Grad rates for males are 6-12% higher
- Grad rates for females are 6-19% higher
- Grad rates for African-Americans are <u>13-31%</u> higher
- Grad rates for other non-white students are <u>7-18%</u> higher
- Grad rates for students with SAT > 1000 are <u>4-11%</u> higher
- Grad rates for students with SAT <1000 are <u>2-7%</u> higher (but not statistically significant in Chi-square tests)

Six-Year Graduation Rates by Sub-Group



Subjecting graduation rate analysis to the next level of statistical scrutiny

- Level I: FT/FT freshmen cohort descriptive statistics (relative frequencies)
- Level II: Comparable SA vs DOM cohorts Chi-square analysis of association between study abroad status and graduation
- Level III: Logistic regressions predicting probability of graduation for SAs vs DOMs while controlling for precursor variables (e.g., HSGPA and GPA prior to SA)

Isolating Effect of Study Abroad on Four-Year Graduation

To isolate the effect of study abroad from 'selection effects,' logistic regression is used to control for:

- College GPA Prior to SA
- Hours Enrolled in Semester Prior to SA
- Combined SAT
- High School GPA

Study abroad, higher odds?

- Students who study abroad have 10.0% higher odds of graduating in four years.
- Analysis on Student Subgroups:
 - SAT >1000: 14.4% higher odds.
 - SAT <1000: Not Significant
 - Research University Sector: 16.1% higher odds
 - State University Sector: 19% lower odds
 - Community College Sector: Not Significant

Isolating Effect of Study Abroad on Six-Year Graduation

- As with Chi-square analysis, effect of study abroad strongest on
 4-yr graduation, diminishing on 5-yr and 6-yr
- When <u>all</u> controls are included for both SA and DOM populations, no statistically significant results found from logistic regression analysis for study abroad on odds of graduating in six years.
- Currently analyzing pre-college controls (SAT, HSGPA) separately from in-college controls (college GPA, SCHs).



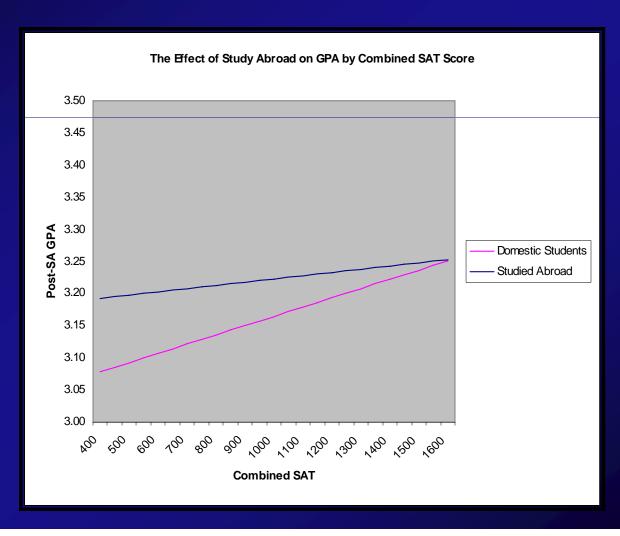
- Does Study Abroad help or hinder subsequent academic performance?
 - For students who study abroad, mean cumulative GPA prior to study abroad is 3.24 and mean cumulative GPA after study abroad is 3.30.
 - For comparison group in same time period, mean GPA starts at 3.03 and moves to 3.06.

Effect of Study Abroad by SAT

Predicted outcomes for domestic and study abroad students at five SAT levels, all other variables held at mean.

Mean Prior GPA	Mean HS GPA	SAT	Domestic	Study Abroad
3.14	3.43	800	3.14	3.21
3.14	3.43	1000	3.16	3.22
3.14	3.43	1200	3.22	3.23
3.14	3.43	1400	3.25	3.24
3.14	3.43	1600	3.25	3.25

Effect of Study Abroad on GPA by SAT





- Institutional type (research, comprehensive, two-year/access schools)
- Program features (duration, location, term, etc.)
- Other student characteristics (major, year in school, etc.)

These factors can help identify when, where, who, and how study abroad can maximize academic performance.

