

Inspiring Interest in Statistics among Students: A Perspective from U.S. Statistical Offices

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Objectives of National Statistical Offices

- Maintain/increase survey & census cooperation
- Obtain accurate responses to surveys & censuses
- Ensure usability of official statistics
- Disseminate data so that it is accessible to all potential users



Requirements to meet Objectives

- Survey awareness among general public
- Statistically literate data users
- Highly skilled statistically knowledgeable workforce



Investment Strategies

- Target students at different educational levels
- Enhance statistical literacy of students and general population
- Promote use of official statistics in learning materials
- Support education programs relevant to survey statistics



Why target students?

- Students are future survey respondents
- Students can influence parents and others to respond
- Double bonus – also involves teachers/educators
- Students will be data users
- Students may later become official statisticians



Why are NSOs interested in increasing statistical literacy?

- Statistical literacy needed to understand NSO products
- In general, level of statistical literacy is low among general population
- NSOs are well positioned to promote statistical literacy through their websites and other dissemination capabilities



NSOs have focused historically on learning materials

- Learning materials are the traditional way of reaching students
- Learning materials can be a natural by-product of their work
- E-learning can be furthered through organizational websites



Learning materials often centered on Census

- Census of Population and Housing began developing learning materials with the 1990 Census
- USDA developed learning materials for the 2002 Census of Agriculture being revised by FFA for applications to data use post the 2007 Census of Agriculture



Benefits of Development of Learning materials

- Learned objectives of educators
- Worked with individuals at different levels of numerical & statistical knowledge
- Created awareness of censuses and surveys – their purposes and data products
- Enhanced statistical knowledge to use data appropriately
- Promoted use of official statistics



By-Products of Development of Learning Materials

- Collaboration with educators – schools and other educational organizations such as Future Farmers of America
- Work with publishers – print and electronic
- Outreach to other government levels and organizations
- Partnering with academics, professional, and nonprofit organizations



Efforts of NSOs to increase Statistical Workforce

- Encouraged integration of statistics into mathematics and other school subjects and development of AP Statistics
- Worked within professional associations to encourage flow of individuals from AP statistics to statistics majors within universities
- Worked with JPSM to develop college level summer intern program in survey methodology at US NSOs
- Sponsor JPSM academic program



Impact of Efforts of NSOs to increase Statistical Workforce

- Others will report on the integration of statistics into high school & development of AP Statistics – AP Statistics program has met with unexpected success
- Universities has not yet successfully responded to influx of individuals completing AP statistics to direct them to study of statistics
- JPSM intern program has encouraged some to embark on survey careers; others to learn about official statistics



Success of JPSM for Official Statistics

- JPSM receives 80% of its financial support from U.S. NSOs
- Students completing degree programs (masters & doctoral) have enhanced the level of statistical work at US statistical offices, international statistical offices, and private survey firms
- Certificate program designed for those who don't need the full masters degree program
- JPSM short courses have helped keep statistical workforce current with changes in survey field



What is direction for Future?

- NSOs need to design their learning program for K-8, in particular, to be more interactive and in sync with learning style of children/students in today's world
- CensusAtSchools provides a model for interactive learning that allows the potential for stretching students' imagination and allowing them to learn about how surveys produce statistics and the opportunities for statistical analyses



What is direction for Future?

- CensusAtSchools could address the objectives of a NSO:

- Understanding of importance of response to surveys

- Importance of accurate data collection

- Using statistical data

- Analyzing statistical data

- Interested in learning about the effectiveness of the program as it has been applied in countries that have adopted it



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