

# The GLOSSARI Project: Initial Findings from a System-Wide Research Initiative on Study Abroad Learning Outcomes

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Higher education in general (Bogue, 1998) and study abroad programming in particular (Gillespie, Braskamp & Braskamp, 1999) are hardly strangers to stringent demands for accountability. What *is* new to higher education and to study abroad is the demand for accountability in terms of measurable student learning outcomes. This article is a first report from a system-wide initiative to document learning outcomes accruing from participation in study abroad. It focuses on one element of that initiative, a comparison of several outcomes between study abroad participants and non-participants attending sixteen varied public institutions within a state university system.

## **Learning Outcomes Assessment in Higher Education**

Typically, the indices of institutional effectiveness to which colleges and universities have been held accountable in the past included almost everything but student learning (Wellman, 2001). Reports to governing boards and accrediting agencies compile information about a host of input measures (e.g., entering SAT scores, faculty credentials, conformance of curricula to disciplinary standards, adequacy of library resources) and output measures (e.g., year-to-year student retention, graduation rates, efficiency of the bursar's office). For example, two of the three student outcome measures explicitly mandated by the Southern Association of Colleges and Schools (Commission on Colleges, 2000) are course completion rates and job placement rates.

Although these are all useful factors in looking at the productivity, efficiency, and effectiveness of the educational enterprise—and the GLOSSARI project itself will include a phase that measures the impact of study abroad on performance measures like graduation rates—at best these tend to approximate student learning outcomes through corollary data rather than measuring learning directly.

Student learning is, after all, the *raison d'être* for the entire higher education enterprise, yet several factors have led accountability processes in the past to skirt learning outcomes assessment (Zernike, 2002). First, the most prized learning outcomes such as advanced critical thinking, oral communication, and written expression tend also to be the most difficult to measure empirically. Faculty are understandably wary of the threat of instructional standardization that seems to attend efforts at program-wide learning assessment. In addition, educators fear the possible consequences should a well planned learning assessment fail to demonstrate meaningful qualitative improvements (e.g., Chenoweth et al, 1999).

Notwithstanding those concerns, the currently ascendant trend in higher education accountability institutes a more central role for student learning outcomes assessment (Allan, 1996; Commission on Institutions of Higher Education, 1998; McDaniel, Felder, Gordon, Hrutka & Quinn, 2000). This heightened accountability specifically directed toward student learning is fueled in part by increased competition for student enrollment. In this environment, higher education stakeholders are no longer satisfied that an official seal on a diploma signifies an adequate level of learning among graduates. Instead, constituents seek hard evidence that their investments have yielded real dividends in terms of demonstrable gains in student knowledge and skill between admissions and graduation (Wellman, 2001; Zernike, 2002).

At the same time, the movement associated with the scholarship of teaching and learning (Hutchins & Shulman, 1999) has brought new creativity to ways that educators can compile publicly accessible documentation of student learning (Palomba & Banta, 1999). Thus, for example, college teachers in a wide range of disciplines have instituted the practice of assembling portfolios of student work demonstrating progress across the span of a term or of an entire college career. They adopt portfolio assessment not only as a tool for providing students with rich feedback and valid course grades, but also as a tool for demonstrating the impact of instruction on learning outcomes (Cambridge, 1996).

### **Institutional Data on Study Abroad**

The number of students participating in study abroad programs has often been taken as one indicator of overall institutional quality, and certainly a campus which is heavily invested in international education is likely to offer a stimulating learning

environment. From any point of view, increasing participation in study abroad continues to be a laudable educational goal. But simply knowing how many students studied abroad is not equivalent to knowing what knowledge those students acquired (or failed to acquire) as a result of that experience. The learning outcomes assessment paradigm enjoins educators to evaluate study abroad programs not only in terms of institutional indicators such as enrollment or resources for student and academic support (see Gillespie, Braskamp & Braskamp, 1999), but also in terms of direct measures of knowledge gained.

