

Fostering Undergraduate Research Through a Faculty-Led Study Abroad Experience

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This case study contributes to the higher education curriculum development literature by showing how a faculty-led short-term study abroad experience can become the catalyst for student research and offer students an international perspective. The authors analyze students' reflections and provide data collected over the years of taking undergraduate business and economics majors on a study abroad course to China to learn about the country's political, social, and economic dynamics. The paper argues that a faculty-led study abroad program provides a unique platform that helps students find appropriate research topics, gather quantitative and qualitative data, and develop meaningful relationships among observed phenomena. We find that the whole experience of involving students in research through a faculty-led international course enhances the students' understanding of research, broadens their intellectual horizons, and enhances their interest in, and facility to, understand international issues. Recommendations from the authors' experiences with curriculum development through a faculty-led study abroad course are offered to show how the undergraduate research experience can be enhanced.

The purpose of this study is to demonstrate how undergraduate research can be fostered through an academic faculty-led short-term study abroad (FLSTSA) experience. Offering international education, a FLSTSA program takes students beyond a basic understanding of the cultural, socio-economic, and political dynamics that is usually achieved in a classroom-based academic course. Rather, it offers a cross-cultural comparison that can evoke a strong interest to investigate the issues existing in a foreign country and thus provide a positive educational experience. Given growing enthusiasm with which higher education institutions in the U.S. have been treating their study abroad programs, one might assume that there is considerable evidence in the curriculum development literature on how undergraduate research can be encouraged and implemented through a FLSTSA experience. In fact, the opposite is true. While intercultural and transformational aspects of study abroad have been discussed by a number of researchers (Cameron, Freudenberg, & Brimble, 2013; Carlson, 1990; Savicki, 2008; Shostya & Morreale, 2013), there seems to be limited literature on how a study abroad experience can stimulate undergraduate research. This study enriches the current higher education literature by demonstrating how a faculty-led short term study abroad program can be used as a vehicle for stimulating student interest in scholarly research, providing students with an international perspective, and building stronger student-mentor relationships.

The academic literature demonstrates the importance of a "high impact" learning experience. Kuh (2008) summarized four types of essential learning outcomes: (a) knowledge of human cultures and the physical and natural world; (b) intellectual and practical skills such as critical thinking, written and oral communication, and quantitative literacy; (c) personal and social

responsibility (eg., civic engagement and ethics and values); and (d) integrative learning in analyzing complex real-world problems. A study abroad program yields a variety of such educational outcomes, including stimulating curiosity and critical thinking, gaining insights into a new cultural perspective, and putting classroom knowledge into real world practice (Colpitts, 2014; Cameron et al., 2013; Shostya & Morreale, 2013). Researchers agree that a study abroad experience holds greater potential for transformation in learners through intercultural comparisons and closer relationships between the faculty and the students travelling together (Green, 2012; Savicki, 2008). It also builds a bridge between academic learning and experiential learning (Hunter, 2008; Savicki, 2008). Numerous study abroad programs offer various types of learning experiences, use different pedagogical and program formats, and have diverse features (duration, settings, and faculty-led or not). While these international programs may not necessarily imply different degrees of cultural immersion, they certainly vary in their capacity to expose students to undergraduate research.

Similarly to study abroad, educators view undergraduate research as a "high impact" activity that creates vast opportunities for the educational gains that are greater than those from traditional academic formats. Past studies have cited numerous and far reaching benefits for undergraduate students who get involved in research in a variety of disciplines, including but not limited to psychology (Stoltenberg et al., 2000; Wayment & Dickson, 2008), medicine (Murdoch-Eaton et al., 2010), biology (Labov, Reid, & Yamamoto, 2010; Reynolds, Smith, Moskovitz, & Sayle, 2009), as well as other practice-dominated sciences (Hunter, Laursen, & Seymour, 2007). Although undergraduate research in economics is still in an early stage, it is a fast growing

movement (DeLoach, Perry-Sizemore, & Borg, 2010; McGoldrick, 2008). Existing studies provide evidence that the undergraduate research experience is characterized by a high level of student-mentor interactions that benefit students on a personal and professional level (Hunter in Savicki, 2008; Kuh, Kinzie, Schuh, & Whitt, 2010; Lipka, 2007; Seymour, Hunter, Laursen, & DeAntoni, 2004) and directly impacts students' satisfaction and learning (Austin, 1993). Additional studies verify that the collegial and collaborative partnership of undergraduate students and faculty members contributes significantly to the personal and professional gains reported by students as a result of their research experience (Hunter et al., 2007; Seymour et al., 2004). Deep engagement in undergraduate research also improves students' grades and motivation and paves the way for success in graduate schools and/or labor markets (Barlow & Villarejo, 2004; Kuh et al., 2010; Russell, Hancock, & McCullough, 2007).

