IRB Application

Please note: All applicants must complete the application form and data security assessment form prior to submission to the IRB. The IRB Committee retains submitted applications for no more than three years. Please keep a copy of your submission for your future use.

IRB Case Number _____

Application Date _____

SECTION ONE: SUMMARY INFORMATION

Title of Research

2140950: Implementation and Evaluation of the ARIS Broader Impacts Toolkit

Principal Investigator

Applicant Name Ellen Iverson

Applicant Email Address eiverson@carleton.edu

Consultants or Co-Investigators and Institutional/Department Affiliations (if any)

Kristin O'Connell, Ashley Carlson, Bonita Flournoy, SERC at Carleton College
Janice McDonnell, Liesl Hotaling, and Sage Lichtenwalner, Rutgers University
Susan Renoe, University of Missouri

Project Background

Is Carleton IRB the "IRB of Record" for this project?

Select "yes" if Carleton College is the only institution involved in your project. If your project will involve research subjects at multiple institutions with IRBs, one IRB *only* must be designated as the IRB of record. If the Carleton IRB is not the IRB of record, you should not submit an application here. Please contact the IRB chair for further instructions

☑ Yes ☐ No

Will the proposed project be conducted wholly or partially outside the United States?

☐ Yes ☑ No

International Projects

If the proposed project will be conducted wholly or partially outside the United States, provide additional information about the institution or researcher under whose auspices the project will be conducted. *Be sure to include name, institution, and contact information.*

Does the local institution approve research projects with a body equivalent to an institutional review board? Have you contacted this organization about obtaining their approval of your project?

If no local institution can approve your project, have you consulted with an expert - a Carleton faculty member, a researcher who works in the area where you will conduct research, etc. - who can guide the research process and provide advice on local ethical standards to the Carleton IRB? If so, please provide contact information about this person. If not, please make such contact immediately; IRB approval may be contingent on such a relationship.

Is this research being carried out at multiple institutions within the US? ☑ Yes ☐ No

Is this research being conducted with the support of a grant from the U.S. federal government? Examples: the National Science Foundation , the National Institutes for Health, etc. ☑ Yes ☐ No

Please give funding agency and grant number, if known

NSF OIA-2140950

Is this research in connection with a fellowship application or a grant-funded project? (including Carleton grants and fellowships) ☑ Yes ☐ No

Please identify the fellowship(s) and/or grants which will support this research.

NSF OIA-2140950

Purpose of project (in one or two sentences)

The central aim of this study is to support the development of an evidence-based Broader Impacts Toolkit by systematically examining the implementation of the Toolkit at ten pilot institutions.

Intended Use of Information Gathered
This might be for a comps paper, for a public presentation on or off campus, for a presentation at an academic meeting, possible publication venues, to assist the library staff in planning, etc.

The information gathered will be used for research and evaluation purposes. Data will be reported only in aggregate in reports, conference presentations, and publications. Institutions that participate in the pilot may choose to publish their work as a separate case study related to changes in practices or institutional change, but this is separate from the study of the toolkit.

Location of Study
For example: on campus, in Northfield schools, in the Twin Cities, in Los Angeles, etc.

Data will be collected virtually via Qualtrics.

Anticipated start date of project October 1, 202 Anticipated end date of project 09/3/2024

Information About Subjects

Estimated number of subjects 300

Age range of subjects 18-98

Sex/gender of subjects All
Indicate if you will be using all genders in your study, or if you will be selectively sampling particular genders. Note that for demographic purposes, participant genders should be measured with open-ended prompts, such as 'Man,' 'Woman,' or 'I identify my gender as _____ (please specify)'

SECTION TWO: INFORMATION FOR IRB REVIEW

Please answer each specific question and use as much space as needed to answer fully. A response of "See attached description or grant application" is not sufficient.

2-1 Historical Background

Provide a brief description of the project with reference to the investigator's personal experience and to pertinent scientific literature.

Over the last two decades, institutions of higher education have made investments to support researchers in developing projects to meet the NSF Broader Impacts (BI) criteria. Much of this support has come from "BI Professionals" who provide pre-award assistance in drafting competitive BI plans for NSF proposals and pos•Ław‌ard implementation support in community engagement and knowledge mobilization programs and partnerships. Significant gaps remain, however, in a) understanding the specific competencies needed to be an effective BI Professional and b) developing a common vision for what constitutes a strong Broader Impacts plan.

2-2 Plan of Study

(A) State the hypothesis or research question you intend to answer. Describe the research design, methods, interventions, and procedures (including standard or commonly used interventions or procedures) to be used in the research. Specifically, identify any interventions, procedures, or equipment that are innovative , unusual, or experimental.