### **Participant Satisfaction and Impact Surveys**

Because they are elective, often financially self-supporting entities operating in a highly competitive milieu, study abroad programs have always been highly accountable to their “customers” (parents as well as students), to university administrators, and to the faculty who sanction and teach in them. But like the colleges and universities which sponsor them, study abroad programs have traditionally relied on institutional indicators of effectiveness such as number of credit hours generated and records of student health and safety. In addition, many study abroad administrators compile opinion survey data (see Cash, 1993) collected from student participants. Such questionnaires often ask students to rate their satisfaction with various aspects of the program (e.g., “I was able to enroll in the classes I needed” or “My host family was friendly and helpful” or “I would recommend this program to other students at my college”).

Some exit questionnaires also ask participants to evaluate the broad impact that the experience has had on their goals and personal traits (see, for example, British Columbia Centre for International Education, 2002; Hansel & Grove, 1986; Laubscher, 1994). Such feedback can be quite valuable to administrators in their efforts for continuous quality improvement, as well as in recruiting students and in solidifying institutional support. Nonetheless, student opinion data and self-assessments of personal growth do not speak directly to issues of academic benefit. When program evaluators have asked students to provide self-estimates of academic achievement engendered by study abroad (see Carlson et al, 1990), the resulting analyses do share some characteristics of learning outcomes assessment, since they do inquire about perceived student learning. Nevertheless, to the degree to which those self-estimates refer to generalizations about knowledge gain (e.g., “I learned a great deal in my classes abroad” or “My personal study habits improved as a result of studying abroad”) rather than inquiring about discrete items from a specific content domain, these self-assessments support generic values of study abroad, rather than more tangible demonstrations of improved learning outcomes.

## **Psycho - social Outcomes**

Outcome assessment that pertains to attitudinal and dispositional changes participants experience as a result of their international sojourns has frequently been applied to study abroad. This research is of theoretical as well as practical importance because it bears on broad issues such as individual response to stress and the effects of inter-group contact. Social and psychological variables of interest include individual autonomy or self-efficacy, cognitive flexibility, sociability, interethnic tolerance, and world-mindedness (e.g., Carlson & Widaman, 1988; Lathrop, 1999; Nash, 1976; Paige, et al, 2002; Ryan & Twibell, 2000). It is difficult to generalize across this work because of the variety of psychological instruments used and the differing patterns of findings. Taken as a whole, this body of research suggests that studying abroad has a salubrious effect on many psycho-social outcomes, although not all. Extensive cultural immersion is believed to exert a greater impact than “island” study abroad programs (Sell, 1983). The persistence of any of these psychological effects over long periods of time remains far from certain, however. Additionally, it is an open question whether certain campus-based multicultural training experiences might bring about attitudinal and dispositional changes commensurate with those obtained from overseas study.

The potential psycho-social outcomes of studying abroad — self-efficacy, world-mindedness, and the like — are certainly among the most desirable attainments that a student may acquire during a college education. They differ from the more specific definition of learning outcomes used in this and other studies in that they are not direct reflections of academic achievement per se. They are personal attributes and attitudes that may be attainable by any number of cross-cultural life experiences. The application of learning outcomes assessment to study abroad means asking questions specifically about how the curricular content knowledge and cognitive understandings of participants have (or have not) improved.

## **Learning Outcomes in Foreign Language Study Abroad**

Foreign language study is one academic discipline in which the spirit of learning outcomes assessment has been actively applied to study abroad. Foreign language educators have long been interested in identifying aspects of foreign language study conducted in the target language host environment that produce results superior to those from home-country language study (Freed, 1995; Milleret, 1990). The supposition, quite naturally, has been that students who interact frequently with native speakers in authentic situations will be advantaged over those whose language learning is limited to the classroom. While some studies have indeed yielded findings consistent

with that view (e.g., Yager, 1998), other studies have surprisingly concluded that study abroad can actually undermine grammatical accuracy in the target language; students immersed in home stay situations sometimes achieve lesser gains in language proficiency than do students who reside in international program residence halls (e.g., Rivers, 1998; Veguez, 1984). One of the more extensive and carefully designed evaluations of foreign language learning outcomes in the context of study abroad was sponsored by the American Council of Teachers of Russian (Ginsberg, 1992; Rivers, 1998). The Council's findings serve to remind educators that foreign language learning outcomes from study abroad—just like outcomes on domestic campuses—can be highly variable: study abroad is no guarantee of satisfactory learning. Gains in language proficiency are predicted less by contextual factors like the setting in which the language is studied than by student individual differences such as gender and previous language background.

