

The Common Rule

for the Protection of Human Subjects– Information for Education Researchers and IRBs

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A call is received on the red phone at 3:

- A teacher calls. He wants to report noncompliance with Common Rule for the Protection of Human Subjects requirements.
- He is in his third year of teaching (i.e. no job security under LEA rules). He is in his 50s, teaches math. He had been an engineer, managing multimillion dollar projects for a major international firm. After 9/11 he decided to change his life and become an 8th grade mathematics teacher working with disadvantaged children.
- As part of an experimental study, the principal told him that he MUST use a web-based program in his 8th grade math class. The students are mostly English language learners.

A call at 3 (continued)

- He insists that parent consent is needed to include students in this experimental study. He says the study could pose significant risks for these students. The principal says, "Just do what you're told—and do it during regular class time".
- The experimental program has 25 modules, each roughly 45 minutes long—the equivalent of about five weeks of instructional time.
- The teacher worries that the online instructional modules did not appear to be working well with these English language learners, and that the modules are not well-aligned with the high stakes state test

A call at 3 (continued)

- At the end of the year, 80% of the students in the experimental section fail the state math test. This is a much higher proportion than in classes he's taught in previous years. These students must repeat the math class, and in some cases the entire grade.
- Given the demographics, it is likely that many of the students will in due course drop out of school rather than face the boredom and stigma of repeating the class/grade level. (The school already has one of the highest dropout rates in the state.)
- The principal fires the teacher at the end of the school year, allegedly for failing to implement the grant. This will make it harder to find another job.*

* This is a hypothetical example.



No <u>covered</u> human subjects research can be conducted unless the engaged entities each has a Federal Wide Assurance (FWA) and IRB approval.

Education research ethics:

Is this new?

Franz Boas --and the flap in Boston area schools--in the late 1890s



Edward Thorndike— A father of education research

Edward Thorndike (1874-1949) was one of the most prominent researchers in the history of American psychology. During his long academic career, most of which was spent at Teachers College, Columbia University, he authored 50 books and more than 450 articles. In addition Thorndike created numerous intelligence and achievement tests for schools. He was deeply interested in measuring differences in intellectual capacity and performance among school children. This includes his empirical "Laws of Learning" and path breaking work on instructional design. (Studying Latin does NOT create a "mental discipline" that leads to improved learning generally.)

- Principles of Psychology (with William James, 1890s)
- Educational Psychology (1903)
- Introduction to the Theory of Mental and Social Measurements (1904)
- The Elements of Psychology (1905)
- Animal Intelligence (1911)
- The Measurement of Intelligence (1927)
- The Fundamentals of Learning (1932)



Nothing new:

- For his Harvard dissertation research, an orphanage did not allow Thorndike to conduct experimental studies on how children learn
- —so he used chickens (that his faculty adviser, William James, lodged in his own basement).

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Is this new? Moving along the learning curve:

- National Research Act (1974) \rightarrow Belmont Report (1979)
- ED adopted Common Rule in June 1991.
- NBAC on implementation, 2001
- Monitoring of implementation, (e.g., NSF & HHS OIGS, ...)
- Growing awareness in field: complaints
- Ensuring consistency and compliance









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The Changing Context of **Educational Research:**

"No Child Left Behind" and AYP

Under NCLB, all students in grades 3-8 and in one grade in high school must be tested once a year in reading and mathematics. Students are expected to score at the "proficient" or above on stateadministered tests by 2014 and to make "adequate yearly progress" toward that goal by then. 20

Why ED?

- Classic examples: Milgram, Zimbardo, Tudor were at educational institutions or included educational treatments
- "Scared Straight": "Iatrogenic treatment" worsens a condition. Ineffective treatments.
- Recent education examples : Fulbright Hays dissertation survey in middle of a civil war. Palmdale, Ridgewood, science curriculum not aligned with college admissions test



Scientific research in schools

"The final criteria for applying the standards of scientifically based research to CSRD, is that the rights of participants can be protected. In this high-stakes, outcome oriented environment for reforming schools that's a difficult criterion to meet. <u>It's hard to ask a school to maintain a comprehensive</u> school approach that does not seem to be working when they are under incredible pressure to produce results quickly for the duration of the study that you need to conduct. The study needs to be more than a few minutes." (Audience laughter.)