Although there is a growing body of literature discussing benefits of study abroad and off-campus learning experiences in general, there seem to be very few studies offering insights into research opportunities and experiences that can be generated through study abroad programs. Yet, in view of the present interconnectedness of global labor markets and expansion of business operations on a world-wide level, it is important for college graduates, especially those with an economics or business major, to be able to combine research skills with knowledge of international issues and global economies (Gamble, Patrick, & Peach, 2010; Olson, Evans, & Schoenberg, 2007). The present paper argues that a FLSTSA program provides a unique learning experience compared to other off-campus activities (such as internships, service-learning, international integrated university study, etc.). This is because it combines two types of research modes – “curiosity-led research” and “issue-led research” (the former one focuses on an issue isolated from its economic or social context and does not necessarily relate to practice as the latter one does) – and allows students to put their research into a larger “global” context (Fillery-Travis & Lane, 2008). In addition, it engages students in meaningful reflective practices (under the guidance of their mentors) that can help them to discover deeper meaning in their studies and formulate strategies that lead to more informed actions in addressing hotly debated issues and critical questions.

The model that we developed suggests that a faculty-led international course can help students find appropriate research topics in an international setting, gather both quantitative and qualitative data that otherwise would have been unavailable to them, and form meaningful relationships between the observed phenomena. Our own experience of leading a FLSTSA course to China and engaging business and economics students in undergraduate research suggests that this

type of study abroad works particularly well because it builds stronger relationships between students and their mentors, helps students better utilize local resources and experts to further their research, and allows the faculty to provide timely and constructive feedback and assess the impact of research experiences abroad on student learning and development in a more direct way. It is also important to assess the impact of the FLSTSA course on student research engagement. We thus offer a comparison of research engagement among those students who had the travel experience and those who did not. We provide practical insights and helpful lessons learned from our experiences with both undergraduate research and study abroad programs.

Development of the Faculty-led Short-term Study Abroad Program to China: Description, Goals, and Structure

In this section of the paper, the authors draw from their own experience of teaching a FLSTSA course to China. Why was China selected and not another international destination? During the last several decades, China has turned into a global economic and political superpower and modern economics and business students need to be able to understand the intricacies of China's business environment, its financial markets and institutions, and its progressing economic development. Because they offer a first-hand experience in a major advancing country that has been increasingly gaining attention in the world economy for more than a decade, study abroad programs to China have become a popular component of college curricula in the U.S. (Bhandari & Chow, 2007). The authors of this paper have created a team effort to offer a new program focused on Chinese economic, historical and cultural development and the increasing role of China and USA relations in the world economy. The team has had extensive experience in teaching and travelling to China and has worked together in a collaborative effort over the past five years.

With the support of the department chair, the dean, and the Confucius Institute (a public educational organization established by Chinese government in the U.S. to promote Chinese language and culture and facilitate cultural exchanges), we have created a focused China economic studies track. It consists of a five course sequence that includes the following courses: ‘China And US Economic And Political Relations: Past, Present And Future’; ‘Rising Powers: China's Economic Growth And Development’; ‘Political Economy Of Developing Nations’; ‘China's Financial System’; and a two week Travel Course entitled ‘From Wall Street to the Great Wall’. The latter faculty-led course was designed to add a new dimension to the learning experience in the track. The course is also a writing-enhanced course, which

requires students to complete a series of short writing assignments on topics covered in the course. Each course in the track is offered every two years; and the students are required to take any one of the courses prior to enrolling in the travel course. Upon their return from China, students who are interested in pursuing the China economic studies track complete the rest of the courses.

