# Chapter 24
# Research Ethics Boards and the Gold Standard(s) in Literacy and Science Education Research

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Curiosity-driven research has traditionally investigated problems, issues, and challenges through a variety of research designs to match the research foci without many formal constraints. The character of those designs has been the venue of the researchers, to some degree the funding agency, and the research setting. The creative challenge for the researcher has been consideration of the nature of the problem and research question, development of the problem space, and the monetary, instrumental, and contextual resources available. Increasingly over the last 10–15 years, another presence has joined the research team—the Research Ethics Board (REB), Research Ethics Committee (REC), or Institutional Review Board (IRB). REBs (we use REBS, RECs, and IRBs interchangeably in this chapter) play a mandatory role in reviewing and permitting research conducted under the agency of funding bodies and educational or research institutions in many countries. Over this same time, REBs have become widely accepted as a necessary and reasonable process to ensure that ethical standards of research are maintained and to avoid the potential for litigation resulting from

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faulty research designs and procedures. However, some researchers contend that the unified research ethics regulations, or *common rule*, for all disciplines overemphasize biomedical inquiries, risks, and norms—leaving much of the uniqueness of social sciences, education, and professional practices and their associated research methods lacking consideration. While the value of REBs is recognized, it is also evident that their procedures and practices are not stable or neutral in their impact on researchers, the potential research topics that are undertaken, and the research designs utilized. These effects and the array of differential influences can be seen on every campus and organization where research ethics reviews operate and, as described in this chapter, in Africa, Asia, Canada, Europe, New Zealand, and the United States.

Explorations of these effects have begun to appear in the academic communities. At the 2nd Island Conference, researchers from many countries came together to discuss contemporary issues in literacy and science education research in light of current national policies that impact this research—in particular, REBs on a global scale and the Gold Standard for research in the United States. In this international setting, researchers had the opportunity to reflect on these policies, the policies' influence on their own research, and implications for future research. Increasingly, the consequences of these policies are starting to be found in the education literature (Sieber, 2006). Some of the issues that have arisen include differences in the interpretation of the domains of power that REBs have over research and special consideration of peoples embedded in law or traditions. For example, although REBs are governed by broadly phrased guidelines for the ethical conduct of research in Canada (Canadian Institutes of Health Research [CIHR], Natural Sciences and Engineering Research Council of Canada [NSERC], & Social Sciences and Humanities Research Council of Canada [SSHRC], 1998), the interpretation of these guidelines is left in the hands of the individual REBs. Thus, REBs may adopt practices and policies of review that differ significantly from setting to setting and even within REBs from researcher to researcher (Anthony, 2004). The authority that REBs take with regard to the review and approval of research can vary widely and thereby differentially impact research. Likewise, national policies allow for *local options*; and the interpretations, procedures, and practices are moving targets (Sieber, 2007).

This chapter provides a theoretic background for research ethics and elaborates critical issues, deliberations, and recommendations flowing from the 2nd Island Conference and other related conferences based on the original deliberations. These critical issues are used as a template for (a) international and aboriginal–indigenous peoples' perspectives and practical resolutions regarding the critical dimensions of research ethics and review procedures and (b) future considerations and other related ethical issues for literacy and science education research.

## 24.1 Background

Historically, research ethics gained most of its public attention and scrutiny from medical, pharmaceutical, military, and biotechnological research while research in the humanities and social sciences was disregarded. Recent considerations of human rights, privacy, and equality issues have increased attention on social sciences research; however, much can be learned from the ethical issues of the high-profile areas. The first research ethics issue emerged from the post-World War II Nuremberg Tribunal for war criminals, which developed into the Nuremberg Code (Nuremburg Code, 1948) to protect participants in experiments on the human body and explicitly established the importance of informed consent and voluntary participation. The Clinical Center of the National Institutes of Health (NIH) in the United States used these ideas as foundation and developed policy for protecting human beings as experimental subjects. In 1964, the World Medical Association (WMA) announced the Declaration of Helsinki (WMA, 2004) that specified the ethical principles for medical research involving human subjects. These principles have been amended several times, but four (of 32) principles have application to this chapter:

> (5) In medical research on human subjects, considerations related to the well-being of the human subject should take precedence over the interests of science and society.
>
> (10) It is the duty of the physician in medical research to protect the life, health, privacy, and dignity of the human subject.
>
> (20) The subjects must be volunteers and informed participants in the research project.
>
> (22) In any research on human beings, each potential subject must be adequately informed of the aims, methods, sources of funding, any possible conflicts of interest, institutional affiliations of the researcher, the anticipated benefits and potential risks of the study and the discomfort it may entail. (WMA)

In 1979, the US National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research released the Belmont Report (US NCPHSBBR, 1979), which provided guidelines for research ethics that were not mentioned explicitly in the Nuremberg Code and the Declaration of Helsinki and that were applicable to educational research. The Belmont Report established three basic ethical principles—respect for persons, beneficence, and justice—as the cornerstone for regulations involving human subjects.

Recently, funding agencies have used the *big stick* approach to mandating research ethics review of projects and institutions receiving support (CIHR et al., 1998; US National Research Act of 1974; UK Economic and Social Research Council, 2006) while international research associations have focused on their members' conduct regarding professional behavior, research inquiries, knowledge construction, and ownership and intellectual properties (American Educational Research Association, 1992; American Psychological Association, 2002; British Educational Research Association, 2004; International Reading Association, 2008; National Science Teachers Association, 2007; Strike et al., 2002). Unlike the high-profile health and modality research ethical restrictions, the concerns stimulating these actions have frequently been based on anecdotal records of negative events with little empirical exploration and evidence or documented resolution of potential difficulties (Pritchard, 2002; Sieber, 2006). Most of the issues arising in these cases fall under a combination of legal, moral, and ethical considerations.

Legal considerations involve violation of civil and criminal law, and include the unauthorized use of someone's ideas, violation of copyright, fraudulent use of authority and privileged positions, inappropriate conduct with underage people and clients, libel, and other infringements of public or professional statutes. Moral considerations are founded in the less well-defined standards of public, cultural, and professional values and virtues (e.g., good–evil, honesty–dishonesty, integrity–deceit, right–wrong, responsible–irresponsible, etc.). di Norcia (2006) stated:

> Given a large enough sample, one would expect moral values and conduct to range from serious but rare deviance (evil and immoral), to average commonplace conformity (moral minimal and perhaps satisfactory), through creative and insightful ethical problem solving …, to intense and rare commitment (moral heroism, sainthood). (p. 2)

Ethical considerations involve a set of principles derived from legal and moral consideration that include, but are not limited to, customs, habits, conduct, etc. Collectively, consideration of these attributes as they apply to research is a perplexing and critical issue. Sieber (2006) stated:

> To illustrate the speed [and importance] with which [the research ethics] field of study may change, a few months ago it would have been foolish to suggest a situation in which one society's questioning the legitimacy of a particular line of scientific inquiry would help to motivate another society to dominate that field of research and announce a series of scientific victories—that turned out to be fraudulent. But now we know that in the void left by the hesitancy of the U.S. to embrace stem cell research, South Korean scientists took the international lead and prematurely declared a breakthrough purported to cure disabilities and disease. (p. 1)

The legal, moral, and ethical ramifications of this ill-advised action was felt by South Korea, Seoul National University, and a leading scientific journal, *Science* (see Kennedy, 2006, for the retraction of the violating article).

### *24.1.1 Codes of Ethics and Standards of Professional Conduct*

Codes of ethics and standards of professional conduct are intended to be proactive devices to heighten awareness and avoid problems. The American Psychological Association (APA, 2002) established four general principles—beneficence and nonmaleficence, fidelity and responsibility, integrity, and respect for people's rights and dignity—of ethical practice that were incorporated into standards of practice and conduct for their members' various responsibilities and research activities. Frequently, ethical misbehaviors related to these codes and standards involve not-so-serious "infractions of falsification, fabrication, and plagiarism" (de Vries, Anderson, & Martinson, 2006, p. 43). Cohen (2005) reported that about 13 cases reach sanction-level annually at the US Department of Health and Human Service's Office of Research Integrity. de Vries and colleagues suggested that more often "misconduct generally is associated with more mundane, everyday problems in the work environment …, [falling] into four categories: the meaning of data, the rules of science, life with colleagues, and the pressures of production" (p. 43). Meaning of data concerns relate to general issues of outliers in a dataset and the "line between 'cleaning' data and 'cooking data' [during data interpretation]"

(p. 45) while rules of science involve comingling funds amongst different, ongoing research projects. Life with colleagues in a research community recognizes research as a social endeavor in which research team members collaborate and demand a degree of academic civility and traditional hierarchical authority is de-emphasized (Florence & Yore, 2004). The publish-or-perish pressure is an ongoing condition of the academy and, in conjunction with fuzzy boundaries of ownership flowing from collaborations, leads to ill-advised use of data and knowledge claims by an individual or the listing of coauthors not truly involved in the research and knowledge-building processes (Strike et al., 2002).

### *24.1.2 Principles of Research Ethics*

When these legal, moral, and ethical dimensions are applied productively to literacy and science education research, it will address some of the underlying concerns embedded in the Gold Standard by enhancing the "public trust in the research enterprise [that] can be nurtured in ways more fruitful than the conventional default preoccupation with regulatory compliance" (Landwirth, 2006, p. 3). Landwirth suggested that some research institutions have designated ethicists and centers in matchmaker roles to collaborate with researchers to proactively address ethics awareness and issues in the design, conduct, and reporting of their research. "Typically, the [researcher] brings only limited experience with the methods and language of ethical analysis, but a strong intuitive ethical sensitivity" (p. 3). This observation can easily be extended to REC chairs and panel members charged with shaping, monitoring, and enforcing ethics in education research. Many research ethics policies attempt to provide an integrated set of guiding principles in a common framework or common rule for all disciplines. Pritchard (2002) stated that the fundamental principles are:

> respect for persons, beneficence, and justice. The principle of respect for persons underlies the obligation to obtain informed consent; the principle of beneficence demands the maximizing of benefit and minimizing of risk; and the principle of justice requires the equitable distribution of the burdens and the benefits of research. (p. 8)

The solution to the ongoing problems facing REBs was to apply these common rule principles across unique and diverse research domains.

> Applied ethics, whether in field research or any other endeavour, should not necessarily contain anything that is ethically peculiar or unique. They should be nothing more than a particularized version of a universal ethical system or code, where the particulars are a function of the nature of the activities unique to that application. … Applied ethics, therefore, should be the application of general ethical principles to specific activities. (Truscott, 2004, p. 812)

Truscott suggested that these judgments should be based on an explicit set of criteria, cases, and conscious decisions—not intuitive, spontaneous, and emotional judgments. Strike and colleagues (2002) provided such illustrative cases associated with each ethics standard developed by the American Education Research Association.

### *24.1.3 Research Ethics Policies, Implementation, and Review Boards*

The US National Research Act of 1974 (§ 474) established that:

> (a) The Secretary shall by regulation require that each entity which applies for a grant or contract under this Act for any project or program which involves the conduct of biomedical or behavioral research involving human subjects submit in or with its application for such grant or contract assurances satisfactory to the Secretary that it has established (in accordance with regulations which the Secretary shall prescribe) a board (to be known as an 'Institutional Review Board') to review biomedical and behavioral research involving human subjects conducted at or sponsored by such entity in order to protect the rights of the human subjects of such research.

