# Ethics Review: Practical Suggestions for Enabling Inclusive Computer Science Research.

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***Abstract*—People make and use tools. Many information technology tools, applying computer science research, powerfully influence human behaviour. Some questions about human behaviour can be answered with quantitative research methods. Other questions require qualitative approaches. Protections for people affected by research are provided in Law and more recently in research administration processes and procedures. Different research questions are indicative of different research processes and have different outcomes. Ethics committees' scrutiny of research proposals provides a means of giving effect to concerns over the impact of research processes on people. Tensions arise from unreflective and aggregate treatment of proposals for human research. Ethical review processes and procedures can bring about unintended inhibiting effects for researchers by failing to accommodate for disciplinary and paradigmatic differences in theory, questions, methodologies and research contexts. The sources of these tensions and inhibitors are identified and practical suggestion offered for identifying, meeting and resolving them.**

***Index Terms*—Ethical review, inclusive, paradigm, qualitative research, stakeholder.**

## I. Introduction

Information Technologies are becoming ubiquitous in human societies. Within that general observation are the local, regional, cultural and societal differences in access and use often referred to as the Digital Divide. These differences extend to the conduct of research. In contexts of disciplinary change, such as those related to the human aspects of Human Computer Interaction Research (HCIR), unintended contextual inhibitors may mitigate against inclusive research. Historically, computer science researchers and educators were interested in finding any learning context where improvement in human activities could be attributed to the use of information technologies. Bruce, cited in [1] reports "educational experiments almost always succeed because of the enthusiasm of the experimenters". There is a great deal of research into the human aspects of computer use reported in the literature [2]. Inclusive research takes, as a fundamental principle, the broadest interpretation of the stakeholder view (author, 2006).

Because fundamental research into inclusive research involves human subjects, most institutions require that the HCIR researcher submit a proposal to an institutional ethics committee. The central focus of this paper is on unintended inhibitors to inclusive research implicit in increasing numbers of current research contexts. Despite good intentions, research administrators may create processes and procedures that marginalise inclusive HCIR research [3]. Marginalisation of research proposals can occur because the research is not taken seriously [4]. Such processes may be reflected in the decision to have all human related research considered by a single existing ethics committee. Proposals may not be consistent with a dominant paradigm and so researchers find lack of comprehension among ethics committee members of the research goals, questions, methods and expected outcomes. The incumbent committee office-holders may also inadvertently mitigate against particular research proposals. The choice of processes and procedures may alienate both HCIR researchers and potential informants. Systemic inhibitors in the research proposal review process can be removed through committee awareness of potential consequences and through subsequent action to ensure ethics committee practices support HCIR and other research promoting inclusive studies [5]. This paper discusses aspects of these inhibitors and suggests mitigating actions that people administering inclusive research can be encouraged to support.

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## II. Background

### A. Changes in Review mechanisms

Members of many academic disciplines are concerned with the ethical acceptability of their research practice. Newer research methodologies, where social critique and social justice are significant concerns have clear ethical underpinnings [1]. The academic education process, including

the supervision of student research, and the publication of academic research through peer review all can assist in ensuring that researchers know what is required to pass critical scrutiny. Lack of public concern over computer science academic research processes is an indication of mostly successful research outcomes. However, the recent involvement of Medical Research Councils in the process of ethical review of medical and quasi-medical research may see expediency creep into ethical review of HCIR [6].

### B. *String and Sealing Wax Ethical Review*

The ethical review of medical and quasi-medical research formally began in the 1950s. National and local consideration of the ethics of medical research was formalised because of the variety of pressures during the decades from 1960 [1]. Many tertiary institutions and their insurers, which have medical or quasi-medical training and research activities, formed ethics committees in response to the increasing concerns of funding agencies. The ethical consideration of human studies in computer science research has recently been simply appended to such committees' agendas as other human related research, especially in smaller institutions [7].

That unfortunate move has significant consequences for disciplines involved with human research particularly where that research is non-invasive, not protocol driven, and is often pedagogically (teaching/learning) oriented. These attributes characterise qualitative HCIR for practitioner academics, education researchers and their students [4]. The implicit assumption in aggregating research review processes is that ethical aspects of 'other human research' can be considered by the same people assembled to consider medical and quasi-medical research. There is the tacit assumption that the people who 'at limit' supposedly deal with the ethics of life and death issues are also competent to deal with the ethical issues of HCIR. That unexamined assumption of interdisciplinary expertise belies the fact that qualitative HCIR has philosophical and theoretical positions that are directly or indirectly inconsistent, to the point of contradiction, with the assumptions underlying medical and legal practices. In qualitative HCIR practice, difference matters, in that each person is perceived as a unique individual with distinctive attributes worthy of both individual and individualised study. The study of the individual is also the 'end' of the research. In medical and legal practice, a paramount principle is that all people are equal before medicine and the law. It is often the case that the outcome of medical and legal research positions the individual as the source of data, the 'means' of the research. The direct outcomes of such research place the interests of the society ahead of the interests of the individual. The interests of the individual may come into direct conflict with the interests of the researchers striving to advance knowledge in a discipline.

