



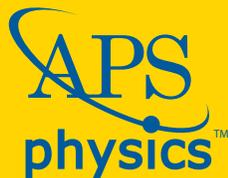
Human Subjects Research Training And PER

By: **David Sitar** and Marshall Thomsen

Abstract

We performed an informal survey of twenty randomly selected institutions distributed among the 4 tiers of the Carnegie classification system. We found that 60% of institutions relied heavily or exclusively on the modules produced by the Collaborative Institutional Training Initiative (CITI) program. This choice is not surprising since the CITI group has developed an extensive collection of modules specifically for HSR training, and they have a well-structured website to assist institutions in establishing and monitoring their training programs. The CITI modules have become a widely accepted, low resistance path to satisfying regulatory requirements involving ethics education in the area of HSR.

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Human Subjects Research Training and PER

David Sitar and Marshall Thomsen

In almost all cases, physics education research (PER) involves human subjects and hence is often governed by regulations associated with human subjects research (HSR). In particular, individuals involved with federally funded research are required to receive some form of training in the regulations and ethical issues associated with HSR. Since most PER takes place in colleges or universities where the bulk of the HSR is not education-related, training programs are often not designed with PER in mind.

We performed an informal survey of twenty randomly selected institutions distributed among the 4 tiers of the Carnegie classification system. We found that 60% of institutions relied heavily or exclusively on the modules produced by the Collaborative Institutional Training Initiative (CITI) program. This choice is not surprising since the CITI group has developed an extensive collection of modules specifically for HSR training, and they have a well-structured website to assist institutions in establishing and monitoring their training programs. The CITI modules have become a widely accepted, low resistance path to satisfying regulatory requirements involving ethics education in the area of HSR.

We would like to sound a note of caution, however, in relying on the CITI modules for those involved in PER. These modules address a very wide audience and thus necessarily contain information unlikely to be relevant to those involved in PER. Depending on how the institution structures its HSR educational program, a physics education researcher may wind up reading material on research involving prisoners, for instance. This problem can be addressed within the institution by working with the appropriate overseeing body (likely, the Institutional Review Board) to ensure that a certificate of completion can be earned upon completion of only those modules relevant to PER.

A second problem that arises with the CITI modules is that there are several that have topics that could be of relevance to educational research but the connection is not explicitly made, and a significant portion of the remaining information irrelevant to PER. These modules include History and Ethical Principles, Defining Research with Human Subjects, Basic Institutional Review Board (IRB) Regulations and Review Process, and Assessing Risk in Social and Behavioral Sciences. These modules do contain information relevant to the PER community, but some effort is required to extract this relevant information.

What is lacking in the CITI modules is a single module that comprehensively addresses the issues that arise in education research at the postsecondary level. The two existing modules that are most closely related are, The Regulations and the Social and Behavioral Sciences, and Students in Research. The first of these addresses issues surrounding “exempt” research, a category that education research often (but not always) falls into. The second of these has

a section entitled “Students as Research Subjects” that addresses a number of key issues arising in PER, such as how to avoid coercion or the appearance of coercion in getting informed consent from your own students. However, this module explicitly indicates it is intended for students (as opposed to faculty) performing research. Taken as a whole, then the CITI modules do not address directly or in sufficient depth a number of important issues in PER, including

- What privacy issues arise when videotaping of class sessions is used as a research tool?
- Even if a particular classroom research project is considered “exempt”, under what circumstances is an instructor ethically obligated to solicit informed consent from students?
- Is it permissible to use feedback freely given by students (such as course evaluations) as data in PER when the students were not informed that it would be used that way?
- What confidentiality considerations are relevant when analyzing student grades and individual submissions of required work?
- If one designs a study to test a new form of instruction and it becomes clear part way through the term that the new method is not helpful to the students, is it acceptable to continue using this method in order to complete the study, or must the study be terminated so that the instructional method can be changed?
- Is it possible for students in a small class to feel free of coercion as far as participating in a study goes, especially in cases where they expect to have the same instructor in a future course?
- More generally, is there a fundamental conflict between the faculty/student relationship and the researcher/research-subject relationship that no amount of identity concealing can mask?

Given that the CITI modules are the most widely used form of training for those who participate in HSR in a university setting, it is important that the modules appropriately address the needs of the PER community. As presently structured, the modules do not address important PER issues in sufficient depth. Moreover, extracting the information that is of relevance may result in wading through material mostly directed at a different audience. We believe this problem could be remedied by designing a module that focuses on education research at the university level. This module would be similar in spirit to the previously discussed Students in Research module in that it would pull together all of the relevant components from the other modules and add new material to address issues peculiar to education research. Until such a module is developed, however, those active in PER will need to be especially vigilant to make sure that HSR training comes as close as possible to meeting their needs, given the resources that are presently available.

It is a pleasure to acknowledge useful insights into the field of education research from Beth Kubitskey, Ernest Behringer, Elizabeth Gire, Brad Ambrose, and Charles Henderson.

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