When One Size Doesn't Fit All: Analyzing Data for Diverse Student Populations

Session 3 of a 4-part Series
From Theory to Practice: Assessment and Evaluation for Study Abroad Programs
#LaunchIDEASabroad

To mute/unmute yourself
To turn your video on/off

To show the menus in Zoom: hover over the bottom or top of the screen.
IDEAS Program

A program of the U.S. Department of State Bureau of Educational and Cultural Affairs, USA Study Abroad branch

Seeking to expand higher education institutions’ capacity to grow and diversify study abroad programs for U.S. students

- Increase number of all students studying abroad, especially those from underrepresented groups
- Increase the number of U.S. higher education institutions offering study abroad programs
- Expand study abroad to new overseas destinations, particularly those that are less common

Grant Competition

- Approximately 40 grants of up to $35,000

Capacity Building Initiatives

- Virtual and in-person, open to everyone

StudyAbroadCapacityBuilding.org
2022 IDEAS Grant Competition

THE 2022 IDEAS PROGRAM GRANT COMPETITION IS NOW OPEN!

PHASE 1 DEADLINE: 2/20/22
USA Study Abroad

Mission:
To advance U.S. foreign policy goals by increasing and diversifying U.S. study abroad through programs for both individuals and institutions and to support the next generation of diverse American leaders to gain the knowledge and skills they need to succeed in a globalizing world.

Rebecca Johnson
Program Officer
USA Study Abroad
U.S. Department of State
IDEAS Program 2021
Study Abroad
Needs Assessment

Priorities for Training

45% Recruiting and supporting underrepresented students in study abroad

40% Developing institutional financial strategies for expanding study abroad

39% Faculty-led study abroad best practices / preparing program leaders

30% Assessment and evaluation
Today’s Facilitators
Professional and Graduate Education
Mount Holyoke College

Dr. Tiffany Espinosa
Executive Director
Lead Facilitator

Amy Asadoorian
Marketing & Communications
Monitoring the chat

Roberto Mugnani
Director of New Programs
Facilitator

Jill Cooney
Administrative Systems
Monitoring the chat
Goals and Agenda

Today we will explore how to assess needs and design programming for unique subcategories of students.

1. Translate needs assessment data into program assessment
2. Investigate strategies for disaggregating data
3. Explore techniques for collecting data
4. Two tools for comparing sample group data
5. Interpreting data: are differences between groups significant?

Follow-up session to review and get feedback on your assessment plan. Try it and share your ideas with us on March 9, 2022
Serving diverse students

Evaluation for Success
Did our design work?
Were our assumptions valid?
What is still needed?

Needs Assessment
Gaps
Opportunities

Program Design
Theory of Change, Logic Model
Learning Outcomes
Universal Design? Differentiation?

Iterative Design

Assessment Process
Designing Better Programs

Needs Assessment
- Formal and informal processes
- Direct input vs. secondary data
- Expressed vs. observed

Effect on program design
- Choice of appropriate outcomes
- Identify appropriate indicators
  - What is the best measure?
- Develop supporting structures

Evaluating Success
- Good data collection
- Investigate differences by audience
- Are they significant, or noise?
Assessment Process

Make Modifications
- Identifying interventions
- Implementation planning
- Communication planning

Articulate Goals and Objectives
- Why is this important?
- What do you hope to achieve?
- Who cares and why do they care?
- What are the implications?

Interpret the Data
- Statistical analysis
- Qualitative data analysis
- Trends
- Criteria for success
- Context considerations
- What does it mean?

Develop an Assessment Strategy
- Goals
- Logic Model
- Assessment Methods
- Criteria/Standards
- Use of Information
- Implementation Plan
- Communications Plan

Collect Data & Evidence
- Direct Measures: Coursework, Capstone projects, Portfolios, Participation
- Indirect Measures: Surveys, Interviews, Focus Groups
- Data that allows you to make inferences
Data collection tips

Know what you want to investigate before collecting data
• It will make the process much, much easier
• Identify appropriate measures/indicators (use a logic model)

Confidential
• Ask questions (e.g., student number, name) that enable us to connect the survey responses to other data sets (e.g., student records or profile information).
• Only report data in the aggregate, and do not share personally identifiable information.

Anonymous
• The only information that you have is contained in the survey. You can’t follow up or connect it to other data.
What do you want to know?

Be clear about what you want to investigate:

- Cultural competencies
- Learning outcomes
- Satisfaction/Importance
- Student identity development
- Growth (e.g. comparing pre- and post-program scores)
- How important specific factors might be

Prioritize what you ask on surveys

Consider different ways to collect data beyond surveys

- Student Information System
- Artifacts
- Observed behaviors
Identify Traits of Interest

• Area of study (social sciences, STEM, humanities)
• ADA protected students
• Athletes
• Clubs or leadership roles
• First generation students
• Gender
• LGBTQ+ students
• Nationality
• Online participants vs on-site participants
• Race/ethnicity

Or other criteria of interest/concern.

