Measuring the Impact of International Experiences

CGS Webinar
June 16, 2016
2:00 PM EDT

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Council of Graduate Schools

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DFG North America
Webinar Logistics

- Presentation length is approximately 40 minutes followed by a Question & Answer period.

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Webinar Logistics

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Webinar Outline

- Workshop Description
- Workshop Key Findings
- Workshop Highlights
- Workshop Recommendations
- Resources
- Questions
Evaluating International Research Experiences for Graduate Students

February 16, 2016
Arlington, VA

CGS-DFG-NSF WORKSHOP
Workshop Agenda

What Do We Know?

Session I: Funding International Research Experiences: Two Program Evaluations

Session II: International Research Experiences: The Institutional Perspective

Panel Discussion: International Research Experiences: The Participant Perspective

Session IV: International Research Experiences: The PI Perspective

What Can We Do?

Session V: Tracking the Outcomes of International Research Experiences

Conversation Cafe: What Questions Should We Ask and How Should We Ask Them?
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Workshop Key Findings

- There is a need for more robust research and assessment data on international research experiences.
- Foundational research is needed on:
  - the value of international experiences,
  - their impact on global competencies and career development,
  - the effects of timing and duration,
  - and barriers to participation by under-represented groups.
- Participation increases likelihood of continuing international collaborations.
- There is a potential link between the networking opportunities international experiences provide and career success.
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Carter Epstein – Abt Associates  
*Ten Years of the Partnerships in International Research and Education (PIRE) Program*

Sebastian Granderath – Deutsche Forschungsgemeinschaft (DFG)  
*The International Research Training Group (IRTG) Program 2015 Evaluation*

**AGENCY PROGRAM EVALUATIONS**
Epstein: PIRE Evaluation

- Higher percentages of PIRE PIs and graduate students continued to collaborate with foreign researchers after the project had ended. Analyses restricted to those who reported a collaboration during the project with a foreign researcher.

\[ p < .01 \]

*\(^a\)* i.e., after the award end date, or after the participant’s role in project had concluded. Analyses restricted to those who reported a collaboration during the project with a foreign researcher.
Granderath: DFG IRTGs

- IRTGs provide an opportunity for longer-term international research experiences than RTGs
- Time to degree is not negatively impacted
- Publication intensity is equivalent
Karen DePauw – Virginia Tech
*International Research Experiences: Challenges and Opportunities for Graduate Students*

Thomas Jørgensen – European University Association
*FRINDOC: Evaluating the Institution*

**THE INSTITUTIONAL PERSPECTIVE**
DePauw: Institutional Goals

- Institutional Barriers
  - financial aid limitations while students are abroad
  - time away from a student’s primary research project
  - institutional concerns about return on investment

- Investigate innovative ways of providing international experiences to students who do not have travel opportunities, a.k.a. “internationalization at home.”

- Universities should document the purpose of internationalization and establish guidelines for assessing the impact of internationalization efforts.
Jørgensen: FRINDOC

- “Framework for the Internationalisation of Doctoral Education” (still in development)

- Convergence of two trends in doctoral education
  - The professionalisation of management – doctoral schools, quality assurance
  - The importance of doctoral education for international strategies and research collaborations

- EUA wanted to find a structured way of talking about internationalisation of doctoral education, beyond the mobility discussion

- The project consortium created a framework with main dimensions and individual elements of the institutional development perspective
  - Mobility
  - Research Capacity
  - Institutional Structures
  - International Profile

Gerhard Erker – University of Münster
Lessons from IRTG in Chemistry

Judith Kroll – Penn State University
Lessons from PIRE: An international network for graduate research and training in cognitive neuroscience and linguistics

THE PRINCIPAL INVESTIGATOR PERSPECTIVE
Erker: Lessons from IRTG

IRTG in Chemistry with **Nagoya University**; 60 doctoral students each spent 6 months in Japan; 35 students from Japan spent 6 months at the University of Münster over nine year project period.

- Even though most PhDs in Germany find industrial positions, those in the IRTG had an employment advantage because of their international experience.

- The cohort model provides the framework for future research collaborations and fosters mobility.

- The accelerated professional development helps participants achieve those collaborations (network) more quickly.
Kroll: Lessons from PIRE

Interdisciplinary program in cognitive psychology, linguistics, and cognitive neuroscience.