The legitimate focus and purpose of research policies and review boards are "to ensure the ethical treatment of research subjects" (Pritchard, 2002, p. 7). The problems encountered by implementation of research ethics in education and the operations of these boards or committees are increased with the diverse interpretations of research, problems addressed, and approaches utilized as the scope of education–social sciences research moves away from the biomedical tradition. Research in education ranges from (a) traditional, two-group, experimental inquiries to the effects on learners' achievement assessed by an accepted test of a well-established instructional program and (b) a safe, but innovative, alternative instructional program to community-based, participatory research focus on social justice issues and political actions of the least well represented and powerful members of a hierarchical authoritarian community. Ethical approval of these issues and designs involves drastically different considerations of the problem space, research questions, methodology, procedures, and reporting. Some approaches, like the traditional control–experimental group design are driven by hypothetico-deductive processes in which a clearly stated hypothesis and predicted outcomes inform data sources, instrument selection, participant recruitment, data collection and analysis, and reporting the argument and results. Other newer approaches—like community-based participatory actions, practitioner inquiry, action research, and classroom design experiments—are not planned and scripted a priori in the same manner as scientific inquiries and rely on being more responsive to events as they emerge, which enables a further stage of inquiry and research design. Ethics review in well-established, traditional designs are based on the evaluation of the stated purposes and procedures against established criteria reflected in most unified research ethics policies; review of the second category involves projections of the criteria into anticipated scenarios and assessment of the researchers' abilities to ethically address the unexpected, which are not reflected in most common rules (i.e., the researcher is opportunistic and responsive to events as they occur and enacts the next procedure of the inquiry, data collection, or data interpretation based on real-time monitor and regulation) (Moretti, Leadbeater, & Marshall, 2006; Zeni, 2001).

Pritchard (2002) stated that IRB members must:

> rely on the regulatory definition of research, which emphasizes the purpose directing the activity in question. Activities count as research to an IRB only if the activity undertaken

> reflects a deliberate objective of discovering or learning something new that transcends the particular activity. Research concerns the organized search for knowledge applicable to other similar phenomena: 'Research means a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. (34 Code of Federal Regulations [CFR], 97.102[d])' (p. 4)

He continued:

> Because the IRB's purpose is to ensure the protection of human research subjects, a research activity only falls within the IRB's purview if it involves human subjects, as follows: 'Human Subject means a living individual about whom an investigator (whether professional or student) conducting research obtains (1) data through intervention or interaction with the individual, or (2) identifiable private information. (34 CFR 97.102[f])' (p. 4)

This definition implies generalized knowledge claims but does not imply research approach or intent to publish or present publicly.

Some professionals and researchers view the REB's actions as infringements on the academic freedom provided by their institution or employment to pursue problems and questions of interest in an inquiry manner of their choice; as well, they are concerned that they require colleagues to make evaluations and "form opinions about the value of their colleagues' research" (Lopus, Grimes, Becker, & Pearson, 2007, p. 70). Major professional associations and some federal governments make this a mute issue by requiring agreement with a code of ethics as a condition of membership or as a condition of receiving a specific research grant or general institution funding. van den Hoonaard (2006) reported that some researchers seek to avoid such infringements by international collaborations based in places without such regulations and by research inquiries not involving human participants.

Traditional scientific inquiry designs utilizing experiment–control groups assigned by random selection and double-blind studies generally fit the ethics review process better than quasi-experimental, fieldwork, and naturalistic inquiries (de Laine, 2000; Keith-Spiegel, Koocher, & Tabachnick, 2006; Lee-Treweek & Linkogle, 2000; Simons & Usher, 2000). Plemmons (2007) stated, "There is a perception that the IRB does not fairly and accurately assess social/behavioral research protocols, especially ethnographic and participant-observation studies" (p. 71). She believed that the lack of public transparency with IRB actions and deliberations results in less responsive actions and lower applicant satisfaction. An analogy can be drawn with the familiar issue in quantitative research based on statistical analysis to balance Type I and Type II error. In Type I error, the standard for accepting a claim is set too low, thereby allowing inappropriate claims to be accepted; while in Type II error, a credible claim is mistakenly rejected. When REBs are overly zealous in applying an unreasonable threshold for approval, they avoid approving research that may include an element of ethical risk (Type I error). However, the emerging chorus from qualitative researchers points out that such unreasonable standards increase the likelihood of rejecting research that has the potential to make important findings (Type II error).

Brydon-Miller and Greenwood (2006) offered several examples where action research studies have been rendered impotent as a consequence of real and anticipated limits imposed by REBs. Sociology researchers in Canada, like education researchers, fear that the research ethics review procedures initiated in 2001 may influence the type of research questions explored and the research methods utilized toward inquiries that do not involve human subjects or toward quantitative designs (van den Hoonaard, 2006). van den Hoonaard found that between 1995 and 2004 (a) the number of masters' theses involving human subjects decreased by 24%, (b) the number of qualitative studies increased, and (c) the concerns expressed by graduate students and supervisors indicated difficulties with the research ethics review process.

Keith-Spiegel and colleagues (2006) believed that the level of satisfaction researchers express about research ethics approval and the operations of the IRBs was based on the implementation of ethics policies, resident expertise of board members, and procedural attention given to the evaluation of the original grant proposal independent of the ethics approval application and process. They believed researchers' satisfaction with ethics policies and review procedures decreases as research becomes less traditional and the designs move away from the norms of traditional scientific inquiries and laboratories and becomes embedded in sociocultural contexts. They surveyed the satisfaction of educational, biomedical, and social behavioral researchers about justice issues (procedural justice, interpersonal justice, bias, and pro-science sensitivity) and other IRB characteristics (competence, outreach, formal functioning, structure, composition, and upholding the rights of human participants). Analysis of the responses by concerns and types of research conducted revealed significant main effects for domains with justice issues rated more important than other issues. There was no significant main effect for type of research, but social–behavioral researchers assigned greater importance to justice issues than did biomedical researchers.

### *24.1.4 Practitioner and Classroom-based Research*

Simons and Usher (2000) outlined four general considerations as ethical principles are applied to situated inquiries: challenges to universality, sociopolitical dimensions, fairness in disadvantaged contexts, and the diversity of approaches in education research. Maguire (2004) stated, "Whatever the location, the important message that resonates is that researchers need to take into account the effects of their research on participants, on public discourse, and on policy makers" (p. 815). Pritchard (2002) addressed some of the difficulties facing researchers and REBs regarding practitioner–researcher dual roles in teacher research, practitioner inquiry, action research, and reflective practice. He especially considered the purposes of nonpublished, informed practice required by professional certificate and employment, and published knowledge-building "broadly [referred] to the array of activities people carry out as they seek knowledge or understanding while pursuing or improving a social practice in which they regularly engage" (p. 3). The ethical considerations are related to the participants and informants in these activities—not to the researcher's intent. In such cases, ethical approval of the research into the professional activity encounters difficulty when these activities are enacted in the workplace and involve clients, students, and colleagues who become the central foci of ethics review.

Pritchard (2002) unpacked the internal dimensions related to practitioner research issues and identified the following as central ethical considerations: (a) informed consent and free choice; (b) education misconception involving power-over and value of, and to whom; (c) procedural changes, responsiveness, and flexibility; (d) contingency for opportunistic and unexpected results; (e) preserving anonymity or confidentiality of participating institutions and informants; and (f) conflict and reform within the research institution, host organization, and participants. Furthermore, he analyzed the obstructions to effective and efficient address of these ethical issues by review boards. He stated:

> [a]sking questions, slowing things down, demanding to be appeased … [results in negative impressions about] the time and effort needed to assemble IRB submissions, respond to IRB requests, and work through whatever modifications on which the IRB insists. [The] IRB's appetite for paper seems voracious. (p. 7)

An inspection of any online or hard-copy templates for ethics approval will reveal very lengthy, complex applications for rather mundane issues. He concluded that IRBs were (a) overloaded with applications, (b) underresourced to handle the workload, (c) ill-informed about the specifics of the research under consideration, (d) focused on the common rule, (e) limited by their interpretations of the rules, (f) overly concerned about insignificant and improbable risks, (g) emphasized protecting the reputation of the institution and research enterprise, and (h) involved in ethical conflict. He suggested concrete improvements for operations, effectiveness, and efficiency of IRBs including enhanced resources, improved expertise and education outreach for board members and applicants, flexibility, and systemic adjustments and reform.

Some research ethics policies allow for local adaptations and interpretations to address unique features. Unfortunately, the local option can be used to include inappropriate requirements that are not central to the ethical treatment of participants in research. McDonald (2004) pointed out that sometimes all three ethical principles—respect for persons, beneficence, and justice—cannot be fully addressed independently and that resolution may involve maximizing compliance across the collective principle—the ethical treatment of research subjects. For example, informed consent may be unrealistic, therefore "the researcher must take on all the risks entailed in research participant protection, [since] there is no easy use of informed consent to off-load responsibility for research harms on to research participants" (p. 817). Sieber (2007) pointed out that the respect for personal and informed consent was evolving constructs and required innovative procedures: “Perhaps it is time to start thinking outside of the box” (p. 2).

Lopus and colleagues (2007) surveyed university professors’ perceptions about ethics review requirements involving students as participants in classroom-based research. They found ethics approval was required:

> in cases which present only minimal risks, and when the investigation is intended for evaluation of teaching approaches only, and not for publication. … [A] logistic regression analysis [of web-based survey responses] identifies the time it takes to complete the review application, the time it takes to receive a response, and the necessity of revising a project as significant factors in the respondents viewing the REC process as a barrier to research. (p. 69)

They believed such negative experiences with low-risk, classroom-based research could be minimized by applying alternatives available within the regulations of the institutions studied.

### *24.1.5 Community-based Research*

Another growing and innovative area of research not well served by common rule regulations and biomedical-dominated interpretations of research is community-based participatory research, which is more of an orientation rather than a specific research method and about real-time design rather than a priori delineation of problem and procedures. Shore (2007) stated:

> Community-based research has multiple meanings depending upon one’s perspective. For some, it may signal that the research is situated within a community setting and does not speak at all about the degree of participation that the community has in the research process. For others, it signals a dynamic relationship between academic investigators and community representative in carrying out the research. (p. 31)

The relationship is critical when (a) the definition of community-based research (CBR) switches from setting or target to partner and (b) the design process becomes collaborative and responsive, more like technological design than scientific inquiry in which the procedures are dynamic and respond to current events in determining the next step. This approach focuses on community as agent of change and participation to address social justice issues and where all partners learn from one another and express civility and value of one another’s contributions and resources. “The community partners are recognized as having expertise through their [lived] experiences and insider knowledge regarding the culture of the community [and its knowledge stores], while researchers often possess research-related skills” (p. 32). This operational definition of CBR does not fit the regulatory definition of research in the US National Research Act of 1974 since it tends to focus on sociopolitical actions, not knowledge claims; or place-based assertions, not generalizable claims; or the researchers become advocates, not objective participants. However, Shore believed the generalizability issue could be addressed by focusing on the application of place-based claims to other places, communities, and situations.

Much of the insights into ethics and research involving human subjects in a community-based context and partnership must be gleaned from practice as this is a newly emerging area of research. In Canada, there are several approaches toward the development of standards evident. The first is individual, growing out of the personal experience of pioneers of this approach. The collection of papers edited by Leadbeater et al. (2006) includes a series of case studies that report on the ethical dilemmas in designing CBR along with an array of responses from researchers and community partners. The authors are circumspect in generalizing from individual case studies. Nonetheless, in a concluding paper, Moretti and colleagues (2006) reminded prospective community-based researchers that:

> [w]hen we launch community-based research, at least two systems come into contact-and sometimes collide: the university's system and that of the community under study. Each system comes with its own history and procedures for identifying and resolving problems, as well as its own beliefs, hopes, and fears as they relate to the process and outcome of collaboration. (p. 234)

As individuals and institutions become more familiar with issues in CBR, there have been attempts to coalesce the individual cases into intuitional guidelines.

There are procedural and ethical challenges with CBR related to community approval, informed consent, and confidentiality and anonymous participation. Social justice can involve the traditions and operations of the community partner in which the research target focus is on vulnerable, subordinate, or less powerful members of the community. There is general acceptance that ethics approval procedures need to recognize the potential involvement in the injustice of the more powerful members of the community—who, therefore, are in a conflict of interest when it comes to supporting and approving the research inquiry. Furthermore, communities like families, rural schools, and religious groups are tightly defined contexts in which confidentiality is difficult to maintain; therefore, anonymous status of informants–participating partners is highly unlikely.