To disaggregate data, you need to be able to identify people as a part of a group!
Types of data

Categorical data

- Have you traveled abroad before?
- What foreign language(s) do you speak?
- Are you an athlete?
- Are you a freshman, sophomore, junior or senior?
- **Tool/Test:** Cross Tab and Pearson’s chi-squared test

Continuous data

- How many hours did you study?
- How many years have you studied foreign languages?
- What did you score on a test (0-100%)?
- **Tool/Test:** Averages and independent t-test
Key Concepts

Random Samples

Population

Sample

What is the probability of us getting this specific mix of observations if we were to randomly pick from the population?

Is it Different?

Population

Expected

Observed

If the probability of getting this mix is 5% or less, we assume there is a significant difference between the groups.
Pearson’s chi-squared test

Categorical data

- Variability between what we observed vs expected
- Estimates probability based on the sample data we have

**Example:** 3 levels of competency, 3 sites

<table>
<thead>
<tr>
<th>Cultural Competency</th>
<th>Study abroad destination</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Denmark</td>
</tr>
<tr>
<td>Excellent</td>
<td>9</td>
</tr>
<tr>
<td>Good</td>
<td>11</td>
</tr>
<tr>
<td>Poor</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>32</td>
</tr>
</tbody>
</table>

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Denmark</td>
</tr>
<tr>
<td>Excellent</td>
<td>8.32</td>
</tr>
<tr>
<td>Good</td>
<td>16.32</td>
</tr>
<tr>
<td>Poor</td>
<td>7.36</td>
</tr>
</tbody>
</table>

What we observed and expected are different, but is it significant?
**Pearson’s chi-squared test**

This test will tell us if these two groups have a statistically significant difference.

\[
=\text{chitest(array 1, array 2)}
\]

array = group of data

If the result is smaller than .05, then we have *sufficient evidence* that the observations are significantly different than what we would have expected.

Here *there is a statistically significant difference*: students from different destinations demonstrate different levels of cultural competency.
Expected Frequency Calculations

Categorical data & Cross Tabs

To calculate expected frequencies for each cell:
1. multiply the Column Total (e.g. Total “Denmark” B11+B12+B13) by the Row Total (e.g. Total “Excellent” B11+C11+D11)
2. divide by the Overall Total number of observations (= 100).

Example: Expected frequency of Students who went to Denmark and demonstrated Excellent Cultural Competency
Step 1. (32 x 26) = 832
Step 2. 832/100 = 8.32
Independent T-tests

Continuous data

- Variability between groups / variability within groups
- A large ratio means it is likely to be statistically significant
- Estimates probability based on the sample data we have
- In Excel/Google Sheets you need equal sized sample groups.
- There is no minimum sample size, but the larger the size, the better

These averages are different, but is it significant?
Independent T-tests

The t-test will tell us if these two groups have a statistically significant difference.

= T.TEST(array 1, array 2, tails, type)

array = group of data
 tails = 2
 type = 1

If the T-test probability is larger than .05, then we do not have sufficient evidence to say that the two populations are different.

Here, we conclude there is not a statistically significant difference.
Pre-flight Checklist

- What are you curious about?
- What are the best measures?
- Can you identify traits of interest in your participants?
- Is your data collection confidential?
- Are there other data sources that can provide more information?
- What sort of data do you have (continuous or categorical?)
- What statistical test should you use? T-Test or Chi-square?

Next Steps: Now what?

- How will you interpret and share the results?
- How will the results help you develop programming in the future?

Hands on workshopping session: March 9, 2022, 3:00-4:30pm EST
From Theory to Practice: Assessment and Evaluation for Study Abroad Programs

Upcoming Training Sessions

Incubator Session: When One Size Doesn't Fit All: Analyzing Data for Diverse Student Populations
March 9, 2022, 3:00-4:30pm EST

Come share your assessment plans and discuss strategies and tactics for assessing needs, planning and disaggregating data for subcategories of students.

You will have the opportunity to share a plan-in-progress, and, work together to iterate your assessment design.

See how other institutions are approaching assessments, share insights, and consider opportunities and challenges in implementation.
The IDEAS (Increase and Diversify Education Abroad for U.S. Students) Program, formerly known as the Capacity Building Program for U.S. Study Abroad, is a program of the U.S. Department of State with funding provided by the U.S. Government and supported in its implementation by World Learning.