Beyond the domain of foreign language education, a number of manifestoes have called for expanding learning outcomes assessment to broad-based evaluation of study abroad programs (e.g., Gillespie, et al., 1999; Rubin & Sutton, 2001; Sideli, 2001; Vande Berg, 2001). Yet to date, assessments focusing on cognitive, academic outcomes of international education have been relatively rare. Accordingly, the University System of Georgia Learning Outcomes of Students Studying Abroad Research Initiative (GLOSSARI) was launched in Fall 2000 as a concerted and systematic investigative process to address these unanswered questions.

### **Scope of the GLOSSARI Project**

The University System of Georgia (USG) is comprised of thirty-four public institutions, currently enrolling nearly 210,000 undergraduate and 38,000 graduate and professional students. Campuses range from small, rural two-year colleges to large, cosmopolitan doctoral research-intensive universities. Eighty-nine percent of undergraduates are Georgia residents, more than one-third of entering freshmen are first-generation college-goers, 33 percent are other than Caucasian, 59 percent are women. Regents' policy requires two high school Carnegie units of foreign language coursework for admission. The average SAT score of entering freshmen at USG campuses ranges from 802 to 1325. A single Board of Regents governs all 34 institutions.

Georgia is among a small group of states with a system-wide international education office. USG's international education governance structure is led by a presidentially-appointed System Council on International Education and supplemented by a System committee on study abroad, world regional councils, and disciplinary consortia which help facilitate coordination of overseas study. USG's inter-institutional catalog of study abroad programs annually lists nearly 275 international study opportunities for its students. These span the gamut from ten-day island programs in

London to year-long exchange programs in Thailand. This diversity of student bodies, institutional missions, and study abroad programming makes the University System of Georgia an ideal host for developing a model learning outcomes assessment initiative. It has the infrastructure, authority, and commitment to support such an ongoing effort.

The University System of Georgia is noteworthy for the high priority that its Board of Regents has placed on study abroad. As early as 1995, the Regents' strategic plan called for doubling the numbers of Georgia students who studied abroad by 2001. Having achieved that goal, the Board's new strategic plan again calls for a major increase in study abroad participation—to 25% of undergraduate degrees awarded by 2007 (approximately 6,200 students). As part of its documentation for annual reports to the Regents, since 2002 the System Office of International Education has collected detailed information about each student (by name and identification number) and their study abroad experience (country of study, duration, etc.). This extensive data collection effort, now totaling nearly 4,000 individual records annually, provides a rich, self-standing resource for analysis of study abroad patterns and characteristics. The System Office of International Education database can be linked to other USG databases to extract additional data about study abroad participants. In addition to supporting analysis of student demographic data, an important function of this design is its ability to access pre- and post-participation academic performance measures and behaviors.

The Georgia System's GLOSSARI project is a sustained initiative that currently encompasses six components:

- Phase I: Comparison of study abroad participants and non-participants on self-reported learning outcomes;
- Phase II: Comparison of pre-departure and post-departure self-reported learning outcomes;
- Phase III: Comparison of study abroad participants and non-participants on course-specific examinations;
- Phase IV: Comparison of study abroad participants and non-participants on academic performance measures, such as graduation rates and licensing examination outcomes;
- Phase V: Correlation of learning outcomes with program design features, e.g., orientation, length of stay, location, post-return debriefing, percent of unstructured time in the host nation, etc.;
- Phase VI: Comparison of study abroad alumni and non-participant cohort on self-reported learning outcomes, career paths, and other factors two-to-five years after graduation.

At the time of this publication, Phases I through V are in various stages of data collection and analysis. This paper presents the first set of findings from Phase I.