To fill these gaps, the evaluation team at the Science Education Resource Center (SERC) is working with the leadership team of ARIS to assess a Broader Impacts Toolkit developed by the Advancing Research Impact in Society (ARIS) project. Specific objectives of the study are to:

1) examine and improve the efficacy of BI Toolkit training,
2) describe the ways in which the BI Toolkit is used across different institutional contexts, both concurrently and over time,
3) evaluate BI professionals' and researchers' views about the usefulness the BI Toolkit, both concurrently and over time, and
4) examine associations between BI Toolkit use and institution-level outcomes.

Objective 1
Training sessions will begin in Year 1 for Cohort 1 and continue through Year 3 for Cohort 3. Prior to and following the training sessions, BI professionals will be asked to complete surveys to assess a range of BI competencies, including the ability of BI professionals to a) support researchers in constructing a BI statement that aligns with NSF values, b) encourage and support researchers as they engage with community partners while acknowledging the challenges and barriers in doing this work, and c) understand and communicate with researchers about the importance of rigorous evaluation of BI activities (McDonnell et al., 2021). Following each training session, BI professionals will also be asked to evaluate the training and provide suggestions for improvement. Indicators of success will include gains in BI professionals' perceptions of competence, increasingly positive training evaluations from Cohort 1 to Cohort 3, and iterative revisions to BI Toolkit training materials that align with participant feedback.

Objective 2
Each of the ten institutions (across three cohorts) will serve as a case study to better understand the range of ways in which the BI Toolkit can be used and to understand the factors that promote and threaten successful implementation across contexts. Results from surveys will be examined by case and across cases.

Objective 3
BI Toolkit implementation will begin in Year 1, after training. Prior to implementation, both BI professionals and researchers will be asked to complete brief end-of-consultation surveys that will include questions about the usefulness of the consultation and areas for improvement. Indicators of success will include gains in usefulness ratings for consultations from pre-implementation to post-implementation, positive usefulness ratings for the toolkit, and iterative changes to consultation practices that align with participant feedback.

Objective 4
At the beginning of Year 1 and at the end of Years 1, 2, and 3, BI professionals, key administrative partners, and a purposive sample of researchers will be asked to complete surveys to assess institution-level research impacts capacity, including having adequate resource to effectively support researchers as they plan, implement, and evaluate BI plans. Participating institutions will also be asked to track common metrics of research impacts capacity including number of RI-related professional development opportunities (e.g., workshops, consultations) provided. Early indicators of success will include gains in institution-level RI capacity survey ratings and in RI capacity metrics over time.

(B) Describe any private information you will be collecting from subjects. Is any of this information sensitive? Data are considered sensitive when disclosure of identifying information could have adverse consequence for participants (such as criminal prosecution or disciplinary action) or damage their financial standing, employability, insurability, or reputation. Even information that could embarrass a participant if accidentally disclosed should be described here.

Identifying information (e.g., names, email addresses, and IP addresses) attached to survey responses will be removed and replaced with codes. A datafile linking identifying information and codes will be stored in a password-protected folder on a secure server.

(C) **Are there any deception procedures? (Examples of deception used for research purposes: withholding relevant information, use of a confederate [someone who poses as someone they're not], false performance feedback, offering fictitious information about the true purpose of the study, etc.)**

No

2-3: Possible Risks

(A) **Indicate what you consider to be the possible risks (or inconveniences) to subjects and indicate the precautions to be taken to minimize or eliminate these risks. If any data monitoring procedures or data security measures are needed to ensure the safety and privacy of subjects and/or confidentiality of data, describe them. (If you are unsure, please read more about sensitive information and data management)**

There are no known risks associated with participation. Identifying information (e.g., names, email addresses, and IP addresses) attached to survey responses will be removed and replaced with codes. A datafile linking identifying information and codes will be stored in a password-protected folder on a secure server. Findings will be presented only in aggregate and in a manner that ensures the confidentiality of responses. Informed consent will be obtained from all participants. A data security form and an informed consent form are attached.

(B) If deception is used, please explain possible risks and precautions to be taken to minimize or eliminate these risks.

Deception will not be used.

SECTION THREE: SELECTION OF SUBJECTS AND THE INFORMED CONSENT PROCESS

3-1: Special Populations

(A) Indicate whether this project involves any of the following subject populations.

- [ ] Prisoners or other kinds of inmates (including inhabitants of halfway houses)
- [ ] Minors (Minors or "children" are defined in Minnesota law as persons under age 18
- [ ] Prisoners and Minors
- [x] No Special Population

3-2: Recruitment and Consent

(A) Describe how subjects will be recruited

BI professionals, researchers, and administrators will be recruited because of their institutions involvement in the project. The first cohort of institutions will include: University of Nebraska- Lincoln, University of California-Merced, and University of Texas - Dallas. An RFP process will be used by the team that is designing and conducting the training to select institutions for Cohorts II and III. The RFP process will include four reviewers for each proposal.

(B) Will you be asking your subjects to consent to research

☑ Yes ☐ No, it isn't possible to document consent

3-3: Compensation of Subjects

(A) Will subjects receive any compensation for participation in cash or in kind (i.e., food, course credit, etc.)?

No