The goal of the faculty-led international course to China is to help students learn about the current political, social, and economic dynamics that are impacting China's society and institutions, raise the students' awareness of the vexing issues modern China has been facing and that need economic investigation, and pave the way for future undergraduate research activities. Engaging in an international travel course with all the logistical issues is not easy, and there are definitely some practical issues and precautions the faculty leading the course would have to consider (Shostya & Morreale, 2013). We believe that it is necessary that the students are well-rehearsed on cultural, economic, and historical aspects of the country in question. This is especially important in the case of traveling to a country with a culture and language vastly different from those of the home country. Therefore, the course starts off with bi-weekly meetings of the student group and the faculty during the spring semester (February-May). The one-and-a-half hour in-class discussions of different aspects of the Chinese economy, business practices, history, and culture are designed as preparation for the two-week travel component at the end of May and early June.

We find pre-travel meetings while still in the US to be an excellent platform for forming students' expectations and stimulating their interest in the country they are expected to visit, in this case, China. During the bi-weekly meetings, we cover specific aspects of China (such as its history, culture, and political and economic system), invite speakers who are natives from China, and assign readings from texts, magazines, and academic journals. Learning some basic foreign language skills is also a necessary prerequisite, and so students are required to attend at least one Chinese language class offered by Pace's Confucius Institute. The students also are required to write up summaries of each week's reading assignment and class discussion.

The following list is taken from the travel course syllabus and outlines the structure and topics of the pre-travel component of the course.

- Week 1: Introduction to China and its People
- Week 2: A Brief History of China: 5000 Years!
- Week 3: Communist China; Transition Reforms; The Chinese Economy
- Week 4: Culture of China; Oracle Bones; Cultural and Personal Etiquette
- Week 5: China in the World Economy and Business Practices
- Week 6: What is the Chinese Economic/Political Model?
- Week 7: Going to China

During the two weeks in China, students attend classes at the University of Shanghai for Science and Technology (USST) in English and Chinese, explore Shanghai, and travel to Beijing and Suzhou. The students keep logs and draw comparisons and contrasts to the information learned in the course prior to the travel component. At the end of the travel experience, each student is required to write a lengthy reflective paper on his/her study abroad experience. This reflective paper often serves as a culmination of the educational and personal gains of their travel experience and often forms the basis for further research that is carried out in the capstone senior course. We also use the reflective paper as qualitative evidence of the benefits of the travel course experience.

To engage in research with an international context, students often need to learn about identifying and utilizing local resources and experts of the country they are to visit. Perhaps the best way to identify and utilize these resources and experts is through the local institutions/agencies while they are abroad. Thus, the host university has an important role to play in the travel and research aspects of the experience. Our host university assists us with hotel reservations, local logistics, and tours. In addition, it offers lectures on Chinese language, culture, and business. It also organizes trips to local factories where students can learn the practical aspects of conducting business in China, as well as some issues that are faced by managers and employees. The host university, therefore, helps students to immerse into the local environment, stimulate their analytical inquiry, and initiate ideas for a research topic. We find opportunities to communicate and exchange ideas with Chinese scholars and students in a Chinese University particularly valuable for research purposes as they are a great source of inside knowledge about Chinese culture and Chinese economic and political structures. Such close connections with the host university help to mitigate the initial culture shock and ensure that the "high-intensity dissonance" that most students experience upon their arrival to a country that is radically different from their own in fact leads to a transformative learning (Brewer & Cunningham, 2009; Kiely, 2005). Students experience what Mezirow (1997) termed "a change in perspective," that is, a reconsideration of their understanding of how the world works.

Practical Considerations

Teaching a FLSTSA course to any country is challenging, and so it requires additional teaching skills for the professors involved. Some studies discuss the

pitfalls of focusing mostly on the content of the travel course without taking into consideration the psychological aspects and adjustments that accompany a group of students traveling together under conditions that are often uncertain and stressful (Ornstein & Nelson, 2006). Various studies have reviewed some precautionary measures that should be taken to address potential emergencies and minimize the risk of crisis (Colpitts, 2014; Ornstein & Nelson, 2006; Shostya & Morreale, 2013). These include pre-screening students through interviews by the faculty to determine their mental and physical fitness for a trip to China before they are given permission to register for the course. We, in fact, do this routinely in selecting students for our China course. The International Office at our university also requires a minimum of 3.0 GPA for students to be eligible for any study abroad program. The students who take our course are typically upper-level sophomores and juniors.