### *24.1.6 Aboriginal and Indigenous Participants and Their Knowledge Claims*

Respect for persons, beneficence, and justice, which are the fundamental principles of research ethics, and the central goal of research ethics approval—to protect participants from physical and emotional harm—applied to vulnerable, aboriginal, and indigenous participants need to consider political authority, individual and social histories, and cultural factors. In some countries, aboriginal and indigenous peoples are afforded *nation* status; their role must be recognized and infused into any approval or evaluation process. A variety of cultural, linguistic, epistemic, and ontological factors across several minority, aboriginal, and indigenous peoples when considering knowledge about nature, natural occurring events, and science literacy have been documented (Yore, Chinn, & Hand, 2008). The social history of people that led to their current state needs to be remembered since a lack of awareness can perpetuate the same mistakes made earlier. Therefore, the research ethics approval process needs to reflect and protect the value, traditions, and conventions of host participants–partners and clearly recognize their history and their intellectual property rights. Furthermore, unlike traditional scientific inquiries, this type of research frequently involves community-based participatory approaches where ongoing deliberations and adjustments to methods and dissemination are part of the design (Glass & Kaufert, 2007). Most research ethics regulations are based in a biomedical framework, scientific worldview, and inquiry model of the dominant culture and are lacking consideration of alternative worldviews, epistemologies, and cultures.

Glass and Kaufert (2007) attempted to access the unpublished, gray literature of aboriginal and nonaboriginal researchers regarding research ethics. They believed that current research ethics policies not only reflect a Western scientific worldview but also were "based on western liberal democratic political traditions protecting individuals, [and they] place great weight on individual autonomy and … self-determination" (p. 26). Unfortunately, some research ethics policies did not reflect on historical factors and prior engagements between cultures. They stated:

> Aboriginal leaders have become more critical of both past and ongoing research and are interested in playing a more active role in projects within their own communities. They also set a high priority on whether a research project is culturally appropriate and respectful of local knowledge. Key questions for many communities are whether the research assists in building local capacity and is potentially able to solve [problems] the community itself identifies as [priorities]. In many cases, communities have articulated their concerns and are ready and able to participate in [the research ethics review process]. (p. 27)

The emerging interpretation of approval and consent in aboriginal communities normally requires community review or consent and provisions for control and ownership of data and knowledge claims. The need to include others in the review process and to share authority requires reinterpretation of funding agencies' and universities' policies, procedures, and practices. Similar deliberations and policies have occurred in Australia to reflect the indigenous rights of aborigines and Torres Strait Islanders, in Canada to the status and rights of the First Nations, in the United States to reflect the indigenous rights of Native American Indians and aboriginal Hawaiians, in New Zealand to reflect the indigenous rights of the Māori people, and in southern Africa in recognition of the diversity of indigenous cultures in that region.

Gadicke (2005) conducted a research and development project about traditional knowledge and technologies related to water in the Columbia River Basin in Canada. Her ethics approval and development activities fully recognized that she was a guest in the Ktunaxa Nation with limited and respectful access to their stories and knowledge about water and technology. Furthermore, she recognized the territorial boundaries and cultural diversity across the geographic area and the various peoples of the Columbia River. Her approved uses of the traditional knowledge and technologies were for a specific purpose and audience reserving ownership to the First Nations involved.

### *24.1.7 Best Practices*

International experiences with research ethics regulations, implementation, and REB practices revealed varying degrees of satisfaction and the general need for monitoring and adjustments to these policies, structures, and practices in literacy and science education research. Best practices should be a goal of any deliberation and investigation of research ethics involving humans (Sieber, 2006). Keith-Spiegel and colleagues (2006) stated, "The ideal ethics committee appears to be a just body that employs fair procedures, treats investigators with respect, and accords them the opportunity to have a voice when disagreements arise" (p. 78). They suggested that consideration of client service, proactive measures, staff and board members' professional development, and effective communications will improve researchers' perceptions of research ethics and IRBs and may, in fact, improve an institution's research program.

The IRBs and RECs of professional associations and funding agencies should promote thoughtful reflections and empirical investigations into the fundamental foundations, critical principles, operational procedures, and research quality (Sieber, 2006). It appears (a) as if the central focus of research ethics is not always central to IRB procedures and practices, and (b) that IRB actions assign greater risks than actually exist, focus on legal exposure, and privilege some a priori research designs over responsive designs intended to reflect and react to contextual variables and real-time events. Effective IRBs need to stay focused on the central goal "to ensure the ethical treatment of research subjects [and the fundamental ethical principles of] respect for persons, beneficence, and justice" (Pritchard, 2002, pp. 7–8). Levine (2006) believed that IRBs are:

> losing [their] effectiveness in safeguarding the rights and welfare of human subjects [in] that IRBs devote too much time doing work that simply does not need to be done. Several routine practices of IRBs are highly time consuming and, in [his] opinion, not sufficiently productive to warrant their continuation in their present form. (p. 1)

He suggested that these activities and procedures should be empirically evaluated and the results of such inquiries should be used "to persuade federal regulators and other policy-makers to reduce the burdens on the IRBs in a rational manner" (p. 1).

Lopus and colleagues (2007) believed best practices need to develop policy and procedure that expedite review for minimal-risk classroom research and exempt evaluations that are not to be published. Improvements to the ethics review process "with respect to classroom-base studies and others that impose virtually no potential harm to human subjects" (p. 70) and will likely increase the amount of research done. Current policies do not impose a barrier. Rubin and Sieber (2006), along with Lopus and colleagues, pointed out that such expedited reviews are allowed under the US regulations and could be conducted within the disciplinary boundaries in which the research methodological expertise is likely to exist.

Shore (2007) believed best practice involving emergent and responsive designs needed to involve an ongoing progressive process, not a singular event or evaluation. IRBs need to become aware of innovative inquiries and build or recruit expertise among their members to ensure informed deliberations and decisions. She suggested that the three fundamental ethical principles need to be elaborated to include ethics of partnership building, empowerment, self-determination, liberty, and social action. Glass and Kaufert (2007) stated:

> Best practices should include a mandatory formal agreement at an early phase of the relationship between the community authority (aboriginal or non-aboriginal) and the investigators detailing issues of data ownership, interpretation/analysis and publication, with specific mechanisms for managing conflicting interpretations or inappropriate use of data. Parties should agree in advance on their roles and responsibilities, desired outcomes, measures of validity, control of the use of data, funding and channels to disseminate findings. The guidelines or policy statement should protect both researchers and participating communities for unreasonable restriction on access to data or the right to publish findings. (p. 37)

Without such best practices and assurances, it would be inappropriate to expend public research funds or to involve graduate students and untenured faculty members in CBR, research involving aboriginal or indigenous participants, or other innovative research designs.

## 24.2 Critical Issues

The review of related literature, presentations, and deliberations at the 2nd Island Conference on research ethics and the 2006 National Association for Research in Science Teaching Research Committee-sponsored symposia identified several critical issues related to research ethics, IRB procedures and practices, and Gold Standard-quality research in literacy and science education. These issues involve various configurations of single and multiple policies; local interpretations; local panels; vulnerable, aboriginal, and indigenous peoples; practitioner research; futuristic considerations promoted by the US National Research Council (US NRC, 2002, 2004) to share and enhance the use of datasets, secondary analyses, computer-assisted analysis systems; and other interesting issues (see Yore & Boscolo, Chap. 2). We found a range in the development of research cultures, support for quality research, and research ethics in the inquiries leading to this chapter. Some countries and regions have well-developed policies, procedures, and systems in place to facilitate and support high-quality, ethical research practices. Others do not, leaving researchers to depend on their personal values, beliefs, and knowledge. We find the variation places additional demands on journals and professional and accrediting associations to ensure research ethics.

An example of the *one-size-fits-all* is the Canadian Tri-Council policy that is designed to integrate ethics reviews from medicine, natural sciences and engineering, and humanities and social science research under one policy (CIHR, NSERC, & SSHRC, n.d.-a). Unified IRB policies appear to focus on risk management as much as ethics oversight and thereby assume and assign high risk to all inquiries. Some policies reflect a privileged design (experimental–control design) because this design provides a priori hypotheses, procedures, and data sources while other interpretative and contextual designs reflect a technological approach that responds and reacts to events in real time.

Local panels with different interpretations of the research ethics policies and regulations have limited research experience and expertise with some high-quality alternative designs to the Gold Standard randomized controlled trials (RCTs) approach. A consensus has emerged through discussions that there is:

- Tendency of panel, chair, and staff to focus on risk in every application.
- Tendency to require risk management, limit institutional exposure, and use legal language in information letters and consent forms that convey a higher level of risk than actually afforded in the research proposed.
- Tendency to not consider readers, audience, and potential participants with information and consent forms—immigrants and low-proficiency English/domain language.
- Tendency to not respect cultural norms and societal traditions regarding authority within the community and school in approval process, especially in cross-cultural and international research studies.
- Tendency of local panels to overstep their charge to include research design issues.

## 24.3 National Perspectives

The following brief perspectives from Canada, New Zealand, southern Africa, Taiwan (Republic of China), the United Kingdom, and the United States illustrate some of these critical issues related to codes of research ethics, REBs, and the Gold Standard(s) for literacy and science education research. Some key issues embedded in these codes of research and professional practice are (a) the dual roles of professional practitioner and researcher, (b) ownership of data and interpretations, (c) recruitment of participants, (d) informed consent, (e) termination of involvement, (f) cultural and indigenous rights, (g) confidentiality and anonymity, and (h) future and unforeseen uses of data. Each of these factors manifests its influences on the development and conduct of research in explicit or implicit ways.

### *24.3.1 Canada*

There are three major, government-sponsored granting agencies in Canada: Canadian Institutes for Health Research, Natural Sciences and Engineering Research Council, and the Social Sciences and Humanities Research Council—collectively referred to as the Tri-Councils. These councils had been independently monitoring ethical guidelines and procedures; but in 1994, the Tri-Council Working Group was developed; its final report established the guidelines that govern ethical reviews in all postsecondary and research institutions in Canada. The Tri-Council Policy Statement (TCPS, CIHR et al., 1998) serves the regulatory function of an ethics code. All institutions that receive funding from any of the granting agencies are required to adhere to the principles and processes outlined in the TCPS. The TCPS ensures centralized authority over every research project in the country that involves human participants through the approval process of the institutional REBs. It has resulted in a burgeoning of an ethics bureaucracy throughout Canada's research infrastructure. However, some features have been identified as in need of review; and an Interagency Advisory Panel on Research Ethics has been struck with purpose of conducting wide-scale consultations with the research communities with the goal of bringing forward proposals for revision (CIHR et al., n.d.-a).

The following sections outline some of the disjunctions between researchers and REBs based on a brief overview of the Canadian experience from the perspective of educational researchers at the University of Victoria. This perspective is focused on the key issues established earlier dealing with a one-size-fits-all ethics policy on the diversity of research, in particular on qualitative and CBR traditions. For example, a policy focus on risk and potential for legal exposure in every application demands complex legalese in information and consent communications with potential participants and very likely lacks respect for cultural and professional norms that are also present in a research context. Further tensions emerged between research applicants and the REB when the approval process called into question issues of research design. The impact of these issues was approached through a year-long process of meetings and negotiations involving the REB and a group of educational researchers in an attempt to collectively develop guidelines for an area that had been identified as particularly problematic, that is, teachers as researchers in their classes. The University of Victoria case study is informative about the potential for a process to arrive at a consensus of perspectives. This case study also provides insight into the ontological and epistemological contrasts that underlie the principles and practices of REBs and the power relationships that are exercised between the scholarly concerns for the design of research and the ethical concerns of REBs.