## **M e t h o d s**

### **S a m p l e a n d P r o c e d u r e s**

A distinctive feature of Phase I of the GLOSSARI project is its use of a participant group and a non-participant control group, each numbering about 250 individuals. Members of each group completed the same survey instrument, and respondents were uniformly screened for external variables that might interfere with the accuracy of the findings.<sup>1</sup>

The population of study abroad participants consisted of all USG students who enrolled in USG-sponsored programs during the summers of 1998, 1999, and 2000 as well as fall semester 2000.<sup>2</sup> The research team sampled from that population by asking the program directors to provide names of participants in their respective programs during the designated terms.<sup>3</sup> The response from program directors was spotty. Participants with functioning e-mail addresses were contacted (and re-contacted if necessary) via e-mail. They were provided with the URL of an internet website on which the study questionnaire was installed. Participants with viable postal addresses were sent (and resent, if necessary) paper copies of the survey questionnaire. These individuals were also informed of the web-based option for responding, and several chose that route instead of returning their hard copy instruments. Some number of participants may also have spontaneously accessed the survey internet website.

The final study abroad participant sample consisted of 255 usable responses. Participants attended sixteen different USG institutions. Males comprised 25.5% of the sample, and students of color represented 12.4% (5.7% of the total were African-American). This composition of the sample varies somewhat from the USG's overall study abroad participation demographics, as well as those reported in other surveys of study abroad students (Institute of International Education, 2003). It does not appear likely that these variations influenced the reliability of the survey results; a replication of the Phase I study with sample groups drawn from fully representative populations is being planned to verify this assumption.

The comparison group sample of students who had never studied abroad was largely a sample of convenience and was not strictly correlated with demographic characteristics of the participant group. One-hundred-fifty were solicited from communication students at a large university; these students received course credit in exchange for their participation. Ninety-two of these responses were collected in large group settings via hard copy questionnaires; the remainder were collected

on-line. Other comparison group students were solicited as volunteers by their instructors in a variety of subjects (e.g., a cross-disciplinary capstone senior seminar). All of those responded on-line.

The comparison group consisted of 249 college students. These students were enrolled at six different institutions. Males comprised 41.5%, and students of color 21% (8.9% African-American). The proportion of both males and minorities was significantly greater among the non-participant group than among the study abroad group. The planned replication of the Phase I study with scientifically drawn sample groups will verify whether this discrepancy had any effect upon these initial findings.

### **Questionnaire Construction and Factor Analysis**

The objective of questionnaire development was to create an instrument that would be specific to the kinds of learning outcomes that might be derived from studying abroad, but which would be sufficiently generic to work across a wide variety of programs in a diverse set of disciplines. It was determined that learning outcomes would be sampled from five different content domains: (a) knowledge of strategies and skills for functioning in other cultures, (b) knowledge of intercultural interaction techniques, (c) global interdependence, (d) knowledge of comparative civics, and (e) knowledge of world geography. Items measuring the first two of these domains were adapted from a communication competence questionnaire frequently used in intercultural training workshops (Fantini, 1995). Additional demographic questions and questions regarding students' backgrounds and the nature of their international experience also appeared.<sup>4</sup>

The GLOSSARI research team conducted a factor analysis to identify the underlying dimensions of intercultural knowledge reflected in the survey responses. This also consolidated the number of variables in the comparison between students who had studied abroad and those who had not.

Principal component analysis of the 34 survey items extracted seven components (factors) meeting the conventional criterion of eigenvalues exceeding unity. Collectively these accounted for 60% of the total variance. These components were subjected to oblique rotation, since it was assumed that they were correlated. Items were considered to be significantly loaded on factor if they met a simplex criterion of factor coefficient greater than .35 on one and only one factor. Four items failed to meet that criterion.

Ten survey items emerged as clustered under Factor 1 and pertain to functional competencies. Factor 2 (five items) reflects knowledge of global interdependence. Factor 3 (four items) pertains to knowledge of cultural relativism, while Factor 4 (three



items) focuses on knowledge of verbal acuity. Factor 5 (three items) taps knowledge of world geography. Factor 6 (two items) measures knowledge of interpersonal accommodation and Factor 7 (three items) reflects cultural sensitivity.<sup>5</sup>

**Results**

Table 1 provides results of the seven t-tests comparing students who studied abroad with those who did not. We chose to use a conservative criterion for statistical significance (.05/7, or  $p < .0071$ ).<sup>6</sup> Using this standard, students who studied abroad exceeded the comparison group on the following measures: functional knowledge (Factor 1), knowledge of world geography (Factor 5), knowledge of cultural relativism (Factor 3), and knowledge of global interdependence (Factor 2). The groups did not differ significantly on the dimensions of verbal acumen, interpersonal accommodation, or the somewhat unreliable measure of cultural sensitivity (Factors 4, 6, and 7).