The clear directive to ethics committees to protect the vulnerable provides one strong social motivation for ensuring ethical scrutiny of research proposals by ethics committees. The major expected outcome of ethical review would be that a particular proposal does not, on balance, move too far in the direction of the interests of the research and the discipline rather than the interests of the people being researched. The issues of teasing out these competing interests are not straightforward. The current situation is exacerbated by the usual structure of committees recommended by guidelines, by the associated application forms, information documents, templates and approval processes to the extent that legitimate research from HCIR is actively discouraged by inappropriate compliance requirements. The same forms and information sheets that researchers and students find unsatisfactory are positively a disincentive in terms of style and vocabulary to potential research subjects outside the discipline. These people are potential subjects of inclusive research. Information forms in a single standard format make for easy administration but serve to alienate and distance non-medical and non-legal researchers and potential subjects by being expressed in inappropriate, jargon rich language. This position of 'distancing and excluding' in ethics committee activities is implicitly supported by the ironical reference to disciplinary experts in other than the health professions as 'lay people' in the guidelines for the composition of such committees. It is past time when this pejorative term 'lay' was accepted by academics since it has the connotation of 'lacking expertise'. In many instances it is the medical people on the ethics committees who do not have academic doctoral research qualifications. The same assertion applies to the legal people who serve on research committees, for research qualifications at the doctoral level are often conspicuously absent among members of the legal and medical profession in ethics committees. It is not clear just what role is implied in guidelines that recommend a legal advisor attend research ethics committee deliberations since such a person would be 'exposed' as being ignorant of matters at hand. While legislative knowledge could clearly be helpful, there is a dearth of precedent from which to advance a legal opinion on substantive discipline specific issues.

The role of the legal profession in ethics research committees in which HCIR is reviewed is also less than clear. There is little or no evidence that the Law Courts have shown any interest in the evaluation of the conduct or outcomes of research to the extent of wishing to influence what is researched or how the research is conducted or evaluated except where the research will generate legal proceedings where negligence is claimed. The basis for legal involvement would thus be confined to cases of negligence, that is, where acceptable disciplinary practice was not followed. It is remarkable that the legal opinion could be potentially sought, by implication of the presence of legal people in an ethics committee, where that opinion would be informed by a demonstrable lack of discipline specific legal precedent. Such a situation would suggest that the legal person on the

committee would be obliged to seek an opinion from the member of the committee best qualified to provide it, that is the researcher from the appropriate discipline. Research qualified disciplinary specialists are not noted for reticence and find it unhelpful to have the ethical issues within their discipline mediated by legal professionals. In such contexts, the purported search for truth carried out in legal processes would be difficult to achieve since the questions, methods and outcomes reached in HCIR into inclusive computer science and computer science education reflect perspectival positions. The legal profession has not, traditionally, had useful constructs for dealing with multiple perspectives (all are equal under the law). Lack of such acceptance of the importance of perspective means that culturally specific truths would not be taken into consideration but may nevertheless be central to HCIR interests.

Is it that the institutional critical mass reached by research and educational institutions is sufficient to be fee-attractive to the apparent growing legal interest? Is it simply an unexamined carryover of a legislative requirement from medical and quasi-medical contexts? Is it that institutional managers have watched the inept way in which the medical profession has conducted research, on occasion, and so fear being sued? If real, that fear would be conveyed to liability insurers whose response is 'get a legal opinion' rather than explore the nature of the concerns to determine whether there is substance in them or not. Or is it that people feel in some way more secure, 'because a lawyer was present'? So far as I am aware there is no precedent in case law reported in the research literature where legal advice was sought, was given and was subsequently used as a basis to defend claims of unethical HCIR research behaviour. It could be argued that a legal person provides a disinterested view of the proceedings, and that would be fine yet we find legal people passing judgment on the efficacy of research proposals without the disciplinary expertise to do so. Plainly, legal advice should be confined to matters of information about legislation or potential negligence and offers of discipline specific advice should be taken under advisement. Indeed, ethical consideration of proposals and their moral implications should occur after legal aspects have been dealt with [6].