The motivation for addressing the underlying issues for research in educational settings was especially pertinent as large numbers of graduate students undertake the role of teacher–researcher in their own classrooms while conducting action research and reflective practice. There are three key issues in this case study that reflect upon the more general issues related to the relationship of research and REBs: first, the overlapping responsibilities of graduate research advisers and the REB for oversight of the quality of the research design, in particular, exploring the separation of scholarly concern for the most efficacious research design to be applied from the interests of the REB; second, the problem of distinguishing the dual roles of teacher and researcher in the classroom (see Coupal, 2004); and third, the marked gap in the familiarity and experience of actual classrooms between REB members and the teacher–researchers conducting the research. These contrasting perspectives were especially evident in the interpretation of the *power-over* relationship. For practitioners, there was a clear recognition of the authority (ministry of education, school, teachers' union) of established codes of ethics that govern the ethics of the teacher–student relationship in the classroom while the REB explicitly disregards such professional codes of practice and holds to a different conception of power-over students in the classroom. The contrast in these perspectives is fundamental; the expectation of teachers that students are expected to participate in classroom activities sanctioned by the school curriculum versus the REB's expectation that such participation must be voluntary for research purposes.

Classroom-based teacher research has tended over the last decade to be qualitative in design. This may be a reflection of the enormous diversity between educational settings that inhibits more controlled types of research or simply a reflection of the preferences of the community of educational researchers. In either case, the relationship between REBs and qualitative research has been seen as "an unhappy union" (Ells & Gutfreund, 2006). Whether this unhappiness arises from the TCPS or the various applications of the TCPS is a matter for ongoing discussion (Ells & Gutfreund; McGinn, 2005) of such general concern that the Interagency Advisory Panel in Canada has undertaken a separate consultation document on the issues (Blackstone, 2007).

The process of consultation between the University of Victoria educational researchers and REB does not reveal either a unique or novel approach, other than the critical importance of researchers' active participation and stewardship regarding all components of the research enterprise: quality, funding facilitation, and ethics. Rather, it is another example of the potential of the adage: first you talk, then talk, talk again, and finally talk some more. Over a score of meetings and a dozen draft versions of a guideline, consensus was gradually achieved. The progress of the discussion relied upon the participants' dedication to reach a new level of understanding of common objectives and regard for contrasting viewpoints. The initial guidelines that emerged were recently reviewed and expanded beyond the context of classroom-based research to embrace all dual-role research–practitioners. The guidelines' purpose is:

> to assist graduate students and their supervisors in the Faculty of Education and other applied or professional faculties to better understand some of the specific challenges of practitioner-researchers undertaking research in professional/classroom settings and to outline recommended approaches to ensure that the study to be undertaken involves procedures that are consistent with the current ethical standards of research practice outlined in the Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans (TCPS). (University of Victoria Human Research Ethics Office, 2008, para. 1.1)

The guidelines provide guidance around some of the previously perilous situations that delayed or deflected dual-role research. There is clarification of the scope of responsibility around the researcher's focus on research design and the REB's scrutiny of ethical research, which acknowledges the researcher's primary responsibility for design. This legitimizes use of dual-role research to explore matters of concern to researchers.

The achievement of these guidelines represents a case study in the collaboration of the REB and researchers toward the mitigation of potential areas of conflict. Anthony (2004) reported a case where two collaborating researchers submitted individual applications to conduct the same study design in separate classrooms; one application was approved without revision, the other rejected. The decision of the REB was justified on the basis that different members had reviewed each application. Even though the review policies and guidelines were the same, the decisions were not. While it can be appreciated that individuals hold differing perspectives on professional and research practices, it is also apparent that these differences may lead to decisions that are irreconcilable with the application of a common set of principles. This case study also provides insight into the ontological and epistemological contrasts that underlie REB principles and practices and the power relationships that are exercised between the design of research (academic supervision of research) and the review of research (ethics review board). The supervisors and teacher/researchers collaborated on an understanding of the ethical standards for these parallel studies, but the reviewing members of the REB were not bound by a common understanding of the ethical considerations for the research.

At the University of Victoria, the model from the dual-role practitioner guidelines to clarify differing views of research and research ethics is being explored for CBR, another class of research. CBR is meant as an umbrella term that is inclusive of terms such as collaborative research, participatory research, action research, and participatory action research. Like the process for developing guidelines for dual-role practitioner research, a group of interested researchers initiated a consultative process with the REB about concerns related to CBR. Through this consultative process, another guideline for CBR is arising (Bannister, 2008). The issues under consideration are the interplay between the social action agenda of CBR, which calls for shared responsibility in formulating the research agenda and for conducting and disseminating the results of CBR in an ongoing and collaborative manner, and the expectation of REBs for researchers to disclose the details of research design before ethical approval. Extensive community consultation and collaboration often results in *emergent* research designs where the details of the research process develop throughout the study and are not known to either researchers or participants at the outset. Such emergent projects may involve activities that are not initially viewed as research activities. For example, a scholar may be collaborating with a community to consider advice about how to respond to a community need and, in the process of developing an awareness of the need, there is information gathered that later emerges as research data, which requires ethical approval.

In CBR, the local knowledge and expertise of community participants is often considered integral to the research and learning goals, processes, and outcomes. Such an approach changes the balance of power that is typically assumed by REBs (Bannister, 2008; Coupal, 2004; Minkler, 2004). It also raises considerations about rights, responsibilities, and ownership over processes and outcomes. An example is sorting out ownership of the intellectual property that might arise from research that involves the traditional knowledge of a First Nations community (CIHR, 2007; Schnarch, 2004). There is an expectation at the University of Victoria that indigenous community approval will be obtained for certain research, such as when the research specifically involves or includes individuals from an indigenous population or a particular indigenous community will be a central focus. Clearly, the policy landscape for university research involving aboriginal peoples is in an unprecedented state of uncertainty amid dynamic change at national and institutional levels.

The landscape for REBs is in a process of dynamic review and reconsideration. This is particularly the case as the authorities responsible for developing policies on ethical review struggle with the challenge of including qualitative and emergent research designs within the same review process as traditional forms of controlled research. The one-size-fits-all approach to ethical review in Canada offers both the promise of consistency and equity of ethical standards and a large measure of complexity and uncertainty as the vast research landscape is threaded through the eye of a national policy. The Tri-Councils conducted an open consultation regarding qualitative research in the context of the TCPS in 2007 (Canadian Interagency Advisory Panel on Research Ethics, 2006), and it is expected that a new TCPS will be announced by the end of 2008.

### *24.3.2 New Zealand*

Ethics in educational research is administered by local institutional REBs in New Zealand universities and other postsecondary institutions. There is at present no national policy, system, or authority that controls the conduct of such boards. Ethical issues in educational research are, however, bound by a variety of national legislative requirements regarding privacy and freedom of information; and REBs are expected by their institutions to ensure that the conduct of educational research meets these statutory requirements. The most relevant legislation is the New Zealand Privacy Act (NZ Government, 1993) and the Copyright Act (NZ Government, 1994), although some science educational research projects may make aspects of the Health and Safety in Employment Act (NZ Government, 1992) and the Resource Management Act (NZ Government, 1991) relevant (e.g., surveys of public views about land use or sensitive commercial development projects).

Education researchers are expected to observe copyright issues, with raw data generally considered to belong to participants and interpretation of raw data to belong to researchers. All research is expected to protect the identity of schools, students, teachers, and other participants. Informed consent is a key issue with all participants expected to provide written consent on forms that spell out in detail the nature of the research and the commitment required of them. Participants are asked to allow use of raw data for analysis and interpretation and use of interpreted data in publications and presentations, consistent with the copyright and privacy considerations mentioned above. Addressing these issues would satisfy most legislative requirements under New Zealand law.

Many of the educational research ethics issues in New Zealand are fairly innocuous because of the nature of the research projects. New Zealand educational research at present does not involve much in the way of large-scale, quantitative, interventionist, or experimental techniques. Hence, some issues like sample selection and ethical issues associated with experimenting on students, teachers, and classes are seldom of major concern. Any large-scale, quantitative work would likely be government-initiated and endorsed. Although ethical issues would be subject to scrutiny (e.g., by the ministry concerned), ethical approval would be subject to the local REB of the researcher's agency involved in a given research contract.

Much educational research in New Zealand is case study or interpretive in nature. This takes two forms: exploratory case-study research seeking to understand educational issues or to explore educational issues identified in surveys in more depth. Interviews, either one-on-one or focus groups, is the usual method of choice. Other than protection of identities (as dictated by the Privacy Act) and ownership and use of data, there are not major ethical issues. Such studies also may involve classroom observation although this is less common due to resource constraints (but ministry-based contract research frequently involves classroom observation, depending on the contract). Classroom observational research frequently involves the more invasive modern technologies (e.g., videotaping) and puts the researcher potentially in conflict with the Privacy Act. Hence, even with informed consent, it is seldom deemed appropriate to share video or digital recordings at conference presentations, professional development workshops, or for future research projects.

The second form of educational research now common in New Zealand is action research, often by teachers doing postgraduate study and research projects as part of career or professional development. Again, these research projects are typically small-scale, interpretive-based projects. As action research projects are interventionist in nature, one might expect them to address similar ethical issues to that of experimental studies. However, there is an interesting difference between the New Zealand educational system and that in many other nations. The New Zealand educational system underwent dramatic and far-reaching changes in the 1980s and 1990s. In brief, there was significant devolution of school management including curriculum. There is no national curriculum as such but instead a curriculum framework (NZ Ministry of Education [MoE], 1993a, 1993b) and a series of educational curriculum statements (NZ MoE 1993c, 1996a, 1996b, 1996c, 1996d) that indicate broadly what is to be learned and what achievement objectives must be met, similar to the European tradition that places much more responsibility on the classroom expert—the teacher. The development, evaluation, and implementation of the school curriculum are thus the school's responsibility, and the flexibility embedded in this system is intended to result in a highly learner-centered education system. Recent research suggests this is indeed the case (NZ MoE, 2002). What this means in terms educational research, particularly action research, is that a teacher has the right—indeed, even an obligation—to alter pedagogy to meet the needs of learners. Hence, teachers conducting action research projects do not need participants' permission to enact interventions. However, they do need to seek consent for data gathering (e.g., interviews) that would not be part of a change to pedagogy and must address the other research ethics issues identified above (e.g., protection of school and student identity, use of data gathered, etc.). The use of these data and interpretation as the basis for professional and academic publication, including theses in university libraries, would require consideration by the host school authority.

### *24.3.3 Southern Africa*

The development of policies and practices related to research ethics is relatively new in southern Africa and has been largely dominated by concerns about international collaboration and the urgency of research related to HIV/AIDS. While the Medical Research Council in South Africa has been developing guidelines on ethics for medical research since 1997, South Africa's national ethics regulations in the area of biomedical research were enacted within the National Health Act of 2003 (SA Government, 2003, Chapter 9) and elaborated in the national ethics guidelines in 2004 (SA Department of Health, 2004). Standards for ethical biomedical research along with regulations governing the establishment of RECs have emerged. However, ethics policies in the social sciences and humanities are trailing behind and are far less well developed. It has been reported that, where they exist, these committees work without formal legislation and merely follow a set of limited guidelines developed at the individual institution (Johns Hopkins Berman Institute of Bioethics, 2007; Louw & Delport, 2006).

Roberts (2006) reported on several key themes in research ethics in Africa. These included policy differences between countries and institutions, which reveal inconsistencies in the application of best practice for achieving a balance between resonance with global standard practices and consideration of unique elements to adequately address local circumstances. In order to present some sense of the current state of research ethics in southern Africa, four policies that guide the research ethics were selected from different institutions.

#### 24.3.3.1 University of Pretoria

Louw and Delport (2006) suggested that the University of Pretoria ethics policy outlines and establishes a structure by which applications for ethical approval are submitted and reviewed and where identified challenges are resolved. A significant challenge for REC members is to familiarize themselves with the array of documentation within which the committee functions, namely the Constitution of South Africa Act of 1996, the Copyright Act of 1978, the Promotion of Access to Information Act of 2000, the Promotion of Justice Act of 2000, the Research Ethics Guidelines (SA Department of Health, 2004), and the Code of Ethics for Research (University of Pretoria, n.d.). This complex array of regulations greatly encumbers the REB; as a result, its actual operation depends largely on the recommendation of individual department ethics committees (Louw & Delport). The role of the Pretoria Committee is not only to evaluate research proposals but also to educate and assist the faculty to understand, appreciate, and apply the ethics of research (Benatar, 2002).