Source: "Scientifically based research' and the Comprehensive School Reform Demonstration Program", Becki Herman, AIR, Feb. 6, 2002, presentation to US Department of Education.





Common Risks in Education Research

Location of risk	Internal to study	External to study
	 "Paper cuts" "Fatigue" (e.g. from taking another test.) Privacy (right not to be bothered) 	• Disclosure of sensitive information (e.g. sexual activity, attitudes toward organization or curriculum)
	Accident (fall from gym equipment) Invoke traumatic memories	•Opportunity to learn (tested curriculum)
	• Embarrassment	











What is "research"?

Systematic investigation, including research development, testing and evaluation <u>designed</u> to develop or contribute to <u>generalizable knowledge</u>

[34 CFR 97.102.d]

Research	Not research	
* <u>Systematic</u> methods	* Not systematic methods	
• <u>Designed</u> to contribute to <u>new knowledge</u>	* Not "new knowledge" (e.g. jus monitoring implementation of a previously determined treatment	
* <u>Generalizable</u> , potentially useful in many times and places.	*Not generalizable ("of local interest only")	
* " <u>Human subjects</u> "	•Not "human subjects" (aggregat data, the dead,)	
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Example 2 No coerced participation is allowed in covered human subjects research

→What about "school-wide reforms", student drug testing grants, etc.?









Teacher research: *"research?" NEP?*

Student studies: "learning to research" and/or "engaged in research"

The investigator cannot make the determination of whether a study is exempt.

How determinations of exemption are made is determined by the institution. Sometimes it is the IRB, sometimes it is the department chair, sometimes ...

Is it exempt?

- 1. Normal educational practice (cf study of effects of spanking on school achievement)
- 2. Surveys, interviews, ed tests, or observations public behavior -- unless identifiable and harmful to employability, criminal sanctions, reputation, etc. (NB <u>Subpart D</u> for children)
- 3. Educational tests, surveys, observation of public behavior—IF federal statute without exception prohibits disclosure
- 4. Existing data if publicly available or deidentified (cf school information systems)
- 5. Public service or benefit programs (approved by agency head, and narrowly defined)

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Exemption (b)2

(2) Research involving the use of **educational tests** (cognitive, diagnostic, aptitude, achievement), **survey procedures**, interview procedures or <u>observation of public</u> <u>behavior</u>, <u>unless</u>:

(i) Information obtained is recorded in such a manner that human subjects <u>can be identified</u>, directly or through <u>identifiers</u> linked to the subjects; <u>and</u>

(ii) <u>Any disclosure</u> of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

--34 CFR 97.101(b)2

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Note Subpart D Protections for children

If a study involves minors, then Exemption 2 for survey, interview or interactive observation does <u>not</u> apply (unless observing public behavior and don't interact with subjects):

Surveys, focus groups etc. of children need IRB review even if the survey is anonymous.

Exemption (b)3 and the IES Confidentiality statute

• National Center for Educational Statistics and other IES contracted studies are exempt under 34 CFR 97 (b) (3)

(ii) *Federal statute(s) require(s) without exception that the confidentiality* of the *personally identifiable information will be maintained throughout the research and thereafter.*

--34 CFR 97 101(b)3

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"Don't fool with the Common Rule"

- Study stopped--data lost.
- Lose funding for grant and may lose eligibility for future funding.
- Campus-wide shutdowns of research (e.g. Duke, U Penn, VCU, ...)
- FWA and IRB registration
- Researcher unable to publish study, etc.
- Do the right thing.

Your turn: Discussion panels

- Topic 1: "The Practical School Action Project"
- Topic 2 : Risky City School System Needs Project
- Topic 3: Cyber Study of Latina adolescents
- Topic 4: The Understanding Police Understanding Project

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BREAK TIME

Part II

- 1. Some other laws that may apply: FERPA and PPRA
- 2. Informed consent and assent
- 3. Confidentiality: "You have no privacy, get over it"
- 4. International and transnational studies
- 5. Reporting adverse events
- 6. Working with your IRB for effective protections and rigorous research

OTHER LAWS THAT OFTEN APPLY TO EDUCATIONAL RESEARCH :