In the light of the above comments, it is most important for HCIR to have information made 'visible' about the instructions given to legal persons on committees of ethics. If there are 'instructions' then that implies a 'provider of instructions'; which in turn implies a 'payer for instructions' (because the legal profession is at pains to insist that it acts 'on instruction'). That being the case implies that the 'expression of opinion' has been 'paid for'; which in turn implies 'a vested interest' that in itself 'may be suspect' if it is not open to critical scrutiny. It would be distressing, to say the least, to academic researchers to find that this potential for interference was in fact the case. It seems clear that the mandate (instruction/payment) for the presence of legal persons providing advice on ethics committees needs to be clearly before committee members so that potential conflicts of interest arising can be identified and dealt with appropriately rather than being hidden in the folds of the title 'lawyer' or 'legal advisor'. It should be clear to all concerned whether or not the 'legal' advisor is under instructions from the administration of the institution that set up the research committee.

Perhaps the most fundamental problems with ethics committees' practice center on issues related to dealing with information about HCI. An important position for an ethics committee to hold in relation to proposals, deliberations and associated documents is that they are, in principle, publicly and actually available to all stakeholders in Kaler's strongest sense [8]. This position is in marked contrast to that of medical and quasi-medical research where guidelines mandate confidentiality of all matters related to research proposals without explanation [1]. Openness as to committee and research activities ensures that the controls of possible public or collegial critical scrutiny operate over processes leading to decisions, including the decision to approve, or not, a proposal. That openness should not extend to the release of data causing subjects privacy concerns. The majority of researchers are at pains to respect participant identity and preserve privacy in order to meet well accepted legal and publication requirements.

The dominance of positivist research in the academic research community is reflected in the membership of ethics committees. The implication of this dominance is that only 'scientific' principles are taken into account in reviewing research proposals. Paradigm is used here in the Kuhnian sense of "an entire constellation of beliefs, values and techniques, and so on, shared by the members of a given community" [9]. Given the remarks in the introduction about differences in paradigm, it is clear that other principles, such as cultural relevance, critical, hermeneutic, advocacy and action research methods may be excluded either by intention or in ignorance. It is unacceptable to privilege particular research in relation to other research just because the paradigm within which it is conducted fits a particular historically approved framework. Proposals should, however, be contexted in an appropriate research literature philosophically, theoretically and methodologically. Most methodological debates can be resolved by ensuring that proposals properly identify the research paradigm within which they will be conducted. Proposal authors should give disciplinary experts confidence in their design and confidence that the research questions are likely to be answerable by the proposed research processes. Signoff, from a disciplinary expert/panel as to the acceptability of the espoused philosophical, theoretical and methodological positions implicit or explicit in proposals, can be delegated to a disciplinary expert in almost every case. Most research examined by tertiary ethics committees is focussed on providing training for students and review of

research for academic colleagues. Within paradigm HCIR is most common and as such should pose no serious ethical issues if reviewed and signed off by the delegated disciplinary expert as being within the range of current research practice.

### *C. Information and Advocacy*

Slippage in deliberations about research proposal ethics can arise over failure of members to distinguish between **information about a proposal** and **advocacy for a proposal** irrespective of research merit. Failure to distinguish between advocacy and information can arise where cronyism is well established. In small committees, it is essential to seek guidance from disciplinary experts since research that passes disciplinary scrutiny in one research paradigm would be an anathema in another paradigm in the same discipline. Equally, the resolving of the ethical issues in any particular proposal to the single question of whether the research activity will result in a legal case fails to get to the heart of the ethical review process.

Moving beyond legality to the issues of moral acceptability requires also that the relationship between the parties in the research process be clarified. Conflicts of interest and vested interests must be identified. The expected outcomes for all stakeholders require identification and due consideration. Cost and benefits may require careful consideration so that, on balance stakeholders can have confidence in the conduct of the research. If supervisors are responsible for research outcomes (masters, graduate project and diploma research), then it seems appropriate that the proposal presentation process in an ethics committee devolves to the supervisor. Otherwise supervisors are at risk of 'serious exposure' if where what is said by a student to a committee is at variance with what the supervisor understands of the proposal. An exception would arise where doctoral level research is involved where the researcher in addition to having signoff from disciplinary experts and supervisors, would present their own proposal to the committee. An important part of the doctoral education process is taking responsibility for the whole research process from inception to completion**.** The larger issues in research are those that are rarely dealt with during ethical reviews but essentially deal with rights, duties, obligations and responsibilities, together with justice, fairness and equity. In the research area encompassed by HCIR the rate of change in applications of technology to society is such that it is essential that research be conducted in a climate of careful ethical review. The following practical suggestions are advanced as a contribution towards enhanced consideration of HCIR.