#### 24.3.3.2 University of Cape Town

The Faculty of Humanities at the University of Cape Town has issued general research ethics guidelines for its departments and schools (University of Cape Town, 2006). These guidelines invest initial approval with the departments and schools but provide a flow diagram for appeals that shows concerned researchers paths to follow when a research proposal has not been approved. It illustrates that every research topic has to gain the approval of a departmental REC before the ethics approval application can be considered at the next level. If a departmental REC fails to reach an agreement or the researcher disagrees with its decisions or disputes the methods used, the applicant is given the option of either reformulating or changing the research topic, design, and application or appealing to the Faculty REC for reevaluation.

#### 24.3.3.3 University of Botswana

The University of Botswana (University of Botswana, 2004) policy on ethics and ethical conduct in research aims to establish (a) codes of practice for research and consultancy activities, (b) mechanisms for ensuring compliance with the ethical standards and values of the university and with the international research society and civil society, and (c) the framework for developing and implementing codes of conduct for ethical behavior. This policy is cross-referenced to other university policies and procedures related to academic honesty, staff disciplinary regulations and procedures, research and development, and intellectual property. The research ethics document lists activities that are deemed to be unethical behavior, such as fabrication or falsification of data, plagiarism, conflict of interest disclosure, authorship, use of research funds, and safeguard of human rights. One issue explicitly mentioned is deception involving the researcher's failure to give potential subjects information that may lead to their refusal to participate in the research. The University of Botswana provides a sample code and principles for individual disciplinary-specific departments in their development, implementation, and regular review of policy, procedures, and practices within the university policy. However, there are further restrictions existing outside of the university; for example, no anthropological research can be undertaken without the approval of the government as stipulated in the Anthropological Research Act of 1976.

#### 24.3.3.4 Human Science Research Council

The Human Science Research Council (HSRC) is the major funding agency for scientific research in South Africa and includes research from the natural sciences, engineering, and social sciences. HSRC has produced a code of ethics aimed at monitoring research that is undertaken with public funds (SA HSRC, n.d.). HSRC provides a mission statement that commits the agency to funding and promoting research to the benefit of all people in South Africa and to supporting societal goals. Furthermore, HSRC suggests that (a) research supported by public funds belongs to the public domain and must withstand public scrutiny, and (b) researchers seeking public funding must honor the trust placed in them and respect the rights and dignity of participants.

The HSRC guidelines include the following principles: respect and protection, transparency, scientific and academic professionalism, and accountability. The principle of respect and protection emphasizes that the pursuit of knowledge should not override the consideration of participants' personal, social, and cultural values and that the research must respect the participants' autonomy, protect their well-being, and obtain informed consent. The principle of transparency emphasizes the need for participants to be clearly briefed on the aims and implications of the research outcomes. The participants have to be continuously kept in the loop concerning the process and progress of the research. The principle of scientific and academic professionalism explicitly accepts the role for codes of conduct outlined and accepted by membership in professional and research associations, the use of status and position for personal benefit, and the goal to achieve quality research and justified results. The principle of accountability requires that research be conducted with and not on identified communities. The researcher should provide potential participants the written focus, conditions and terms, potential deliverables, their commitments, and time schedule for the research; this document will clarify involvements and likely lead to successful completion of the research and quality results. These research ethics and procedural expectations are monitored by a committee composed of leading researchers and HSRC staff members.

Several challenges have been identified regarding the application of research ethics principles that emphasize the need for ethics guidelines and the promotion of high ethical standards in southern African contexts. These challenges require researchers to be cognizant of the far-reaching ethical implications of the sociocultural contexts. Louw and Delport (2006) argued that research in the South African context is especially influenced by cultural and linguistic factors. These factors pose ethical problems with regard to the principles of respect of persons, justice, and beneficence. According to them, the respect of persons is jeopardized when obtaining genuine informed consent by using interpreters—especially when the researcher has limited knowledge about the social systems, cultural values, and beliefs of potential participants. Even written consent remains contentious in the South African context due to low literacy levels.

Some southern African contexts are strongly anchored in the cultural and religious beliefs of the people. For example, a study conducted by researchers in the Department of Chemistry at the University of Swaziland (Amusan, Dlamini, Msonthi, & Makhubu, 2002) on traditional medicines revealed that the people's practices are clouded with secrecy, myths, and metaphysical powers. The participants involved in the study had a strong belief in ancestral spirits, which made it difficult to interpret the data in scientific terms. They found that these data could only be understood when considered within the cultures of the people (Makhubu, as cited by Amusan et al.). Makhubu (1998) argued that participants who were traditional healers felt vulnerable and unprotected since they lacked legal recognition. This lack of legal status put the ownership of their medicines and indigenous knowledge in question. Even without the CBR label, there are ethical issues around the integration of the nonscientists–researchers' knowledge, ownership, and interpretation of data included in the research report.

Louw and Delport (2006) further observed that in the southern African context the ethical principles of beneficence and respect could be violated by the use of measurements (e.g., standardized tests) that are culturally inappropriate as well as lacking validity due to language differences. A further issue is conflicts that arise between traditional methods of knowing, learning, and teaching and those imported from colonial powers (McKeever, 2000). Worldviews and their related views of reality, epistemological beliefs, and ontological assumptions need to be considered and respected as outside researchers gain access, engage traditional knowledge, and make these ideas from a different interpretative framework (Yore et al., 2008).

Most researchers are advantaged in comparison to research participants. This advantage and associated power difference are potentially problematic for application of the principle of justice. Louw and Delport (2006) observed that researchers need to manifestly address this principle because "[t]he political legacies of the apartheid era may still be operating in a given situation and researchers need to be aware of the cultural dynamics and the potential impact on their research endeavors" (p. 60). For example, when addressing ethical issues in conducting educational research in a postcolonial context, McKeever (2000) raised the issue of whether she, as a white person, had a right to research black experience.

The combination of need for research and limited resources makes international collaboration essential for most researchers in southern Africa. Such a situation results in distinctive considerations for the development of ethical standards. On the one hand, increased international research collaboration leads to a consideration of the value of ethical pluralism. On the other hand, collaborative research benefits from clear and explicit, ethical guidelines that are consistent with international standards, which present the specter of ethical imperialism. Benatar (2002) argued that new ways of thinking about the role of RECs is required in developing countries in order to promote progress in authentically grounded research, which may involve hybrid policies and procedures that achieve a balance between established international practices and unique policy elements in consideration of local needs.

### *24.3.4 Taiwan (Republic of China)*

Taiwan has a well-developed research culture in its universities, research institutes, and development centers that has led its modern economic growth in science and technology. The development of research ethics followed a similar track as Western countries, starting in human scientific studies (medical science, biology, etc.) and gradually spreading to other research areas (science education, psychology, sociology, economics, etc.). The development of research ethics reflected the cultural traditions and different emphases, priorities, and relevance of the human benefits and costs. Mature practices and thorough procedures can be found in the medical sciences, biotechnology, and biology; whereas in other research areas, similar policies, practices, and procedures are only starting to evolve. Huge differences and gaps exist at the national, institutional, and individual levels for research ethics in different academic and professional organizations.

Formal research ethics regulations and procedures did not emerge at the explicit level until the last decade when serious and formal concerns were initially expressed in biotechnology and medical sciences. Before that, research ethics were not an issue for most disciplines in the academy. Basically, researchers followed the principles of goodwill and self-regulation, which means research ethics were maintained at their own discretion and with respect to their personal beliefs, professional values, and positive intentions. There were no clear rules for researchers to follow, no official forms to complete, and no standard operating procedures to take. Since the public highly values academics and the traditional thinking was that most of the research studies were for the public good and welfare, there was no urgent need to establish rules and procedures to regulate research practices. In 1997, a slight change occurred when the Public Health Agency issued the Guidelines for Good Clinical Practice (GCP; Shih, Shih, Chen, & Chen, 2005) initiating a series of reactions inside Taiwan's medical research communities that subsequently spread to other academic fields.

The Academia Sinica (TW Academia Sinica, 2007), Taiwan's most prestigious research institute for sciences and humanities, has been instrumental in leading the considerations of research ethics. Informed consent, even if the law requires participation, appears to be a basic principle (Bryman, 2001). The Academia Sinica formed the Human Subject Research Ethics Committee/IRB in 2004, which in turn established regulations and ethical guidelines to conduct research on human subjects in accordance with the Declaration of Helsinki (WMA, 2004) and the Belmont Report (US NCPHSBBR 1979). The Academia Sinica (TW Academia Sinica, n.d.) stated:

> Use of an informed consent document is an important component of the informed consent process. To assure truly informed consent by subjects, the consent document information should be presented in non-technical language that subjects can understand. If the document is not understandable, a claim could be made that the participant did not really know what they agreed to participate in.
>
> To increase the chances that the informed consent document will be understood by most subjects, it is recommended that investigators: write at no higher than an eighth-grade reading level; use simple, straightforward sentences; use commonly recognizable terms and measurement amounts; avoid the use of jargon or technical language; and explain terms that may not be easily understood. If non-Chinese speaking subjects will be enrolled, plan to translate informed consent documents. Likewise, if illiterate or visually-impaired subjects will be enrolled, plan to provide witnessed verbal translations of the informed consent document. (§ Readability of the Informed Consent Document)

The regulations and guidelines for researchers address three basic ethical principles:

> Underlying the federal regulations, state statutes, and University policies for human subject protection are three principles. They are: autonomy, beneficence, and justice.
>
> The principle of autonomy requires us to respect each individual's right to decide freely whether or not to enroll in research.
>
> The principle of beneficence requires that investigators attempt to 'do good' or, conversely, 'do no harm' in the conduct of their research.

> The principle of justice requires that access to research must be equitable, meaning that the risks of research should not disproportionately be borne by the disadvantaged and the benefits of research should not be reserved for the privileged.
>
> The principles are described in detail in a document known as the 'Belmont Report' which is available http://ohsr.od.nih.gov/guidelines/belmont.html online here. (§ Guiding Principles for Human Subject Protection)

Early developments inside the medical sciences and associated public concern forced the government to establish clear regulations. The revised Medical Care Act of 2003 (MCA) required that only teaching hospitals (allied regional medical centers, usually sponsored by respected universities) can conduct clinical trials and that proposals for clinical trials must be submitted to a human research committee composed of medical technologists, law experts, and social workers. This requirement was first enforced by the National Health Research Institute in 1999 and later by the Department of Health, the Executive Yuan in 2000, and the National Science Council in 2001 (Kuo, 2001). In addition, consent forms were required to state specific information, including the objectives and methods of the experiment, possible adverse effects or risks, expected results, alternative treatments; participants could withdraw from the study at any time.

The chief editors of major academic journals were placed under great pressure to attend a series of seminars and courses on the international ethics codes or standards. A 2000/01 survey of all 66 chief editors (65 responded) found that they agreed about the importance of the IRB review and that participants' consent, risk–benefit assessment, and justice in selecting human participants were necessary for intervention studies regulated by the MCA (Shih et al., 2005). Moreover, Shih and colleagues also found that chief editors were more positive toward policies regarding non-MCA regulated intervention studies than were other physicians. However, the actual practice of research ethics was not as encouraging; only 5 (9.1%) required IRB approval of studies involving human participants as a prerequisite for publication. Furthermore, 42 (64.6%) did not present any information on human research ethics or legal protection of human participants in their instructions for submission; 18 (27.7%) mentioned the Uniform Requirements for Manuscripts Submitted to Biomedical Journals (URMSBJ) (see http://www.icmje.org/ for more information); 7 (10.8%) required privacy protection; 1 (1.5%) referred to the Declaration of Helsinki; and 4 (6.2%) simply indicated that participants' consent should be obtained in the journals' guidance to authors. However, the situation is changing in that it is a common requirement for every paper submitted to these journals to have passed the IRB review that normally requires participants' written consent, risk and benefit assessment, and to follow URMSBJ.