- Benefits to Students
  - Participants collect data that would otherwise be impossible to collect at the home institution
  - Professional development opportunities
  - Meet a new cohort of graduate students
- Benefits to the PIs
  - Form new collaborations
  - Students become the catalysts for new lines of collaborative research
  - A steady stream of visitors to our laboratories
  - Graduate recruitment tool
Kara Spiller, Assistant Professor - Drexel University

Andrea Stith, Assistant Director for Interdisciplinary Education - University of Colorado-Boulder

Lisa Deuse, IRTG Participant - Universities of Aachen/Pennsylvania

THE PARTICIPANT PERSPECTIVE
The Participant Perspective

• Common Observations
  • “Increased confidence” as a key outcome of their experiences
  • They would not have been able to go without financial support

• Their Recommendations
  • Minimum stay of six months desirable to achieve benefits
  • Survey participants before, during, and after stay
  • “My international experiences completely changed the way I think about science and scientists.”
  • “…the experience ... made me more competitive on the job market and showed my subsequent employers that I can adapt to different data collection systems and environments.”
  • “This experience ... was influential in geographical considerations when applying for jobs.”
WHAT CAN WE DO?
Mary Besterfield-Sacre – University of Pittsburgh
Cheryl Matherly – University of Tulsa
Measuring the Impact of Global Preparedness and Competency in Students

Doris Rubio – University of Pittsburgh
A Career Success Model

TRACKING THE OUTCOMES OF INTERNATIONAL RESEARCH EXPERIENCES
Besterfield-Sacre/Matherly: Assessment Tools

• What should we ask?
  • What are the desired outcomes or attributes of the student? of the program?
  • What is the impact we want to measure?
  • Then determine the instrument that best meets them.

• Where and when in the program?
  • Formative versus summative evaluation

• Are there models to adapt or adopt that we can use to leverage our work? Develop new tools only where necessary, because many already exist.

• See *Handbook of Intercultural Competencies* (Deardorff, 2009)
Besterfield-Sacre/Matherly: Example Assessment Tool

- Global Perspectives Inventory (Larry Braskamp et al.)
  - Quantitative
  - Concise
  - Valid & reliable

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<th>COGNITIVE</th>
<th>KNOWING</th>
<th>KNOWLEDGE</th>
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<tr>
<td></td>
<td>Degree of complexity of one's view of the importance of cultural context in judging what is important to know and value</td>
<td>Degree of understanding and awareness of various cultures and their impact on our global society and level of proficiency in more than one language</td>
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<td>INTRA-PERSOINAL</td>
<td>IDENTITY</td>
<td>AFFECT</td>
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<td>Level of awareness of one's unique identity and degree of acceptance of one's ethnic, racial, and gender dimensions of one's identity</td>
<td>Level of respect for and acceptance of cultural perspectives different from one's own and degree of emotional confidence when living in complex situations, which reflects an &quot;emotional intelligence&quot; that is important in one's processing encounters with other cultures</td>
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<tr>
<td>INTER-PERSOINAL</td>
<td>SOCIAL RESPONSIBILITY</td>
<td>SOCIAL INTERACTION</td>
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<td>Level of interdependence and social concern for others</td>
<td>Degree of engagement with others who are different from oneself and degree of cultural sensitivity in living in pluralistic settings</td>
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Rubio: Model for Career Success

**Personal Factors**

**Demographics**
- Age
- Race/ethnicity
- Gender
- Socioeconomic status
- Family composition

**Psychosocial milieu**
- Life events
- Burnout
- Family stress
- Care of dependents

**Education**
- History
- Degrees
- Research experience

**Personality**
- Motivation
- Creativity
- Passion
- Interest
- Leadership
- Self-efficacy
- Professionalism

**Career Success**

*Extrinsic success*
- Financial success
- Promotion
- Leadership positions
- Grants
- Publications

*Intrinsic success*
- Job satisfaction
- Career satisfaction
- Life satisfaction

**Organizational Factors**

**Institutional resources**
- Financial resources
- Infrastructure
- Global support of research

**Relational factors**
- Mentoring
- Networking

**Training**
- Didactic programs
- Research experience

**Conflicting demands**
- Clinical responsibilities
- Service responsibilities

- **Job Satisfaction** (average of 7 items)
  - Networking – average # of people connected (p=.003)
  - Resources – Able to secure research resources (p<.001)

- **Career Satisfaction** (average of 2 items)
  - Resources (p=.02)

Maresi Nerad – University of Washington

CONVERSATION CAFE
What questions would you like to see answered in the context of international research experiences for graduate students?

Value Added

• Does the research experience add value to graduate training and education, and if so, how?
  - Does it actually expand participants’ networks of collaborators?
  - Does it give them access to new or different resources, facilities, people, or datasets?
  - Does it change the way a student approaches or conducts research?
  - How do these factors and outcomes vary by discipline?