- FERPA
- PPRA
- HIPAA





PPRA protected topics

- 1. Political affiliations or beliefs
- 2. Mental or psychological problems
- 3. Sex behavior or attitudes
- 4. Illegal, anti-social, or demeaning behavior
- 5. Critical appraisals of close family relations
- 6. Privileged relations, eg lawyers, physicians
- 7. Religious practices, affiliations, or beliefs of the student or student's parent; or

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8. Income

Rights under PPRA for protected information surveys 1.Right to receive notice: Parents receive general annual notification 2.Right to consent for ED-funded surveys (no waiver, elements differ from Common Rule) 3.For non-ED funded surveys, right to receive notice and opt student out of the survey. 4.Right to inspect surveys

PPRA: Responsibilities for ED-Funded Surveys

 Schools must obtain <u>written</u> parental consent before minor student required to participate in "protected information" survey funded in whole or in part by ED

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<u>Active consent</u> only







"Does anybody read these things?"

Some problems with informed consent:

- Signed informed consent in survey research can discourage participation (Eleanor Singer)
- Readability is often low (including after IRB review)
- Limits of informed consent : many members of the public don't understand the scientific process, what an "experiment" is, don't understand risk probabilities, and so on.



Adverse side-effects? Four risks of informed consent procedures in survey research:

- <u>Statistical power</u> (achieved sample size)
- <u>Statistical bias</u> (nonrespondents not missing at random)
- Erosion of baseline and change measures
- <u>Indirect effects</u> on budget and timelines—and ability to complete a valid study

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Certificates of confidentiality

- Certificates of confidentiality (issued by NIH <u>http://www.hhs.gov/ohrp/humansubjects/guida</u> <u>nce/certconf.htm</u>)
- Look ahead: Consent applies beyond the conduct of the study. If it may be important to archive the data to allow replication, review, etc., those longer term uses should be included in the consent.





Special Protections for Children in Research The regulations at 34 CFR part 46, subpart D permit IRBs to approve three categories of research involving children as subjects:
The regulations at 34 CFR part 46, subpart D permit IRBs to approve three categories of research involving children as subjects:
 34 <u>CFR 46.404</u> - Research not involving greater than minimal risk to the children. To approve this category of research, the TRB must make the following determinations: the research presents no greater than minimal risk to the children; and adequate provisions are made for soliciting the assent of the children and the permission of their parents or guardians, as set forth in HHS regulations at 45 CFR 46.408.
 34 <u>CFR 46.405</u> - Research involving greater than minimal risk but presenting the prospect of direct benefit to the individual child subjects involved in the research. To approve research in this category, the IRB must make the following determinations: •the risk is justified by the anticipated benefits to the subjects; •the relation of the anticipated benefit to the risk presented by the study is at least as favorable to the subjects as that provided by available alternative approaches; and •adequate provisions are made for soliciting the assent of the children and the permission of their parents or guardians, as set forth in HHS regulations at 45 CFR 46.408.
 34 <u>CFR 46.406</u> - Research involving greater than minimal risk and no prospect of direct benefit to the individual child subjects involved in the research, but likely to yield generalizable knowledge about the subject's disorder or condition. In order to approve research in this category, the IRB must make the following determinations: the risk of the research represents a minor increase over minimal risk; the intervention or procedure presents experiences to the child subjects that are reasonably commensurate with those inherent in their actual, or expected medical, dental, psychological, social, or educational situations; the intervention or procedure is likely to yield generalizable knowledge about the subject's disorder or condition which is of vital importance for the understanding or amelioration of the disorder or condition; and adequate provisions are made for soliciting the assent of the children and the permission of their parents or guardians, as set forth in HHS regulations at 45 CFR 46.408.



Remember Subpart D

For ED and other agencies that have adopted Subpart D Protections for Children in Research, Exemption 2 for surveys, interactive observations etc. <u>does not apply</u> —even if the survey or interaction is anonymous.

Confidentiality and privacy

Education research often includes data that is directly or indirectly identifiable.

"You have no privacy, get over it." --Scott McNealy, Sun Microsystems

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- For example, criminal records--or even arrests without convictions-- may create records that can be linked to study data to identify study participants.
- In inner cities, more than half of all black men do not finish high school. By their mid 30s, 6 in 10 black men who had dropped out of school had spent time in prison.
- External linkable data sets: As of May 2007, 177,870 forensic profiles and 4.6 mn offender profiles had been accumulated in the FBI/States' CODIS database, making it the largest DNA database in the world. As of June 2007 CODIS had produced over 49,400 matches to requests, assisting in more than 50,343 investigations. 72

Is the data deidentified?