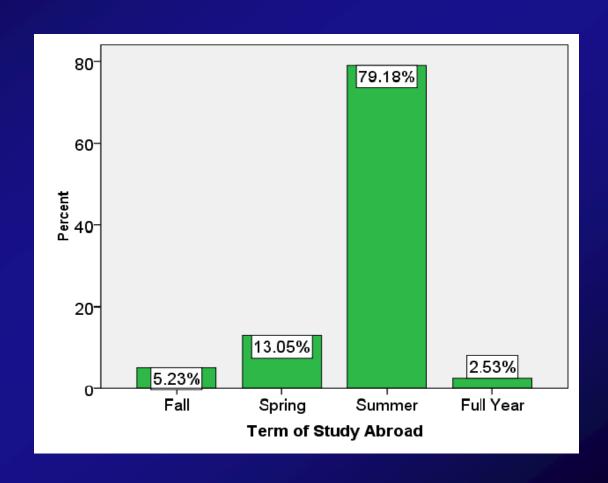
Questions/Comments on Phase IV?



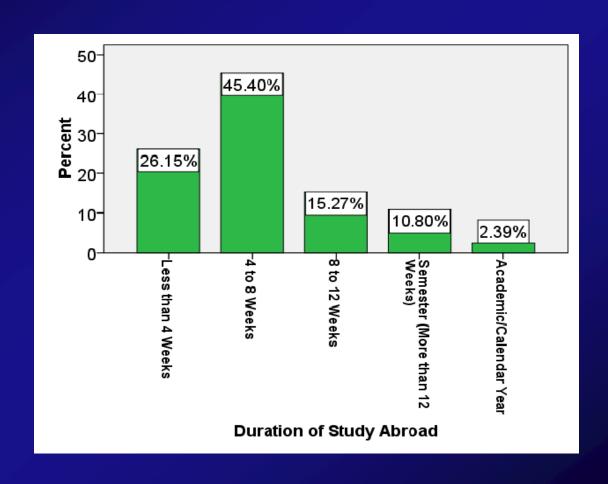
- Identify high-performance SA programs correlated to academic performance measures and learning outcomes
- Trying to retrofit Engle & Engle taxonomy of program design elements into OIE database
- Conduct case studies of exemplary programs

But also need to consider the demographic and program choice attributes of the USG SA population

Term of Study Abroad (2001-08)



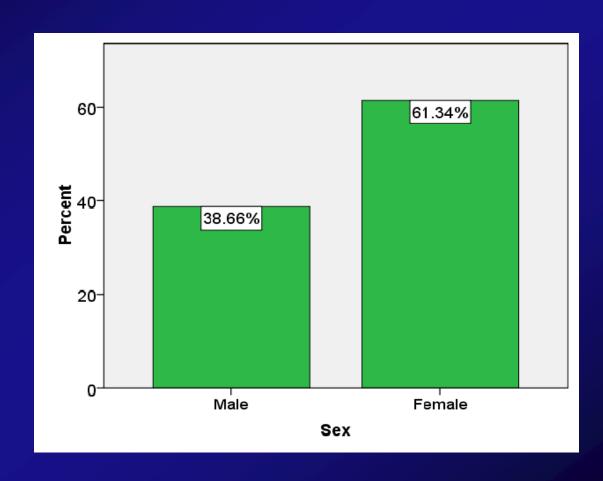
Duration of Study Abroad Program



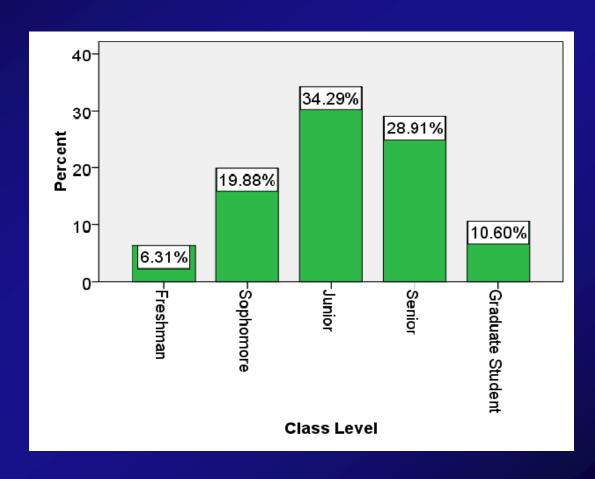
Region of Study Abroad

	Frequency	Percent	Valid Percent
Domestic	17903	48.4	48.4
Mexico	1002	2.7	2.7
Central & South America, Carribean	2042	5.5	5.5
Europe	6848	18.5	18.5
Asia	1299	3.5	3.5
Africa	405	1.1	1.1
Middle East	133	.4	.4
Multi-region	740	2.0	2.0
Australia-Oceania	1027	2.8	2.8
Canada	57	.2	.2
United Kingdom and Ireland	3391	9.2	9.2
Spain	2105	5.7	5.7
Total	36952	99.8	100.0