A survey with Delphi technique on research ethics in Taiwan was completed in 1999 (Yang, Kuo, Chen, & Chou, 2001). The questionnaire followed the design of Cabana and colleagues (1999) to investigate participants' knowledge, attitude, and practice (test–retest reliability = 0.84). Results from the 172 respondents (400 public health researchers were surveyed for a return rate of 43%) showed that 70.6% agreed that although subjects signed the consent forms it might not really express their willingness to be tested in an experiment. Furthermore, 92.9% of participants considered the importance of confirming the subjects' comprehension of the information and research involved; and 52.8% revealed that as long as researchers provide reasonable explanations, research subjects' oral consent was acceptable. Close to half of the participants (48.3%) agreed that there is no need to have reviews from the IRB if a study is carried out in an educational environment related to educational methods or assessments. However, 68% of participants did not agree that as long as the government conducted the study it did not need to go through the review process.

Science education in Taiwan has never been regulated by laws, public policies, or guidelines for experimental (research) practice; nor is there a written consent requirement for human participants. Researchers differ about how to address research ethics issues. Universities are not consistent in requiring a review similar to those conducted by the IRB for studies in medicine and biological sciences. The requirements for research ethics are recognized as important in the sciences; and science education should not ignore this issue since participants' safety, privacy, and deception are equally important in educational research. The learning records of students are very important datasets for some educational and sociological studies. However, these data are private; and owners of this information would not want other people to have access. Traditions and historical practices are difficult to change, especially in a hierarchical society like Taiwan. This means there are several critical questions about these datasets:

- Who actually owns these data?
- How should guidelines and procedures for accessing and using these data be established?
- Do acceptable procedures for accessing, sharing, and using these data exist?
- Should the collectors of these data be afforded unrestricted use?

These are the important issues that science education needs to explore if participants' rights and welfare are to be ethically addressed since secondary analysis and data sharing are likely to become pressing issues.

An analysis of research studies published from 2001 to 2007 in the *Chinese Journal of Science Education*, Taiwan's top science education journal, found that very few papers mentioned research ethics for participants. Figure 24.1 demonstrates the pattern of consideration related to participants' safety, consent, and privacy (0% for deception). Harm, privacy, and deception were not consistently mentioned; only informed consent was explicitly mentioned across the volumes of the journal with the level of consideration increasing from about 10% (2001) to 21% (2007) of the articles. In those cases, the consent forms were from the teachers—not from the students who were the real participants. Historically, researchers requested permission and signed consent forms from the principal and teachers but did not require students to complete consent forms or provide verbal agreement. It appears to indicate a cultural tradition in education where students were viewed as *possessions* of the schools, principals, and teachers in the early years of the survey.

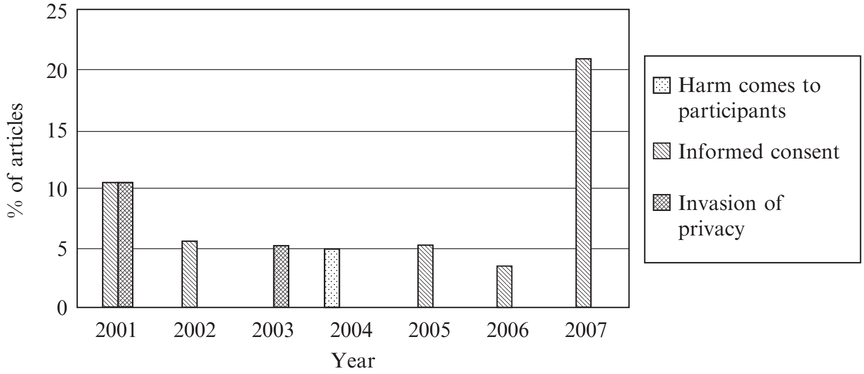

**Fig. 24.1** Percentage of *Chinese Journal of Science Education* articles indicating harm, informed consent, and privacy

Publishing research results and the public display of participants' work, places additional ethical demands upon the researchers and especially teacher–researchers. Teacher–researchers occupy dual roles that place different ethical demands on information obtained from students and other participants. Information collected to improve learning and classroom practice does not require extraordinary ethical consideration other than those of caring teachers' regard for student safety and welfare under their professional standards and code of ethics. Using the same information in other professional and academic settings (teacher workshops, conferences, etc.) and purposes (graduate theses or dissertations, journal articles, commercial resources) goes beyond the normal approvals afforded teachers. Therefore, researchers must consider: (a) the integrity in writing research reports or papers while presenting the data and doing data analysis; (b) the ethics of sharing the findings with other members of the research team or graduate supervisor; (c) the fair contributions of each person on the research team or potential coauthors; (d) the ethics of sharing data with other participants; (e) the acknowledgment of participants' contribution to research; (f) the appropriateness and appreciation of sponsors and funding agencies without implying endorsement; and (g) the proper procedures, importance, and requirements for credit among the contributors (participants, research assistants, and researchers). In other words, integrity of doing and publishing research should be taken seriously by researchers and graduate supervisors.

The Declaration of Helsinki (WMA, 2004) stated that the basic principles for medical research are:

> Both authors and publishers have ethical obligations. In publication of the results of research, the investigators are obliged to preserve the accuracy of the results. Negative as well as positive results should be published or otherwise publicly available. Sources of funding, institutional affiliations and any possible conflicts of interest should be declared

> in the publication. Reports of experimentation not in accordance with the principles laid down in this Declaration should not be accepted for publication. (#27)

The ethical choices of researchers as well as procedural decisions are reflected in quality research. Respect for and trust of participants and their data, ethical interpretation of data and sharing research findings, acknowledgment and credit of colleagues, and attributing the success to the right persons, situations, and treatments are fundamental ways to demonstrate integrity and ethics. The fundamental motives for researchers (knowledge builder and teacher) to explore authentic problems and to seek solutions and insights are to make a difference for the current participants and to provide insights for future generations.

Generally speaking, due to their cultural history, Asian intellectuals are afforded high respect from the public; therefore, conducting research with civilians and students seems relatively more convenient in Asia than in Western countries. However, this does not mean that Asian scholars have the right to take advantage of their high status and use or abuse this privilege. Therefore, necessary respect for participants should be taken as the first priority while collecting data. These data carry with them the same respect as the identity of the informants. Researchers must respect participants and protect them from being harmed in the research—data collection, data interpretation, and public display of the results. Society's expectations of integrity, discipline, and self-regulation must be recognized and honored.

### *24.3.5 United Kingdom*

Ethical issues in educational research have been the subject of debate and discussion for decades in the United Kingdom. The seminal book *The Ethics of Educational Research* includes chapters on the ethics of feminist educational research, school-based research, case-study research, and educational ethnography (Burgess, 1989). Burgess identified the key ethical issues in educational research as involving sponsorship, relations between researchers and participants, informed consent, and data dissemination. Simons (1989) addressed the question of whether guidelines could be produced for educational researchers and evaluators, a question that Burgess described as fascinating.

The British Educational Research Association (BERA, 1992) formally adopted ethical guidelines at its 1992 Annual General Meeting (AGM). The history of the guidelines can be traced to a March 1988 invitational seminar convened by the noted researcher John Elliott (Furlong, 2004) that focused on the monitoring of research contracts (Simons, 1995). Simons noted that a code of ethics had been proposed at BERA's inaugural AGM in 1974 but had been rejected. She hypothesized that the code was rejected because of the "possible disrepute of professional code of ethics which may be self-serving of professional interests rather than underpinning values in the public interest" (p. 441). The report of the seminar, entitled Towards a Code of Practice for Funded Educational Research (Elliott, 1989), did not lead immediately to the adoption of ethical guidelines (Simons). In 1991, the BERA Council invited two senior educational academics to propose a set of guidelines, which were adopted at the 1992 AGM (BERA, 1992). This action in the United Kingdom followed similar action in the United States by a few months. Simons suggested that the reason that the BERA adopted the ethical guidelines was due "partly, at least, to the increasing politicization of the research culture" (p. 441).

The politicization continued over the next decade and criticism and debate within the research communities ultimately led to the revision of the guidelines. In the current guidelines' introduction, the BERA (2004) claims that "[a]s a code of practice the guidelines were universally welcomed but also attracted a degree of criticism in relation to their scope and application" (p. 3). A working group of three academics began the task of reviewing and revising the original guidelines; after extensive consultation, the Revised Ethical Guidelines for Educational Research were presented to the 2003 AGM and formally adopted by the BERA Council the following year. In the preamble to the revised guidelines, BERA noted that they "are offered as [a] set of principles and advice [that are not designed to] selectively judge or constrain, directly or indirectly, the methodological distinctions or the research processes that emanate from them" (p. 5). The set of principles includes respect for the person, knowledge, democratic values, the quality of educational research, and academic freedom.

The guidelines are set out under three headings of the researchers' responsibilities to participants, sponsors of research, and community of educational researchers. The 41 responsibilities distributed under these three headings include voluntary informed consent, deception, the right to withdraw, children, vulnerable young and vulnerable adults, incentives, detriment arising from participation, privacy, disclosure, methods, publication, misconduct, and authorship. In general, the guidelines make little reference to external bodies or laws. However, when discussing deception or subterfuge, BERA (2004) "recommends that approval for this course of action should be obtained from a local or institutional ethics committee" (p. 6). When discussing children, vulnerable young people and vulnerable adults, BERA "requires researchers to comply with Articles 3 and 12 of the United Nations Convention on the Rights of the Child" (p. 7; United Nations, 1990). Finally, the guidelines insist that "Researchers must comply with the legal requirements in relation to the storage and use of personal data as set down by the Data Protection Act (1998)" (p. 9).

Simons (1995) noted that the research community welcomed the original guidelines but they "start[ed] from a deficit [due to contextual factors of the period and their adoption] raises further questions about their potential impact and efficacy in the current political climate. … Had they been introduced 20 years ago, their impact might well have been different" (p. 441). She cautioned that, at a time when the UK government stood accused of dubious practices involving the use and publication of education research, the focus of researchers was not on:

> what guidelines we can establish to ensure the best conditions for research but what defensible ethical procedures we can devise to try to ensure that the research we conduct can raise questions independent of political agendas, without political interference in the process and without findings being censored or publication restricted. (pp. 441–442) (also see Ham, 1999)

Simons continued by suggesting that guidelines—such as “Funding bodies should not be allowed to exercise restrictions on publication by default, e.g. by failing to answer requests for permission to publish, or by undue delay” (BERA, 1992, p. 4)—were written as a response to past government actions and with an eye to what was seen as an even more hostile future. She noted that researchers, faced with a sponsor who refuses to publish their work, can adopt several strategies including leaking their findings, publishing letters and articles in the press anonymously, and getting questions asked in the Houses of Parliament. The revised guidelines shifted the emphasis somewhat; and the BERA (2004) held that “[t]he right of researchers to publish the findings of their research under their own names is considered the norm for sponsored research” (p. 11), but then listed six exemptions—including when “[r]esearchers have waived this right in writing” (p. 11)—that allow sponsors to own rather than simply to commission research.

Educational researchers may also find the ethical guidelines published by the British Sociological Association (BSA, 2002) and the British Psychological Society (BPS, 2008) of interest. However, Simons (1995) noted that the BSA and BPS guidelines “were not necessarily seen as appropriate for the relatively recent discipline of educational research that focused on studying education in its own right” (p. 448); these guidelines are still used by many educational researchers.

Despite the existence of the BERA, BSA, and BPS guidelines, the ethical hoops that UK educational researchers had to jump through were barely systematized compared with the situation in other countries. Researchers from some countries often found the somewhat laissez-faire approach to ethical approval exhibited by some UK universities both curious and somewhat disturbing. However, the situation has changed with the recent publication of the Research Ethics Framework (REF) by the major funding agency of social science research, the Economic and Social Research Council (ESRC). The REF, which took effect formally on January 1, 2006, states that the ESRC will only fund research “where consideration has been given to ethical implications, and in those institutions where appropriate arrangements are in place” (UK ESRC, n.d.-a, para. 1). In a sublime piece of understatement worthy of Crick and Watson, the ESRC noted that “[t]he Framework will therefore have implications for applicants to ESRC, research ethics committees within HEIs [higher education institutions] and for those assessing research proposals” (para. 1). This is particularly true as all other main funding agencies of social science research in the United Kingdom support the REF. (For interested readers, background papers relating to the history and background to the REF can be found on the University of York’s website http://www.york.ac.uk/res/ref/documents.htm.)