If data is "coded" and identities are not "readily ascertainable", the study may be exempt

• e.g. "<u>can be identified</u>, directly or through <u>identifiers</u> <u>linked</u> to the subjects_{(e.g., 34 CFR 97.101.b(2)}

However, education research often involves many direct and indirect identifiers, e.g. :

•<u>Relatively small samples, hierarchically clustered</u> within a few classrooms, within a few schools, often includes longitudinal data.

• Reidentification is increasingly fast, easy and cheap with

("data-mining" software) + (external linkable data sets) 73

Ability to protect confidentiality: Sometimes state or other law requires disclosure of data. Evaluators etc. often pledge confidentiality to respondents—but cannot provide it if the entity contracting for the study demands the identified data it <u>unless confidentiality</u> protections are included in their contract. For example, if an evaluator is fired, he/she can be required to turn over the identified data to the entity that hired him/her (eg school district) even if the evaluator promised confidentiality

Cross boarder and intl studies

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34 CFR 97.101 (g)(h): International and transnational research

(g) <u>This policy does not affect any foreign laws or regulations</u> which may otherwise be applicable and which provide additional protections to human subjects of research.

(h) When research covered by this policy takes place in foreign countries, procedures normally followed in the foreign countries to protect human subjects may differ from those set forth in this policy. [An example is a foreign institution which complies with guidelines consistent with the World Medical Assembly Declaration (Declaration of Helsinki amended 1989) issued either by sovereign states or by an organization whose function for the protection of human research subjects is internationally recognized.] In these circumstances, if a department or agency head determines that the procedures prescribed by the institution afford protections that are at least equivalent to those provided in this policy, the department or agency head may approve the substitution of the foreign procedures in lieu of the procedural requirements provided in this policy. Except when otherwise required by statute, Executive Order, or the department or agency head, notices of these actions as they occur will be published in the FEDERAL REGISTER or will be otherwise published as provided in department or agency procedures.









Destroy the data?

Should data sets, or at least all identified data sets be destroyed at when a study is complete?

- FERPA requires data destruction for some studies.
- Data access –with appropriate protections--is often a vital part of the scientific process:
 - Identifying error and research misconduct
 - Replicating studies
 - Use for secondary analysis
 - And so on.
 - A balanced approach that both protects data confidentiality and enables rigorous research is needed. The informed consent sets a benchmark for what can be done.



NMAP's Final Recommendation

• "Unnecessary barriers to research should be lowered. Although existing guidelines for the protection of human subjects must be fully respected, Institutional Review Board Procedures should be streamlined for educational research that qualifies as being of low or minimal risk. ..."

> -- National Mathematics Advisory Panel, Final report, final recommendation, (p. 65)

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American Association of University Professors (AAUP)

 <u>Research on Human Subjects: Academic</u> <u>Freedom and the Institutional Review Board</u> <u>http://www.aaup.org/AAUP/comm/rep/A/hum</u> <u>ansubs.htm</u> (2006)

Some IRB Review Risks

Location of risk	Conduct of study	Study findings
	 Poorly informed review that doesn't accurately assess risks and benefits (e.g. emerging research methods); Biased review (professional bias, conflict of interest, etc.) 	 Statistical power lost due to reduced size of achieved sample Statistical bias caused by consent process
	 Site and subject recruitment harmed by poorly designed consent procedures, etc. Delays (costs, lose baseline data) IRB "ping pong" 	• Invalid study •"Burn rate": attrition of studies not successfully completed due to review-related delays, costs



Toward the efficient frontier in managing risk to human subjects

- You can use empirical evidence to move beyond anecdotes Evidence helps to:
 - identify research risks.
 - Identify effective consent procedures, and other human subjects protections.
- That is, evidence-based practice in study design and IRB review can help move beyond 'zero-sum games' to more effectively protect human subjects and enable rigorous research.





In sum

- Do research as if it matters
- Be trusted—and trust worthy
- "Don't fool with the Common Rule"



Suggestions for improvement?

1. What guidance, information etc. would help you do your work better?

2. What would help applicants better understand and successfully navigate the process?

3. How to move from anecdotes to evidence-based protection of human subjects?

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