**Table 1: Comparisons between study abroad participants and non-participants on seven learning outcomes**

Learning Outcome	Studied abroad?	Mean	SD	t	df	p-value (1-tailed)	Eta <sup>2</sup>
Functional Knowledge	Study Abroad	37.92	6.52	15.18	407.08	.00	.34
	No Study Abroad	27.14	8.45				
Knowledge of Global Interdependence	Study Abroad	18.73	3.83	3.72	455	.00	.03
	No Study Abroad	17.33	4.21				
Knowledge of Cultural Relativism	Study Abroad	17.63	2.05	7.00	415.17	.00	.10
	No Study Abroad	16.11	2.56				
Verbal Acumen	Study Abroad	11.88	1.90	.97	455	.17	.002
	No Study Abroad	11.71	2.00				
Knowledge of World Geography	Study Abroad	11.39	3.09	4.98	455	.00	.05
	No Study Abroad	9.89	3.35				
Interpersonal Accommodation	Study Abroad	8.76	1.15	.26	455	.40	.00
	No Study Abroad	8.73	1.14				
Cultural Sensitivity	Study Abroad	12.30	1.67	2.31	455	.01	.02
	No Study Abroad	11.93	1.76				

## Effects of Studying Abroad, or Effects of Better Students?

A study such as this one, which seeks to establish effects of studying abroad on learning outcomes, is always vulnerable to alternative explanations for any significant differences found. Especially in the absence of pre-sojourn comparisons between the two groups, it is reasonable to argue that any differences between those who have participated in study abroad and those who have not are simply due to the elite academic status of those who typically choose to study abroad, and not at all attributable to the study abroad experience. In part to address this reservation, we conducted two post-hoc analyses on the data. One considered the influence of students' prior academic achievement, and the other examined the influence of academic major.

First, we re-ran each of the seven t-tests treating students' self-reported grade point averages (GPAs) as a covariate. Co-varying GPAs would have the effect of eliminating the mean differences between study abroad participants and non-participants, were those differences really due simply to overall academic ability. In fact, group differences disappeared on none of the four dimensions which had manifest effects of studying abroad—functional knowledge, knowledge of world geography, knowledge of cultural relativism, and knowledge of global interdependence. This analysis supports the view that the differences found due to studying abroad were indeed true differences and not a confounding artifact of pre-existing group inequalities in levels of academic achievement.<sup>7</sup> It indicates that the impact of studying abroad on learning outcomes is robust and not confounded with the typically higher GPAs held by students who choose to go overseas to study.

A second analysis by which we addressed the plausibility of other confounding academic variables was to conduct comparisons between students *within the same academic majors* who studied abroad and those who did not. If more humanities majors than science majors study abroad, and humanities majors typically have superior knowledge of global interdependence or cultural sensitivity, then perhaps the group differences found in a study such as this are better attributable to academic major than to the study abroad experience.

The specific statistical approach we took to examining differences within majors required us first to identify those majors which had at least fifteen students in both the study abroad participant and non-participant groups. This was necessary to ensure robust comparisons between cell means. Four majors met that criterion: education (19 study abroad participants, 23 non-participants), business (43 participants, 65 non-participants), journalism and media (21 participants, 19 non-participants), and social sciences other than international relations or area studies (35 participants, 27 non-participants). Students in all other majors were excluded from the following analyses.

We then conducted 2 (study abroad participation) x 4 (academic major) analyses of variance (ANOVAs) for each of the seven learning outcome dimensions. We were looking for main effects of academic major, which would indicate that some of our four designated majors exceeded the others on one or more of the seven learning outcomes we examined. More so, we were looking for interactions between study abroad participation and academic major on any of the learning outcomes. Should such an interaction emerge, it would permit additional comparisons to determine whether the advantage for study abroad participants held up across the board, or only in certain majors. In order to avoid spurious findings due to a large number of non-independent statistical tests, we again adopted the conservative significance level of  $p < .0071$ .