In addition, traveling to another country also is associated with some country-related dangers. Taking students to China, in particular, means that the students will most likely be exposed to air pollution, water contamination, high population density, and lack or inferiority of sanitary necessities. It is, therefore, vital to warn the students about these potential dangers and guide their behavior in such a way that they are able to enjoy the trip and learn in a safe educational environment. We also recommend to other educators who wish to set up a travel course to create a list of DO's and DON'Ts that could be given to the students at the last pre-travel meeting, to ensure that they understand the safety considerations of traveling to another country. There is also the need to build some comradery among the students before they travel. This helps in creating cohesiveness of the group and reinforces the common experience in which they will be involved.

The Outcomes and Findings

The authors of this study found a FLSTSA course to China to be a perfect vehicle for implementing key steps in the Undergraduate Research Model and meeting the proficiencies identified by Hansen (2001). A Hansen's proficiency approach ultimately shapes educators' expectations of what economics majors have to learn in order to be able to apply the knowledge and skills learned in college to the tangible experience of life after their graduation. Salemi and Siegfried (1999) show that undergraduate research creates opportunities for active learning, forcing undergraduate students to "do economics" (active learning) rather than "learn economics" (passive learning). McGoldrick (2007) advances this approach by showing that Hansen's proficiencies can be linked directly to the research process. Table 1 summarizes McGoldrick's mapping

strategy of Hansen's proficiencies with learning objectives and outcomes of our course which are taken from the FLSTSA course syllabus.

Studies indicate that "awareness is first and foremost key to success in engaging the undergraduate student" (Madan & Teitge, 2013). One of the travel course goals is to make students aware of social, economic, and political issues that modern China has to deal with, as well as the differences between the U.S. and China's economic and political structures and frameworks. We found that our international course to China, therefore, is especially conducive for the first two steps in undergraduate research – identifying issues and developing the research question (see Table 1). This is because it offers a direct exposure to a number of opportunities to students that go beyond just a set of facts, concepts, and readings. While traveling in China, the students live in an environment in which they are more likely to ask pertinent and penetrating questions and get involved in productive discussions with each other, as well as with the faculty travelling with them.

In addition, a FLSTSA course helps students understand and utilize the published literature in a more informed way, identify the sources of data pertaining to their topic, and advance their research skills (these are steps 3 and 4 in the undergraduate research model, see Table 1). Being exposed to the relevant literature, as well as to the real life phenomena that they can observe while in China, students are more likely to identify a research area for potential study (step 5). Student-travelers can obtain economic data using local resources and academic experts for possible use in their future research (step 6). Keeping a daily journal of travel experiences while in China helps students draw conclusions about the economic phenomena they are interested in, compare those conclusions to the literature they had reviewed during the pre-travel component of the course, and apply their analysis to the existing policy issue (steps 7, 8, and 9). The last step of the undergraduate research model (presenting research to peers and/or faculty) can take place once the students are back in their home country. Upon their return we require our student-travelers to attend and participate in various workshops in which they share their knowledge and experience with other members of the academic community of the home institution.

Our experience shows that the research pursued by our travel abroad students can take a variety of forms. Students get engaged in research that might involve sophisticated econometric analyses and theoretical models, and others might do more qualitative analyses which are equally stimulating and rewarding. In fact, we estimated that about one-third of each cohort of students who took the FLSTSA course to China got engaged in some sort of research project (outside of the capstone course required for the majors). Some of the

Table 1.
Undergraduate Research and Hansen's Proficiencies (McGoldrick, 2007) as Reflected in a FLSTSA Course Objectives and Learning Outcomes