The interdisciplinary and interagency context of the new framework can be gleaned from the statement that it “is also conscious of the increasing importance of interaction between the social sciences and the natural and medical sciences and the new challenges that these are creating in sensitive areas such as genomics and stem cells research” (UK ESRC, n.d.-b, para. 3). The ESRC noted the importance and need for guidelines and standards that were designed by and for the social sciences research community, rather than the continued adoption and adaption of those established for researchers in medicine.

The REF identifies six key principles of ethical research that must be applied:

- Research should be designed, reviewed, and undertaken to ensure integrity and quality.
- Research staff and subjects must be informed fully about the purpose, methods, and intended possible uses of the research, what their participation in the research entails, and what risks, if any, are involved. Some variation is allowed in very specific and exceptional research contexts for which detailed guidance is provided in the policy guidelines.
- Confidentiality of information supplied by research subjects and anonymity of respondents must be respected.
- Research participants must participate in a voluntary way, free from any coercion.
- Harm to research participants must be avoided.
- The independence of the researcher(s) must be clear, and any conflicts of interest or partiality must be explicit.

The REF is a high-stakes instrument. The ESRC (UK ESRC, 2006) warns that breaches of:

> good ethical practice … will be treated as a very serious matter by the Council. They could result in the immediate suspension of the individual project and other projects based at or under the co-ordination of the contracting institution, and a halt to the consideration of further applications from that institution. (p. 2)

While not seeking to impose a single model and set of procedures, the ESRC (UK ESRC, 2006) “will ensure that its peer review of proposals addresses ethical issues, and engage in dipstick testing of institutions with awards to check that commitments to ethical review have indeed been followed through by institutions” (p. 2). The implication of external audits (dipstick testing) is that the main funding body for social science research in the United Kingdom does not fully trust universities to carry out good ethical practice or avoid conflict of interest in rendering ethics approval of research proposals. This point is further emphasized by the statement: “Before the start of a project, funds will not flow until the administering institution provides written confirmation that the required ethical approval has been received” (p. 2). A further indicator is evident in arrangements for expedited ethical approval in cases “where the potential for risk of harm to participants and others affected by the proposed research is minimal” (p. 3). Expedited review “is carried out by one or more members of a Research Ethics Committee (REC), commonly its chair, and not by a member of the Department due to carry out the research” (p. 3). The ESRC also mandates that “a REC must have at least one academic member from outside the Department conducting the research and at least one appropriately trained lay member” (p. 3). However, there is recognition of the relationship between a researcher’s professional (BERA, BSA, BPS, etc.) ethics standards, codes, and guidelines and the REF by this statement: “In the first instance, it is the responsibility of the researcher, or research team, guided by their professional disciplinary standards, to decide whether a project is ethically sensitive" (p. 7).

An institutional response to the new climate within which universities are working can be judged by King's College London's ethics approval system. For educational researchers (which might include all students at magisterial and doctoral level), the first step is to decide on the level of risk that the potential research might involve to participants. This risk assessment involves answering six questions, for example, "Could the study induce psychological stress or anxiety, or produce humiliation or cause harm or negative consequences beyond the risks encountered in normal life?" (King's College London, n.d.). If the answer is yes to any of the questions, then the applicant must apply through the Social Sciences, Humanities, and Law Research Ethics Subcommittee. If the potential risk is assessed as moderate or uncertain, then the application is reviewed by a REB. Most undergraduate and masters students are able to follow a low-risk procedure, which allows expedited consideration of applications.

Some indication of the shift in the importance of ethics in research is the recent focus on ethics in the UK educational press. A recent article in *The Times Higher Education Supplement* began: "Ethical considerations may not be at the top of your priorities when developing a research proposal. But, […], your pet project could have an unforeseen impact on some participants" (Swain, 2006, para. 1). The article continues with an example of how casual some researchers were about seeking ethical approval:

> You've just dashed off an application form to the university's ethics committee and told them to relax. No issues to worry about and consent's certainly sorted out. Those schoolgirls you use in your studies are always dead impressed by the idea that you're a [professor]. (para. 2)

Swain then proceeds to give advice about how to get ethical approval for research. A professor who chairs a research ethics committee at a large UK university comments that "universities have to start promoting a culture of ethics so that when people come to fill in these forms and read instructions they understand the issues underpinning the form and what's wanted" (para. 19). That such a comment should be made in 2006 gives some indication of the prevailing culture with respect to ethical approval for social science research. The report comes with a warning from one of the panel that drew up the REF "getting something through an ethics committee can easily take more than 18 months, especially if revisions are needed" (para. 21).

While the ethical issues involved in doing educational research are broadly the same as they were in the 1980s, the standardization of ethical approval in UK universities has changed beyond recognition. The increasing internationalization of research and the growth in the awareness of the rights of the individual have led to the major funding agency of educational research introducing a research ethics framework that has forced universities to adopt high visibility and what are perceived as heavily bureaucratic systems of ethical approval. It remains to be seen what impact the new procedures will actually have on the education research community, but one thing is certain—the changes are irreversible.

### *24.3.6 United States of America*

In June 1992, the American Education Research Association (AERA) adopted and published its Ethical Standards in *Educational Researcher* (AERA, 1992). The American Psychological Association (APA) followed in December 1992 with its Ethical Principles of Psychologists and Code of Conduct, which were revised in 2002 and effective in June 2003 (APA, 2002). (For interested readers, a comparison of the 1992 and 2002 APA ethical principles and codes of conduct is provided at http://www.apa.org/ethics/codecompare.html, showing line-by-line changes.) The 2002 APA document covers a wide variety of principles and conduct to fully embrace the professional activities of psychologists in practice and research situations: resolving ethical issues, competence, human relations, privacy and confidentiality, record keeping and fees, education and training, research and publications, assessment, and therapy. The principles and codes involving research and publication (#8) are worthwhile to literacy and science education researchers, especially the sections on deception, publication credits, duplicate publication of data, and peer reviewing.

The AERA guiding standards recognized that:

> educational researchers from many disciplines, embrace several competing theoretical frameworks, and use a variety of research methodologies. …The standards [are meant to] remind us that we are involved not only in research but in education. It is, therefore, essential that we continually reflect on our research to be sure that it is not only sound scientifically but that it makes a positive contribution to the educational enterprise. (p. 23)

The six guiding standards address responsibilities to the field, research populations, educational institutions, and the public; intellectual ownership, editing, reviewing, and appraising research; sponsors, policy makers, and other users of research; and students and student researchers. Each major standard was elaborated with 3–12 more explicit standards to guide members' ethical practices in designing and doing quality research and their academic conduct in research environments. Strike and colleagues (2002) provided a series of cases associated with these standards as professional development tools to enhance awareness and improve conduct of educational researchers.

The federal code to protect human subjects provides the foundation for ethics review in the United States (Protection [45 CFR 46], 2005). But the code of research ethics and REBs are not the only consideration in research design and conduct. The recent mandate for scientifically valid research in education and the reorganization of the US Department of Education and establishment of the Institute for Education Sciences (IES) raised serious issues and concerns for both educational practitioners and researchers. On the practical side, for example, educational program and curriculum developers—many of whose services and materials are already widely used by schools—are scrambling to find the expertise and resources needed to evaluate their products in order to meet the requirement of being research-based. Similarly, community and other private, nonprofit, educational organizations situated outside of the university system are not only dealing with the need to conduct evaluation research—for which they may be ill-equipped—but also with the need to find an IRB to review and approve their research plans to ensure that they adequately protect research participants.

Although the present upheavals may ultimately be justified in terms of improved educational practices, there is another, more disturbing aspect to these demands for scientifically rigorous educational research. This is the fundamentally antiscientific nature of these political mandates. The RCT is deservedly accorded the status of being a Gold Standard for answering certain types of questions, but it is not the most appropriate or most rigorous approach to answering all scientific questions—including important questions about program effectiveness. Elevating the randomized experiment to its present status as the standard for producing scientifically important information (with its cousin, the quasi-experiment, begrudgingly tolerated as a distant but at least minimally acceptable alternative) has privileged one scientific paradigm and a subset of the available tools of scientific inquiry. This privileged status is unwarranted and unjustifiable in some research situations, problem spaces, and research questions. Given that this standard is to be applied across the board in the provision of federal funding for the conduct of educational research, the result is to preemptively exclude large areas of legitimate, important, scientific research from consideration for support. To borrow from Elliot Eisner, our demand for scientific rigor is in danger of becoming associated with rigor mortis. Research ethics and review procedures need to reflect the full range of quality research approaches and ensure that they facilitate quality innovative approaches to address the range of critical problems and questions facing literacy and science education.

## 24.4 Special Considerations: International Students and Indigenous Peoples

Within the general principles of research ethics, each of the national perspectives from Canada, New Zealand, and the United States have special constitutional considerations, policies, or laws regarding research ethics dealing with special classes of research subjects, such as international students and their cultural values and the nations' founding peoples and their knowledge. Established policies and guidelines that regulate research involving Alaska Natives, Australian Aboriginals, First Nations people, and Native Americans include: Alaska Federation of Natives (AFN) Guidelines for Research (AFN, 1993) and Guidelines for Respecting Cultural Knowledge (Assembly of Alaska Native Educators, 2000); Code of Research Ethics developed with the Native Mohawk community of Kahnawake in Canada (Macauley et al., 1998); the Model Tribal Research Code developed by the American Indian Law Center Inc. (AILC, 1999); the guidelines of the Australian Institute of Aboriginal and Torres Strait Islander Studies (Australian Institute of Aboriginal and Torres Strait Islander Studies, 2000); the US Basic Health and Human Services Policy for Protection of Human Research Subjects

(US Department of Health and Human Services, n.d.); and the Principles for the Conduct of Research in the Arctic (US Interagency Arctic Research Policy Committee, 1995). There are growing efforts to afford similar consideration to aboriginal Hawaiians and other indigenous peoples. These concerns and related actions have grown out of past effects of colonization and unauthorized access and use of indigenous people's knowledge, customs, and cultural artifacts (Yore et al., 2008). The following briefs attempt to surface some of the considerations and how these special issues are addressed for international students and indigenous peoples.

### *24.4.1 International Students and Education Research Ethics*

The research center at the University of Waikato in New Zealand has a large number of international students. The educational issues brought by these students add an interesting dimension to the research activity, but at the same time the different educational systems and cultural practices result in some interesting ethical issues. The most common issue is that of seeking informed consent. For New Zealand-based research, informed consent is a must. Participants must know what they consent to and have the right to withdraw from any research project at any time without giving reasons. This is not the case in the educational context for many international students. It is common, for example, like the past practices in Taiwan for school students, for the dean of a teacher training program or officials from the ministry of education to give blanket approval of a research project and essentially require students or teachers to participate in the research as directed by the researcher. In such cases, researchers go along with the official and cultural norms of the particular educational context but insist on adherence to other ethical practices, such as use of information and protection of identities.