• What is the return on investment to the student, advisor, institution, funding agency or society, and how do we distinguish between them?

• Are there competencies that are unique to international experiences and how could they be measured?
What questions would you like to see answered in the context of international research experiences for graduate students?

Career Impact

• How do the outcomes of an international research experience align with the students’ professional development needs? Does it fill a gap?
• Does an international research experience favorably alter a student’s career pathway?
• What are the long-term impacts of international experiences?
• How do employers perceive international experiences when hiring?
What questions would you like to see answered in the context of international research experiences for graduate students?

Barriers to Participation

• What are the strategies to incentivize/ensure adequate representation by and support of under-represented minority students?
• What are the deterrents and motivators to graduate students going abroad?
• How can technology contribute to or provide new forms of international research collaborations and experiences?
What questions would you like to see answered in the context of international research experiences for graduate students?

Timing and Duration

• Is graduate school the best time for an international research experience? Is it unique and sufficiently different from similar experiences at the undergraduate or post-doc level? If so, what are the differences?
• When is the optimal time for a graduate student to go abroad?
• How to best measure the comparative value of short, medium or long-term research stays (3, 6, or 12 or more months)?
• What are the influences of student age and prior experience on timing, duration, destination and purpose of the research visit?
From your perspective, what is the best approach to evaluate international research experience for graduate students?

All groups recommended a mixed method approach (both quantitative and qualitative) that includes longitudinal data collection and allows for differential analysis by demographics, discipline, and country. The specifically cited the following evaluative activities as critical:

- Both formative and summative evaluation
- Pre- and post-participation surveys
- Employer surveys
- Individual and group reflection (e.g., blogs, photo journals)
- Triangulating evidence (e.g., third-party ratings along with surveys to compare viewpoints)
- Measurement of specific indicators of intercultural adaptability.
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• **Federal agencies and organizations** that support international research collaborations – for either individuals or groups of students – should:
  a. enable systematic reporting of student outcomes as part of the project evaluation.
  b. also support foundational and longitudinal data collection and research studies that evaluate the long-term impact of international research experiences on participants’ research careers and the global preparedness of the workforce.
  c. provide statistics and information on students engaging in credit and non-credit activities abroad by degree level whenever possible.

• **Funding agencies and institutions** should support early career researchers who have previous international research experiences in order to build and maintain international professional research networks.

• **Institutions** that support international activities at the graduate level should incorporate long-term participant career tracking into their formative and summative assessment activities.

• **Principal investigators** on collaborative international research projects should have embedded assessment and evaluation protocols for measuring the impact of their activities on participant career development, future leaders' personal development, and global citizenry.

• **Graduate students** who participate in international experiences should be prepared not only to participate in long-term evaluation projects, but also to share their experiences with their peers and colleagues in formal and informal settings in order to demonstrate both the individual and collective good of their experiences.
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Resources

Presentations, background information, and Workshop Final Report and Executive Summary:

http://cgsnet.org/2016-cgsnsf-workshop-evaluating-international-research-experiences-graduate-students
Additional Resources


• **Deardorff, D.** (2009), *The SAGE Handbook of Intercultural Competence*

• **The World is the New Classroom: Non-Credit Education Abroad**, A Study of U.S. Student Participation in Non-Credit Education Abroad and U.S. Institutions’ Data Collection Processes, Institute of International Education (2016)

• **Global Engineering Collaborative** - [http://geec.info/](http://geec.info/)
Advisory Committee

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THANK YOU!
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Taizo Yamada
Adviser, Washington Office Japan Society for the Promotion of Science
Besterfield-Sacre/Matherly: Assessment Tools

... many already exist!

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<tr>
<th>Title and Link</th>
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<td>Australian Second Language Proficiency Ratings (ASLPR)</td>
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<td>Beliefs, Events, and Values Inventory (BEVI)</td>
<td>Personal disposition toward transformational experiences</td>
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<td>Cross-Cultural Adaptability Inventory (CCAI)</td>
<td>Cross-cultural workplace adaptation</td>
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<td>Global Perspective Inventory (GPI)</td>
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<td>Global teams effectiveness and productivity</td>
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<td>Intercultural Development Inventory (IDI)</td>
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<td>Objective Job Quotient System (OJQ)</td>
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<td>Peterson Cultural Style Indicator (PCSI)</td>
<td>Cross-cultural awareness and effectiveness</td>
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<tr>
<td>Schwartz Value Survey (SVS)</td>
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<td>Tests for Hidden Bias</td>
<td>Unconscious prejudices</td>
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Adapted and updated from *Handbook of Intercultural Competencies* (Deardorff, 2009)