## III. Practical suggestions

A primary role of ethical review of HCIR research should be to ensure that sound research is encouraged particularly where most proposals are prepared by students. To that end, approved proposals should be made available to the institutional community so that staff and students can be informed by them with respect to expectations as to the standard of submitted proposals.

Committees of ethics succeed when they have an ethos that follows well-understood public processes, respecting all stakeholders (in Kaler's strong sense of accountability [8]). Committees of ethics as well as academics may have otherwise avoidable difficulties where research proposals represent many different disciplines and within them different paradigms. Where mixing paradigm types is unavoidable in a single meeting, there should be clear breaks in meeting procedures to allow participants to 'shift gears' between paradigm types. For this reason, medical and quasi-medical research proposals may well be considered in separate meetings from those of other disciplines or those proposals reflecting different paradigms.

Research proposal documents should identify the research paradigm, theory, methodology, data types and social context within which the research will be conducted.

A disciplinary expert, not the research supervisor(s), should also be identified in the proposal. Comment about the design and methodological soundness of the proposal can briefly be reported on and signed off by the expert. Similarly, the discipline manager should signoff on format, grammar and other editorial matters. It is simply unacceptable to have ethics committees expend time and intellect on form filling details, formatting, commas and full stops.

The methodological review of proposals should precede ethical review and methodological issues are only a matter of concern to ethics committees where the methodology or design raises ethical issues in the treatment of stakeholders [10]. Relevant issues include, among others, putting the researcher or subjects/informants person [11, 12] or privacy at unreasonable risk or involving risk that (if it eventuated) may put the institution's employees' property or good names at risk [13].

The meeting chairperson should never comment on issues related to the ethics of proposals but should be entirely involved with the smooth and sympathetic supervision of the meeting activities. To do otherwise invites power-distance issues that are so significant that there are dangers of doing disservice to the ethics review process through unrecognised or unresolved conflicts of interest, inappropriate direction, unwillingness to hear dissent, failure to ensure process is followed and ill-considered expediency that silences critique. These shortcomings in committee process are more prevalent where committee chairs take an active role in the deliberations. Such an engagement enables the distraction of the committee from its central activity by the belligerent and the attention seekers of all stripes.

The legal advisor should confine remarks made to the committee to the possibility of legal consequences with

respect to legislative aspects of privacy and negligence, and should desist from commenting on discipline specific issues in research proposals.

Committees should seek to appoint a chairperson for demonstrated skills in meeting management only, rather than any particular expertise in law, medicine or any other particular academic discipline.

Conflicts of interest are often not recognised or declared by members of committees of ethics. Discipline specific advocacy of research proposals intrudes on the necessary distance required for good judgement on the ethical acceptability of particular proposals. Careful practices must be adopted to ensure that stakeholders are empowered to recognise, declare and deal with conflicts of interest.

Practical and on-going training must be available to ethics committee members so that among other things, the distinctions between **advocacy for proposals** and **information about proposals** are identified. The most expedient means to achieve the required distance is to ensure that persons submitting research proposals, or with any identified interest in proposals, physically absent themselves from discussions and decisions regarding the ethical acceptability of the proposal.

Sufficient time (ten days) must be made available to ensure that other demands on members of committees of ethics allow time for adequate consideration of proposals prior to meetings. It is unacceptable to have new proposals presented to reviewers for the first time in the meetings during which a decision will be made.

While it is difficult to timetable, all academics should commit to serve on committees of ethics on a rotation basis in order that a wider grasp of the practical realities of ethics committee work be achieved among the academic community. One third of the committee should be replaced each year. Secretarial tasks should be assigned to paid clerical assistants. It is an unacceptable misuse of academic expertise to have academics engaged in the administrivia of ethics committee activities. Of equal importance, proposals placed before members should be accompanied by requests for comment rather than being an imposition. Particular care should be taken to ensure that no undue time pressure is placed on members who have other conflicting commitments. The simple courtesy of seeking confirmation of availability to meet requests is preferable to a dictatorial style of distributing proposals for review.

Changes in disciplines are so rapid today that inactive academics probably have little to offer to the ethical consideration of active HCIR proposals.

Annual Audits should be carried out to ensure that the activities of committees of ethics are conducted with due regard for stakeholders' views. Paper trails for all proposals should be maintained for audit purposes in parallel with publicly accessible digital repositories for approved research.