Key Steps in the UR Model	Hansen's Proficiencies	Course Objectives and Learning Outcomes
1. Identifying economic issues	Accessing existing knowledge	Students are expected to learn more about the role that China plays in the world politics and world economy; analyze and critically evaluate the key differences in the economic systems of the U.S. and China; understand the logic behind Chinese reforms and the uniqueness of China's transition and its economic implications; understand business opportunities, challenges, and problems in China and their implications to American investors. Students are also expected to be able to identify development problems and evaluate the strengths and weaknesses of state-led and market-led development models.
2. Developing a research question	Asking pertinent and penetrating questions	Students are expected to participate in productive discussions related to economic, social, and cultural differences between China and the U.S. and developmental issues faced by modern China and identify their interests for potential research papers
3. Undertaking a literature search 4. Summarizing relevant literature	Displaying command of existing knowledge	Students are expected to write up summaries of each week's reading assignment and class discussions. Students are also expected to summarize the dimensions of a current economic policy issue as reflected in the reading assignments
5. Identifying an area of potential contribution	Interpreting existing knowledge	Students are expected to improve analytical techniques such as logical inquiry and comparative analysis; understand the relationship between economic theories and practical problems and apply current economic theories to the analysis of China's economy
7. Drawing conclusions 8. Comparing conclusions to identified literature 9. Applying analysis to current policy issues	Applying existing knowledge	Students are expected to keep a daily journal of travel experiences while in China that will help them to draw meaningful conclusions about observed economic phenomena.
10. Presenting research to peers and/or faculty	Creating new knowledge	Students have to write a reflective essay upon returning from China on the knowledge and experience gained. They are also expected to attend and participate in a coming together workshop gathering in early September with various members of the Economics Faculty and Confucius Institute Staff. Students who are interested in continuing doing research should contact the faculty about their project's topic, time-table and type of activity.

students who were enrolled in our faculty-led international courses participated successfully in essay competitions sponsored by the New York Chinese Opera Society (NYCOS), a nonprofit organization the primary goal of which is to preserve the ancient culture of the Beijing Opera. The papers won first and second

places, and the students and their mentors (the authors of the present study) received awards from the NYCOS.

The authors of this study also found that half of the students (50%) who collaborated with faculty in the Economics department through the special undergraduate research program funded internally were

those who had a study abroad experience, and all of them did research on different aspects of the Chinese economy. One student, for example, conducted a study of China's transitioning to a more consumer-driven economy. The student's choice of topic was a direct outcome of her travel experience. She was fascinated by the speed and magnitude of the economic transformation in China and had decided to investigate this issue further through econometric research. As we can see, the student's first-hand experience in China triggered the first two steps of the research process and addressed the related Hansen's proficiencies (see Table 1). Another faculty-student pair was interested in the differences between Chinese and American college students' study habits. Through the FLSTSA program, the student who was involved in this project had an opportunity to communicate and exchange ideas with students in the Chinese University. Yet, another student who received a university grant together with the faculty member, did a research project on Chinese students' incentives to study abroad. During the two weeks in China, he had an opportunity to interact with the local students, many of whom expressed desire to go to study abroad. Based on these discussions, our student decided to collect data first-hand (this is one of the research steps, see Table 1). He designed a survey instrument, distributed the surveys among the USST students, and tabulated the results when he got back to the US. His and other students' studies were presented at university-wide research conferences and national economics conferences. Some of them were submitted to peer-reviewed journals.

Another way to assess research outcomes of the FLSTSA program is to see if students enrolled in such programs are more likely to choose an international topic for their capstone research project than those who do not have such experience. The study abroad experience is not required of all economic majors, but the capstone is. This provided us with a way to draw comparisons between the students. We recorded the topics of two cohorts of students who were enrolled in our study-abroad program (19 and 16 students respectively) and completed successfully the senior capstone research course. We compared them with the topics used by the control group (a comparable group of 35 graduating seniors with the same majors, similar GPAs, and similar ethnic/origin background) who did not have any study abroad experience but completed the senior capstone research course. The results suggest that students with short-term FLSTSA experience are much more likely (47% of the total) to choose an international topic for their research than those without study abroad experience (18% of the total).

The authors also used self-reflective comments by the students to assess the learning outcomes. The students involved in student-faculty paired research

expressed their opinions about the role of the study abroad course in their undergraduate research experience and their choice of the topic. Here are some excerpts from students' blogs and research papers:

I chose this topic because I took professor ...'s travel course and visited China last year.

The professor has guided me and encouraged me to make progress in this research project. I gained much new knowledge by doing quantitative econometric analysis. I learned how to create a model from economy theory, collect data and using regression analysis to project my models for each country (U.S. and China) and then compare and explain the results.

I think I found such a connection with China that a part of me will stay there forever and I will always carry China in my heart. I continue to look forward to the final outcome of the project that my professor and I are working on.

Research allows us to apply theories and concepts that we learn in classrooms onto tangible life experiences. In addition, research has often life-changing implications. The research topic that my professor and I chose has important implications for my future career.

The undergraduate research program at our university has been a very rewarding and positive experience for me thus far. I feel fortunate I have been chosen to part-take in such an amazing program.