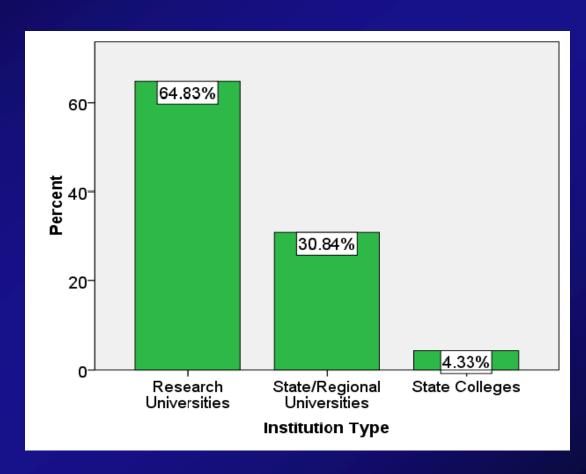
Gender of Study Abroad Participants



Class Level of SA Participants



Institutional Sector of Participants



Phase V: Program design features that make a difference-1

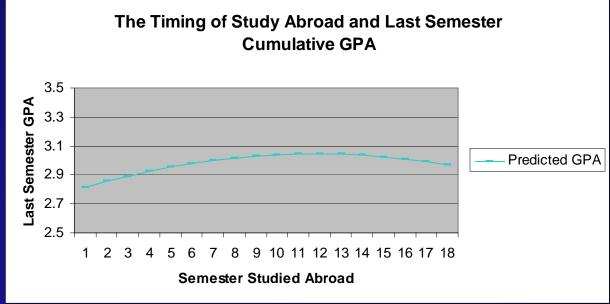
Effect of SA program duration on graduation rates

	Graduation Rates		
	Four-Year	Five-Year	Six-Year
Less than 4 Weeks	45.7%	77.4%	83.4%
4 to 8 Weeks	55.0%	85.2%	91.0%
8 to 12 Weeks	44.5%	85.8%	92.9%
Semester (More than 12)	42.3%	77.1%	82.1%
Total	49.4%	82.9%	88.8%
Sig. of Chi-Square	<i>p</i> < .001	<i>p</i> < .001	<i>p</i> < .001
Phi	0.11	0.10	0.11

Finding:
Intermediate
duration
programs are
associated
with higher
graduation
rates

Phase V: Program design features that make a difference-2

Effect of SA timing on final semester GPA (controlled for precursor variables such as HSGPA)



Finding: The later a student studies abroad, the less the disruption of final GPA

Phase V: Program design features that make a difference-3

Effect of SA region on graduation semester cumulative GPA (controlled for precursor variables such as HSGPA).

Findings:

Relative to domestic control group....

- ❖Students who study abroad in Mexico benefit by .039 pts
- ❖ Students who study abroad in South America benefit by .045 pts
- ❖Students who study abroad in Europe benefit by .031 pts
- Students who study abroad in Australia benefit by .031 pts
- Students who study abroad in Spain benefit by .029 pts

Questions/Comments on Phase V?

Phase VI: Impact 2- to 5-year post-graduation

- Since GLOSSARI began, two major studies have been launched to look at medium- and longterm impact of study abroad on career development, life choices
 - U of Minnesota alumni study (20 years back)
 - CIEE longitudinal study (20 years forward)
- USG re-directed grant resources into the previous five phases



- Results clearly demonstrate certain positive effects of studying abroad
- Research methodologies and scale most rigorous and extended effort yet attempted
- Findings will have different relevance to different constituencies



- GLOSSARI officially ends in June 2010
- 1999-2008 Database of Study Abroad Students and Control Group may be available for future research
- ILO available free of charge to interested institutions and programs; consultation services available



- Forthcoming articles in IE and HE journals
- Additional reports will be posted periodically at:

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