### *24.4.2 Indigenous Peoples and Education Research Ethics*

Aborigines, First Nations, and Indigenous Peoples in Canada, New Zealand, and the United States require special consideration when exploring their education, culture, and traditional knowledge systems. At the University of Victoria in Canada, separate research ethics and procedures have been developed with the First Nations regarding inquiries into their culture and their knowledge claims. This requirement is based upon the TCP involving health sciences, humanities and social sciences, and natural sciences and engineering funding agencies that specifically addresses research with aboriginal people (CIHR et al., n.d.-b). The dialogue between REBs and researchers who focus on other areas of research will necessitate continuing consultation and clarification. Discussion of such guidelines can be anticipated to continue not only with researchers with regard to the ethical standards of research but also with First Nations communities who have their own concerns and priorities. The University of Victoria Human Research Ethics Board (HREB) requires that any researcher contemplating a study that includes indigenous peoples complete a separate Indigenous Community Approval section in addition to the standard ethics application. The conditions that govern this approval remain loosely defined:

> Indigenous community approval may be required when the research involves Indigenous people from a community (whether residing in urban or reserve areas), the cultural knowledge and/or resources of Indigenous people, or where individuals speak on behalf of an Indigenous nation. (University of Victoria HREB, 2008, item G)

The CIHR (2007) has proposed guidelines prepared in conjunction with its Institute of Aboriginal Peoples' Health to assist researchers and institutions in carrying out ethical and culturally competent research involving aboriginal people. The intent is to promote health through research that is in keeping with aboriginal values and traditions. The tone of this document is clearly intended to represent an aboriginal perspective on research. This is signaled in the acknowledgment to the proposal:

> The members of the Aboriginal Ethics Working Group (AEWG) would like to acknowledge the Creator and those who came before us without whom this document could not have been written. We also acknowledge the hard work of the many individuals, communities and organizations that generously provided input to this document. In particular we would like to acknowledge the contribution made by the Kahnawake Schools Diabetes Prevention Project with their Code of Research Ethics (www.ksdpp.org). We understand that the English and French languages do not always allow Aboriginal concepts and world views to be effectively communicated across cultures and we do not wish to offend with words that have been written. We do encourage continuous dialogue as Aboriginal ethics are articulated within an academic research context. (p. 11)

REBs, researchers, and potential participants in research face the requirement of deciding whether the research falls into this special category that the TCP and local REBs have identified. Related to this are questions of community. In urban settings, members of many different indigenous groups may be included in research or a small number of indigenous peoples may be included in a larger research study. For such circumstances, the scope of obtaining community consent remains to be clarified. Policies and practices addressing these issues in Canada and the United States vary across the First Nations and Native Americans in specific regions, since negotiations have been between individual indigenous authorities resident in the region.

The reemergence of Indian American self-determination and self-governance in the United States has required research sponsors to consult with tribes, tribal organizations, and national Indian associations, agendas, and guidelines for research focused on Native American issues. Some of the relations between the community and researchers apply to the Alaska Native and Hawaiian contexts as they seek self-determination and protection of their culture, language, rights, and indigenous knowledge. Moreover, in order to be sensitive to the legitimate problems of these communities and for research to have a beneficial impact on these communities, it is necessary that the researcher be familiar with cultural ways and beliefs of the tribes and establish a social relation with members of the community

(Alaska Native Knowledge Network, n.d.; AILC, 1999). This personal relation between the researcher and the subjects implies qualitative research methods, which are sometimes at odds with current research policy and funding agencies. In many cases, cultural conditions posed by the changing distribution of indigenous populations conflict with the ethical, methodological Gold Standard for educational research thereby delaying resolutions and approval of REBs. Paradoxically, this conflict is putting at risk research in areas with critical need of improvement and jeopardizing answers that could be beneficial for the stakeholders of indigenous educational issues.

New Zealand also is in the unusual position, for a previous colony at least, of having a founding document—The Treaty of Waitangi—that underpins much legislation. The Treaty is an agreement signed by the Crown (in the form of the British colonialist governor) and the Māori people (New Zealand's first nation or indigenous peoples). The Treaty itself is actually rather brief and vague in its original form (Treaty of Waitangi, 1840). However, any legalization is expected to adhere to the principles of the Treaty. As one might imagine, this is open to interpretation. Some, for example, take this to mean every governmental authority must have Māori representation or at least consult with Māori on virtually any issue. To illustrate, any Marsden Fund application (New Zealand's premier *blue skies* research fund) must have a suitable statement if the research is deemed relevant to, and cognizant of, the position of Māori—what is termed Māori Responsiveness. The position taken by the Royal Society of New Zealand (2005) on Marsden fund applications illustrates the issue:

> Māori Responsiveness
>
> The Marsden Fund Council acknowledges its obligation to operate the Marsden Fund, Te Pūtea Rangahau a Marsden, in accordance with the Treaty of Waitangi. In order to give effect to its commitment, the Council seeks to achieve greater Māori participation and leadership in Marsden research and, where research projects involve issues of significance to Māori or have significant Māori content, requires that applicants are in consultation with Māori.
>
> The requirement for consultation is not intended to deter researchers but to ensure that the research is well planned, that appropriate etiquette is observed when access to Māori sites, culturally sensitive material and knowledge is sought from their owners, and that Māori intellectual and cultural property rights are respected. As a first step, researchers should seek advice from their institution, many of which have established processes for consultation with Māori.
>
> Consultation with Māori is not expected, and may not be appropriate, for proposed projects where no specific interest for Māori can be identified. (p. 7)

This statement might seem mild, but it means that few applications for science or science educational research would not require consultation, given that almost anything in New Zealand is taken to involve or impact upon Māori. Few applications can afford to ignore such oblique directions.

Presently, there is no explicit requirement to consult with Māori or to have Māori representation on institutional REBs for research involving education; but there seems little doubt that this will eventually become part of the educational research landscape. The opposition to such a requirement is strongly opposed to what it sees as preferential status accorded Māori. Many, if not most, New Zealand schools have Māori children and caregivers. Hence in reality, research that involves schools may routinely involve Māori and potentially require consultation with Māori.

## 24.5 Closing Remarks

Researchers in literacy and science education and research culture in general accept the need for policies regarding ethics, honesty, integrity, and moral values. However, the various ways that academic administrators and REBs have implemented these policies and generated power structures lead us to raise common questions about several policies and practices that have been recognized worldwide. The central issues relate to codes for research practice and professional conduct that flow from shared values, beliefs, and assumptions about humanity, quality inquiries, and professional responsibility to society. From the collective position of the literacy and science education professionals represented in this chapter, these issues include but are limited to: the link between ethics and quality, the dual roles of educator and researcher; power-over relationships within the academy, professional organizations, and research setting; recruitment of participants; assessment and balance affordance of risk; informed consent, voluntary participation, and termination of involvement; cultural and indigenous rights; confidentiality and anonymity; and ownership of research data, artifacts, and interpretations. Most importantly these attributes are as much central to the *quality of research* as to ethical conduct (Strike et al., 2002; Zeni, 2001). Compliance with the fundamental principles of research ethics—respect, autonomy, and protection of the individual; beneficence of the educator–researcher to do no harm; and to demonstrate justice, fairness, and concern for the vulnerable—are standards that enhance the quality, worth, and creditability of any results flowing from research. Findings that arise from such research have greater likelihood of influencing policy makers and practitioners because of their epistemological integrity: moral and ethical foundation.

Strike and colleagues (2002) noted that epistemological integrity may also include differences of position regarding approaches to research:

> [W]hile intellectual integrity may involve conscientiously applying a self-chosen paradigm, it also seems to require that our paradigm be chosen for appropriate and good reasons. … [R]easonable and competent people often disagree about the appropriate approach to studying education phenomena in ways that have yet to be resolved by evidence and argument … [but], we should select the methodology that is appropriate to the questions we ask. (p. 11)

This recognition of variety in research approaches does not reduce the demand for procedural rigor, compelling arguments, and evidence-based knowledge claims about the problem space and research questions. Clearly, ethical standards can be expected to be no less controversial—requiring an equally diverse discussion of fair, rigorous, and consistent professional judgments and evaluations of research decisions, peer-reviews, and personnel assessments. Furthermore, such ethical standards not only apply to research participants' dignity, sensitivities, privacy, rights, and contributions but also require open, forthright, and broad dissemination of all research results and an appropriate recognition of creative contributions with shared authorship, institutional affiliations, and funding support.

The perspectives provided in this chapter illustrate similarities and differences across diverse research communities and academic cultures in literacy and science education: Canada, New Zealand, southern Africa, Taiwan, the United Kingdom, and the United States. But these perspectives are only a starting point to encourage and support research communities' development of ethical and supportive research cultures and to provide informed feedback to governmental policy makers, funding agencies, and university administrators. Some perspectives described here (United Kingdom—BERA code of ethics, United States—AERA and APA codes of ethics) have long track records of working with research ethics policies and procedures; others (Canada—TCP statement, Taiwan—Academia Sinica) are developing and amending policies, procedures, and practices; while others (New Zealand, southern Africa) are moving toward explicit policies. Research ethics policies are only the first step; the difficulties are in the implementation! The experience of literacy and science education researchers and their professional organizations needs to be applied to designing quality standards for research ethics. It is these researchers and representatives of researchers who have the greatest breadth of experience in applying standards to actual research. Surprisingly, an informal survey of association websites revealed that some literacy and science education research associations have not attempted to contribute their experience in applying ethical standards to research through the establishment of codes of ethics.

Research ethics need to be futuristic and reflect recommendations by expert panels and research associations regarding secondary uses of data and access to datasets by other than the primary researchers. Elsewhere in this book can be found encouragement of data sharing, secondary analysis of both quantitative and qualitative data, rigorous data collection and interpretation involving external reviewers and critics, and encouragement to move high-quality research results into the policy-making arena and instructional development process. These nontraditional uses of data and research results will need to be incorporated into ethics policies, applications, and review processes. This means that REBs and researchers must anticipate data sharing, secondary analysis, and multiple uses when seeking initial ethics approval for their research projects.

We have outlined other growing concerns from various perspectives to be addressed by REBs. These include the following nonexhaustive issues:

- Who is to invigilate the application of ethical standards for research? REBs generally have no monitoring function beyond the initial review of research applications. Will journal editors play an oversight role in monitoring research ethics? How might funding agencies audit actual compliance and conduct?

- Independent research and commercial research groups searching for legitimacy have made use of IRBs for review of for-hire and contract research. Questions of vested interest and limits on dissemination of results are not a prominent feature of existing REBs. How can commercial research be monitored?
- What are the unmapped areas involving community-based research? Without much imagination, one can foresee potential problems in CBR involving graduate students, faculties of graduate studies, and universities. What happens when a CBR team of community partners, graduate students, and faculty members encounters contentious results that the community does not wish to have published? What happens to the graduate student's dissertation? What about the untenured faculty member's potential publications?
- REB deliberations can be too labor-intensive if their charge and efforts are not precisely focused. The inhibiting conditions that led to the development of the University of Victoria Guidelines for Dual-Role Research (University of Victoria Human Research Ethics Office, 2008) and the situation reported in the United Kingdom of taking 18 months for approval of rather low-risk projects demonstrate the inappropriateness of applying the same review procedures across the risk spectrum.
- The protection of researchers and participants is a fundamental principle that can be intelligently applied to low-risk inquiries not requiring comprehensive review as well as the analysis and meta-analysis of public data, public figures as subjects of research, anonymous observations of public activities, and autobiographical approaches. REBs can adopt policies that acknowledge contexts that are clearly of such minimal risk that they are more appropriately considered separately from full review through expedited review processes and waivers.
- REB chairs and panels, professors, independent researchers, and graduate students need professional development regarding the intentions of research ethics, approval procedures, and applications (Strike et al., 2002). These might involve:
  - Risk assessment (low-risk, such as accepted classroom practices, should focus only on the use of data, intended use, and public display).
  - Time and effort savings from the approval process on low-risk projects can be devoted to improved research quality.
  - Bureaucratic structures and organizations need to focus on their charge and not wander into the problem-finding and design processes.
  - REB chairs and members must be selected from the best representatives of the research communities (active and productive researchers) with the appropriate motives.

The unreflective application of one-size-fits-all to problems in the high-risk areas of medicine, pharmaceuticals, military, and biotechnology have been found to override low-risk contexts of normal classroom and professional practices. The preoccupation with risk can instill unreasonable fear in potential participants through the use of complex, legal language in consent forms that is not reflective of the conventional nature of the research involved. The *big-stick* approach of funding agencies in the United Kingdom, the United States, and Canada has mandated a complex administration of REBs that are part of today's political environment and are unlikely to change unless literacy and science education researchers become proactive during the policy development and review processes.

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