Reports on completed research, including executive summaries and locations of these, published papers and other outputs, should be appended to completed research as exemplars of approved outcomes. All stakeholders should receive a short (one or two page) executive summary describing the research outcomes in appropriately straightforward jargon free language.

### *A. Time Pressures*

In the stakeholder view of human research, the processes of research approval must also take into consideration the time scale for completion of the work. It is frequently the case that research processes over-run the allotted time by weeks if not months. Such over-runs are exacerbated by any delays with administrative processes. It is clearly difficult to carry out any human based research activity within the 12 to 16 week conventional semester if any problems arise with:

- the reading into a literature,
- the design of research,
- the creation of tools, such as questionnaires or surveys or software,
- the pilot testing of the research tools
- the process of ethical approval
- the collection and presentation of data,
- the analysis of data, and
- the eventual write-up in a publishable form.

It seems unacceptable that human researchers, in other than medical and quasi-medical disciplines, should have their research processes hampered by ethical consideration by the uninformed acting out of an inappropriate paradigm in a less than expedient fashion. Strictly speaking, the creation of a suitable pilot study, including the testing of the tools and techniques, could probably be accomplished by a first time researcher within the time scale of a single 16 week semester. Any possibility of delay in the approvals process, coming as it does some weeks into the research process, precludes certain types of human research where the risks of non-completion are very high. Research supervisors have actively historically discouraged human research in HCIR simply because the approvals process takes too long. That is simply not an acceptable outcome in the longer term since human-based research is fundamental to the advancement of knowledge and understanding in applied computer science. Consideration should be given to changing start and finish regulation times to accommodate for ethical review processes [3].

### *B. Forms and Guidelines*

Documents should be prepared in plain English, avoiding jargon and other barriers to easy communication. Forms and checklists for research having different paradigmatic origins should be prepared with generalised sections matching the positions and methods approved (signed off) as within a designated paradigm. A first step for ethics committees might be to request from submitting disciplines approved form templates for the preparation of discipline and paradigmatically distinct research proposals.

Copies of Ethics Committee responses to student and staff proposals should be conveyed by both email and letter to the proposer, the discipline manager and the supervisor(s).

Where time constraints are tight, proposers should provide a timeline indicating expected completion dates within the proposal so that ethics committees can offer alternate approval processes for previously approved HCIR class-based projects. Well-established protocols for conducting class-based projects should have very careful scrutiny then generic approval where there is clearly a low risk to stakeholders and the research is under supervisor control.

### *C. Likely Futures*

There has been considerable debate over the future of remuneration for Research Ethics Committee members typified by the deliberations of the UK Association of Research Ethics Committees [5]. In that debate, the decision went to ‘continue with the status quo’, independent deliberations of the ethics of research by unfunded committees [5]. The potential conflicts of interest arising from purchased ethical review were such that the independence of unfunded committees is likely still valued in the future.

The ethical issues arising in inter- and intra-cultural research are complex and, as yet, poorly understood. Early findings indicate that researchers have become sensitised to the inevitable differences but there is no evidence yet that necessary accommodations have been made to the guidelines provided for ethics committees reviewing such research.

It seems reasonable to expect that HCIR will continue to contribute to that research and to informing Research Ethics Committees of the need for accommodations for extenuating culturally specific contexts that do not fit comfortably into conventional research paradigms. It could, for example, be difficult, under current circumstances within ethical review committees, to compare the outcomes of research conducted within contrasting cultures. The basis of comparison would almost certainly be contestable yet the production software industry regularly conducts research of this type across multiple markets.

## IV. Summary

In the light of the above remarks and the on-going debates in social science and humanities about the process and control of research, I strongly recommend that the ethical consideration of HCIR be conducted separately from that of medical and quasi-medical research. In view of the very rapid change in the paradigmatic foundations of HCIR, ethics committee membership should include currently active researchers or canvas the opinion of such researchers on discipline and paradigm specific issues. Conflicts of interest and vested interests together with cronyism remain a threat to acceptable ethical review. Openness as to committee composition, deliberations, decisions, approved research and completed research projects is best reflected in publicly available documentation, all expressed in appropriate language. It is time for HCIR people to considered recovering decision-making control over the ethics of their research processes [3] that is inadvertently slipping away. Gaining control will not be an easy process but the advancement of HCIR will remain hobbled if the positivist dominated medical and legal professions continue as the only context for ethical review of human research and have the tacit support of university administrators. It may be that computer science can set the high standards of ethical research that will, in the future, see medical and quasi-medical research proposals reviewed in the open way advocated here.

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