This second post-hoc analysis established the following points:

- The only statistically significant effect on Factor 1 (functional knowledge) was the main effect for study abroad ( $F_{1,244} = 111.52$ ;  $p < .001$ ,  $\eta^2 = .31$ ). This was also true for Factor 5 (knowledge of geography) ( $F_{1,244} = 3.90$ ;  $p < .001$ ,  $\eta^2 = .033$ ).
- Study abroad exerted a powerful effect on Factor 2 (knowledge of global interdependence) ( $F_{1,244} = 13.08$ ;  $p < .001$ ,  $\eta^2 = .051$ ). A main effect for major also emerged for this learning outcome ( $F_{3,244} = 5.63$ ;  $p < .001$ ,  $\eta^2 = .065$ ). Post-hoc pairwise comparisons between cell means (Student-Neuman-Keuls procedure) indicated that education majors ( $M_{ed} = 15.90$ ) scored significantly lower on this variable than did students in the other three majors, which did not differ among themselves ( $M_{bus} = 18.92$ ;  $M_{jour} = 18.08$ ;  $M_{socsci} = 17.87$ ).
- Factor 3 (knowledge of cultural relativism) data showed that study abroad status exerted the most powerful effect ( $F_{1,244} = 27.23$ ;  $p < .001$ ,  $\eta^2 = .10$ ); however, academic major also proved to be a significant factor ( $F_{3,244} = 6.24$ ;  $p < .001$ ,  $\eta^2 = .071$ ). Post-hoc cell mean comparisons (Student-Neuman-Keuls) indicated that business majors ( $M_{bus} = 15.99$ ) scored lower on this knowledge outcome than did the other three majors ( $M_{ed} = 17.19$ ;  $M_{jour} = 17.18$ ;  $M_{socsci} = 17.66$ ), which did not differ among themselves.
- No statistically significant main or interaction effects were evident for knowledge of verbal acuity, knowledge of accommodating to others, or cultural sensitivity knowledge (Factors 4, 6, and 7).

In sum, this set of two-way ANOVAs found that—even when taking students' majors into consideration—experience in study abroad exerted an independent and especially potent impact on four of the seven learning outcomes. College major did exert an

impact on two of the learning outcomes (Factors 2 and 3)—regardless of whether students had studied abroad—but this effect did not negate that of studying abroad.

## Discussion

The present study is the first step in a long-term, comprehensive approach to assessing student learning outcomes from studying abroad. It constitutes the first component of a much more comprehensive evaluation project in the University System of Georgia, and it complements a variety of other research initiatives going forward in the U.S. and, to a lesser extent, in other countries. In addition to the self-reports of generic study abroad learning outcomes that are reported here, a fully developed learning outcomes assessment effort should examine a vast array of program-specific outcomes such as test scores, transcribed grades, and impact on professional licensing examinations, among many other things. The range of learning outcomes research reflected in the articles of this special issue of *Frontiers* demonstrates that the field of international education is moving forward to confront the challenges of a data-driven, evidentiary-based articulation of the values gained from study abroad. The diversity of methodologies and approaches lends strength to the insights gained from these initial studies.

The GLOSSARI project is intended to address concerns of multiple constituencies through a series of structured investigations that pose basic questions about the academic consequences of studies abroad. International education, despite the relative improvement of its standing within the higher education environment over the past two decades, remains subject to careful and frequently well-deserved scrutiny from many quarters. As the field matures, it bears the responsibility to provide data, facts, and analyses that document the value of its endeavors to those both within and beyond the international and higher education communities. GLOSSARI seeks to contribute to this discussion by asking questions that are relevant to many different parties. To governing boards, legislative funding partners, and higher education leaders, it focuses on performance measurements of paramount importance to their decisions, such as retention rates, graduation rates, and licensure pass rates (our preliminary findings in this phase of the project indicate some dramatic results, which we hope to release soon). To faculty and academic deans, it attempts to determine whether students learn specific course knowledge more or less effectively in a foreign environment (this is particularly important in disciplines that have been traditionally less enthusiastic about sending their students abroad). To students inclined toward study abroad and their parents, it attempts to demonstrate in measurable ways the value added to a college education. To those by nature more resistant to studying abroad—perhaps the most at-risk population our profession should be aggressively cultivating—GLOSSARI seeks to offer tangible proof of return on the investments of time, money, and energy

required. As the project investigates these and other fundamental hypotheses, it is committed to providing sufficient scope, scale, and scientific rigor to produce valid, verifiable, and replicable results.