We believe that the preliminary assessment data demonstrate the impact of a study abroad experience on developing undergraduate research focused on international topics and issues.

Conclusions and Recommendations

While undergraduate research is not really a new pedagogical practice, doing undergraduate research in an international context is a newly emerging trend. Short-term programs (two to eight weeks) are becoming the most common type of overseas study for U.S. students today, and the number of students in business, economics, and other related fields going to study abroad have risen dramatically (Institute of International Education, 2013). Therefore, it is imperative for educators to realize that such short-term travel experiences provide unique additional learning outcomes.

In this case study, the authors share evidence on student learning and outcomes about engaging in research

with business and economics students in international settings. The model that we developed suggests that a Faculty-Led Short-term Study Abroad (FLSTSA) program can help students find appropriate research topics in an international setting, gather both quantitative and qualitative data that otherwise would have been unavailable to them, form meaningful relationships between the observed phenomena, and draw important conclusions and insights from the research. In addition, it helps establish longer term relationships between students and faculty from the home university to pursue further research and collaboration.

The authors of this study find a FLSTSA program to be an ideal vehicle for implementing key steps in the undergraduate research process that help students to develop practical skills and knowledge. This is especially important for economics majors who have to be proficient in six important learning objectives and outcomes (described as Hansen's proficiencies) if they are to compete in modern contemporary labor markets. Such an international experience allows them to carry out undergraduate research in a variety of forms, such as course-based activities, course-based projects, capstone experiences, and collaborative research with faculty. This study also offers some practical considerations drawn from the authors' teaching and research experience with undergraduates. We discuss the importance of pre-travel discussions and readings, the role of the host university, and connections with local experts, as well as some assessment tools.

DeLoach, Perry-Sizemore, and Borg (2011) make four recommendations to departments that wish to either create an undergraduate research program or improve an existing one. They suggest that departments should integrate Hansen's proficiencies into lower-level courses, create a laboratory environment, introduce a research methods course, and finally make a research experience a required part of the senior capstone. We extend their list with a recommendation of a FLSTSA course to be incorporated into the curriculum. We believe that such a course can expand the opportunities offered by the traditional academic experience of the capstone course or collaborative research. It can capture the transformational potential of study abroad programs and build global awareness that can lead to greater career opportunities. Most importantly, it can prepare students for a multicultural workplace and a global labor market offering many more career opportunities.

Overall, we also find the whole experience of involving undergraduate students in research via a faculty-led sojourn to China to be extremely gratifying both for the faculty involved and the students who take the course. It expands students' horizons and opens them up to a culture that is very different from their own. Witnessing firsthand a growing, expanding, and vibrant society and economy sparks a real interest in students to engage in

some research pertaining to Chinese culture and its economy. The students become more aware of the vexing issues faced by the Chinese government and the sharp differences between Chinese and American economic and political systems. This ignites a desire in them to do much more in-depth study of China, its culture, economy, and its people. The international experience has additional effects on students' choices of international topics for future research. This is reflected in their capstone experience and often results in collaborative faculty-student research activities. Finally, the products of the research are often presented at a university colloquium, competitions, and national conferences.

This model is not limited to economics and business students only. Engaging students in research via short-term study abroad would benefit students in other disciplines because such an international experience would enhance the students' understanding of research and broaden their intellectual horizons. Although Hansen's proficiencies target specifically economics majors, they can be applied to other social sciences and humanities disciplines. A FLSTSA program offers students and faculty with similar interests in any discipline an opportunity to work together on a research project. Faculty can also build on their own international research interests, connections, and projects to develop opportunities for their students. Working closely with a professor while gaining hands-on experience allows students to gain more knowledge and a deeper appreciation for their chosen academic field, as well as strengthen their research, critical thinking, and analytical and writing skills.

This study has some limitations. One problem is a selection bias: students who enrolled in the study abroad program to China may have had a pre-existing interest in international issues, so they could have engaged in global-oriented research in spite of our program. Another area for improvement is the assessment methods to assess the practical learning outcomes and improved quality of the students' research. The findings of this study can be expanded by follow up studies and interviews with students on the impact of the faculty-led international course on research/learning outcomes. Future research on the focus of this study should also address the comparative impact of the FLSTSA experience on the undergraduate research involvement vs. other types of experiences, such as internships, service learning, capstone experiences, and other domestic programs that can create opportunities to enhance students' research skills.

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