Addressing the Quantitative Literacy Gap

The Integrating Data Analysis (IDA) Project: What is it all About?

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ASA
SSDAN
The IDA Project

American Sociological Association (ASA)

Social Science Data Analysis Network (SSDAN) at the University of Michigan-Ann Arbor

Funded by the National Science Foundation: Program in Course, Curriculum, and Laboratory Improvement (CCLI)
The IDA Project: The Problem

- Students in sociology declare their major at a very late stage
- Little or no exposure to research training or data analysis in introductory courses
- Exposure to research occurs just when students are about to graduate
- Quantitative literacy gap
The IDA Project was born out of the MOST Program, funded by the Ford Foundation.

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MOST addressed five core goals:

- Curriculum transformation
- Research training
- Mentoring
- Climate
- Pipeline
The IDA Project: Objectives

- Address the scientific literacy gap for undergraduate students in sociology
- Work with departments to introduce data analysis early, frequently, and sequentially throughout the curriculum
- Promote active learning through data analysis and research training
The IDA Project: The Benefits

- Improves data analysis skills and quantitative reasoning
- Greater comfort with quantitative data analysis (changes in attitudes about statistics and quantitative reasoning)
- Enhances understanding of and engagement with course material
- Appreciation for the empirical base of the discipline
- Increases likelihood of applying to and entering graduate school
- Enhances employment opportunities
The IDA Project: Strategies

- In order to achieve long-term, systemic change, IDA was designed to be a department initiative.

- A critical mass of department faculty participated in the program in order to achieve curricular transformation.

- IDA and SSDAN staff work with and support faculty members and departments as they integrate data analysis into the curriculum.
The IDA Project

IDA was a three-year project designed to work with faculty at the department level to introduce scientific reasoning and data analytic skills into the undergraduate curriculum.
The IDA Project: Initiatives

- IDA-SSDAN Workshop: Module development and plans for curricular transformation, with at least half (50%) of department faculty
- Meetings/workshops at ASA annual meeting and other regional meetings
- Site visits
- Technical assistance
- Departments: annual reports and evaluation plans
The IDA Project: Expected Outcomes

- IDA participants develop modules for one or more courses, using Census data, CPS, crime data, etc.

- Infuse data analysis/research training throughout the curriculum

- Develop IDA into a department-wide initiative so that all students will benefit

- Develop and implement evaluation plans

- Dissemination of IDA
The IDA Project: The Participants

Twelve sociology departments were competitively selected, at the national level, to participate in the IDA Project
The IDA Project

- Participating Institutions, 2002:
  - North Carolina State University
  - Sinclair Community College
  - South Dakota State University
  - SUNY-Brockport
  - University of Central Florida
  - Western Washington University
The IDA Project

- Participating Institutions, 2003:
  - Augsburg College
  - Berea College
  - Cleveland State University
  - CUNY-Lehman College
  - Ithaca College
  - Wake Forest University
Dissemination and Institutionalization of IDA

- Dissemination of the IDA project is an extremely important component:
  - Extending IDA to other departments and institutions is key
  - Conferences, meetings, workshops to further disseminate IDA are instrumental
  - Publications
  - Seeking additional funding to institutionalize IDA
Enhancing Research Training

- Research training is a very important aspect of the student’s undergraduate and graduate education
- Increases student’s engagement with and understanding of course material and the academic field
- Enhances student’s research and technical skills
Research Training Benefits Students

- Extremely important in socializing students into the discipline and the profession
- Provides for the development of close mentoring relationships
- Helps students apply and gain access to graduate school
Research Training Also Benefits Employers

- Enhances student’s skills:
  - Analytical and critical thinking
  - Quantitative and qualitative data analysis
  - Computer and computer software
  - Writing and presentation
Research Training Also Benefits Employers

❖ Students develop a sense of:

✓ Responsibility
✓ Organization
✓ Collaborative work
✓ Team spirit
✓ Leadership
✓ Timeliness
Research Training

- Promotes active learning
- Students learn research by doing research!

Students learn sociology, psychology or chemistry by doing sociology, psychology or chemistry!
Systemic or Institutionalized Research Training Initiatives

- Work with departments to introduce research training based initiatives *early, frequently, and sequentially* throughout the curriculum
Systemic or Institutionalized Research Training Initiatives

- Department-wide efforts will allow for the development of systemic and long-lasting research training initiatives.

- These initiatives will contribute to generating new cohorts of undergraduate students that will have a better understanding of:
  - what their field is all about
  - what researchers actually do
  - the applicability, importance, and contributions of research
The IDA Project

Summary

- IDA has been an important and innovative project that has allowed us to work with departments to address the quantitative literacy gap
- IDA promotes active learning among undergraduate students throughout the curriculum
- It is a department-wide initiative focusing on systemic and long-lasting research training initiatives
The IDA Project

Summary

- IDA will result in new cohorts of undergraduate students with a better understanding of sociology, of what sociologists do, and of the applicability and importance of the discipline.

- IDA has allowed us to develop models of integrating data analysis throughout the curriculum, which are transportable to other departments and institutions throughout the country.
Summary

- Research training initiatives are extremely important in providing students with the technical know-how, scientific skills, and critical knowledge to conduct research, from an interdisciplinary perspective.

- Research training and mentoring have allowed us to increase the number of students generally and students of color specifically in the pipeline of higher education.
Summary

❖ Research training will:

✓ increase the number of students interested in their corresponding academic fields

✓ produce more scholars, researchers, and practitioners

✓ make significant contributions to our disciplines and to our society
There is no “magic formula” to provide research training; there are a variety of alternatives and methodologies that we can pursue: **FOCUS ON WHATEVER WORKS BEST FOR YOUR DEPARTMENT, YOUR STUDENTS, AND YOUR FACULTY**
Thank You!

Questions?