Within this broad context, the present study asks the question: do college students who study abroad achieve learning outcomes that are significantly better than those who do not? The results warrant the conclusion that studying abroad does add value to a student's academic achievements. The study also offers a number of findings that can inform subsequent assessments of study abroad learning outcomes. The seven dimensions of learning outcomes revealed by factor analysis can serve as the basis of additional assessment efforts.

The first of these dimensions, functional knowledge, captures the knowledge base needed for efficacy in navigating daily routines within a new environment. Many study abroad participants regard functional knowledge as an especially empowering and transformative outcome of their experience, for it instills confidence that one can achieve goals even in unfamiliar settings (Juhasz & Walker, 1988; Lathrop, 1999). Students who had studied abroad reported a higher level of functional knowledge than did their peers who lacked this horizon-broadening experience. This was the largest effect that we found in this study; over 30% of the variance in this outcome could be attributed to studying abroad. One would expect that functional knowledge—such as how to make a phone call from abroad, how to locate a safe night spot, or how to pacify an angry merchant—is particularly enhanced by programs that provide participants with large amounts of time during which they fend for themselves. However, this hypothesized advantage of unstructured time needs to be affirmed by additional empirical study.

Knowledge of global interdependence, the second dimension of our learning outcomes investigation, is often cited as the underlying reason why study abroad should be pursued as a national goal. The NAFSA: Association of International Educators proposal for a U.S. international education policy incorporates this precept (NAFSA, 2003), as does a related proposal by the American Council on Education (ACE, 2002). It is quite possible that students who choose to study abroad already possess high levels of this awareness, but our data indicate that the study abroad experience exerts an impact on this outcome beyond the student's academic major. In this, our findings concur with previous studies that saw increased political awareness as a result of studying abroad (Carlson & Widaman, 1988). We did, however, also identify an independent effect for academic major. Regardless of their study abroad experience, education majors evinced lower levels of this knowledge than did their peers majoring in business, other social sciences, or in journalism. One implication of this finding is that teacher preparation curricula need to inculcate greater knowledge of global interdependence among future public school teachers (see Schneider, 2003).

Knowledge of cultural relativism is the cognitive realization that one ought not judge other cultures or respond to individuals from those cultures based on one's own ethnocentric values and practices. Because this is an academic learning outcome, it should not be confused with attitudinal orientations toward ethnorelativism (Bennett, 1986), which has also been pursued as a measurable outcome of studying abroad (Paige, et al., 2002). Conversely, our conception of this knowledge outcome encourages students to reflect on the limits of their relativism: where they draw the line of the tolerable in others' cultural practices. We have yet to explore the relationship between cultural relativism as an academic learning outcome and reduction of ethnocentrism as an affective change or tendency to associate with culturally diverse friends as a behavioral change, all of which may or may not arise from intercultural contact (Rubin & Lanutti, 2001).

Studying abroad accounted for 10% of the variance in knowledge of cultural relativity in our results. Academic major exerted a less powerful, but still reliable, effect. In particular, business majors were found to score lower on this type of knowledge than were students enrolled in other majors. Certainly in an increasingly global business environment, undergraduate programs in business may need to be more attentive to helping students understand the nature of cultural relativism as a learning outcome (see Cheney, 2001).

Finally, study abroad participants exceeded students with only domestic college experience in knowledge of world geography. From one point of view, it may seem that this particular effect must surely be a result of selectivity in the two samples; those who are attuned to world geography are more likely to choose to study abroad. After all, there is no direct connection between spending three months studying art history in Florence and knowledge of South American capital cities. On the other hand, that U.S. art history student might very well encounter a group of students from Montevideo who are sojourning in Florence for the same purpose. Or he may befriend a young tourist returning to Tel Aviv by way of Italy who regales our study abroad participant with tales accumulated during a season backpacking from Buenos Aires to Quito. For this outcome, a careful comparison between pre- and post-sojourn data (in Phase II of the GLOSSARI project) will yield particularly interesting insights.

Although one can never confirm a null hypothesis, it is interesting to note the cluster of outcomes that were *not* affected by studying abroad nor by major in this study. They were (a) verbal acumen, (b) knowledge of interpersonal accommodation, and (c) knowledge of cultural sensitivity. What these variables arguably share in common is a rather direct linkage to knowledge of interpersonal communication skills, especially an emphasis on interpersonal flexibility. While previous research has examined a great number of variables that are logically related to interpersonal skills (e.g., social self-efficacy; see

Lathrop, 1999), our finding warrants additional study of behavioral and affective—as well as academic—effects of studying abroad on communication competence.

Like all social science and educational research, the findings reported here must be interpreted in light of the specifics of sampling and measurement. It is risky to generalize our conclusions to groups of study abroad participants who may have received lesser or greater pre-departure orientation or post-sojourn debriefing, or who may have studied in greater numbers in developing nations. No doubt our conclusions will be modified by the findings of future learning outcomes assessments conducted on other populations. On the other hand, it is worth reiterating that our sample does derive from a good number of rather diverse institutions and study abroad programs. That is one of the strengths of this system-wide initiative. Moreover, the databases at our disposal can be correlated with another regarding program design features such as length of stay, degree of immersion, and percent of host-national staff. Thus future analyses of these data—as well as of data arising from other populations, we hope—may bore deeper into the complexity of the study abroad experience so that particular patterns of learning outcomes can be linked to particular program configurations.

## Notes

<sup>1</sup> Data collection procedures were approved by the University of Georgia Institutional Review Board and conform to all applicable ethical standards for research studies of this type. Earlier versions of this paper were presented at annual conferences of the AAHE Assessment Forum (Denver, June 2001), CIEE (Portland, November 2001), ISEP (Washington, November 2002) and NAFSA (San Antonio, May 2002). No portion of this paper has been previously submitted for publication. As regards the sample, respondents for both groups who indicated they were non-native speakers of English, were citizens of a nation other than the U.S., or had lived abroad for more than one year (unless on military assignment) were eliminated from the sample. Questionnaires containing significant amounts of missing data were also discarded.

<sup>2</sup>To these were added a small number of study abroad participants from the summer of 2001 who had to be excluded from Phase II of the research project.

<sup>3</sup> Program directors' reporting of participants was necessary at this stage because we did not yet have our more detailed data collection process fully in place.

<sup>4</sup> Copies of the complete instrument can be found on-line at <http://www.usg.edu/oie/surveys> or may be requested from the first author.

<sup>5</sup>Seven composite variables corresponding to the seven factors were constructed by summing the unweighted constituent items for each factor. Resulting internal consistency coefficients (Cronbach's alpha) were .93 for functional competencies, .82 for global interdependence, .75 for cultural relativism knowledge, .67 for verbal acumen, .72 for world geography, .66 for knowledge of interpersonal accommodation, and for cultural sensitivity, .50. Because the latter fell below the conventional standards for adequate reliability, results pertaining to this dimension must be interpreted with particular caution.

<sup>6</sup>We elected this more conservative standard because the dimensions are known to be correlated, and it serves to protect a .05 family-wise error rate of these seven multiple comparisons.

<sup>7</sup>The covariate analysis of Factor 7 (cultural sensitivity) actually served to strengthen the impact of studying abroad. Whereas cultural sensitivity in the initial set of t-tests had been deemed unaltered by studying abroad, after extracting the variance due to the covariate GPA, this test now did exceed the criterion for statistical significance ( $t_{391, df}=3.04$ ;  $p<.002$ ;  $\eta^2=.023$ ). This final result means the impact of the international program on cultural sensitivity would be that much greater could those who studied abroad be equated with those who did not in terms of academic achievement.

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