A Framework for the Ethics of Open Education

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Abstract

What difference does openness make to the ethics of teaching and research? This paper approaches this question both from the perspective of research into the use of open educational resources (OER) in teaching and learning. An outline of the nature and importance of ethics in education research is provided before the basic principles of research ethics are examined through a discussion of traditional guidance provided by three UK research governance bodies: the Economics and Social Research Council; the British Education Research Association; and the British Psychological Society. The importance and foundation of institutional approval for research activities is analysed with several examples of the differences made by openness. It is argued that openness by its nature provokes particular issues for education researchers. A framework for understanding openness in education is then proposed based on basic meta-ethical positions (deontological; consequentialist; virtue). Used as a tool, the framework attempts to retain relevance in a variety of scenarios without requiring a dogmatic vision of openness (e.g. an insistence on open licensing). This framework is then evaluated in the context of the OER Research Hub project, which developed guidance for others in the form of an 'ethics manual' and online learning provided through the OER Research Hub's 'Open Research' course hosted on P2PU's School of Open. Use of the framework is intended to contribute to a better understanding of professional ethics for open practitioners.

Keywords: open education, research ethics, professionalism, data, pedagogy, MOOC, OER

The Emerging Open Paradigm

There is widespread recognition that the move to digitized, online and freely accessible learning resources brings profound ethical challenges. New information technologies continue to change the way we teach and interact. The philosopher of technology Luciano Floridi has suggested that "the information society has been brought about by the fastest growing technology in history [. . .] No previous generation has ever been exposed to such an extraordinary acceleration of technical power over reality, with corresponding social changes and ethical responsibilities" (Floridi, 2011, p. 4). New technologies bring new forms of human interaction, requiring fresh engagement with their ethical import.

This paper proposes a framework that focuses on the ethical significance of a particular group of educational technologies usually referred to as open education. A range of cultures, behaviours, practices and technologies from educational contexts may be described as 'open', including access to education or published research, policies, teaching methods, software, data sets and other educational resources. Open universities, now commonly found all around the world, have massively expanded access to education. Over the last decade—primarily in the form of Massive Open Online Courses (MOOC) and Open Educational Resources (OER)—the open education movement has expanded opportunities for education worldwide.

> "OER are teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge." (Hewlett Foundation, *undated*.)

OER and MOOC encourage the production and sharing of high-quality educational materials at minimal cost. They represent a potential solution to many issues facing educators around the world and have attracted significant media interest around the world. In a time of austerity and fiscal uncertainty, openness has re-entered the popular consciousness and universities take steps towards integration of the 'open' model of education or learners take individual initiative to use them as an alternative to accruing debt through formal education. Open education has always identified with a strong ethical impulse, with many advocates directly inspired by what they see as a moral mission.

> "When educational materials can be electronically copied and transferred around the world at almost no cost, we have a greater ethical obligation than ever before to increase the reach of opportunity. When people can connect with others nearby or in distant lands at almost no cost to ask questions, give answers, and exchange ideas, the moral imperative to meaningfully enable these opportunities weighs profoundly. We cannot in good conscience allow this poverty of educational opportunity to continue when educational provisions are so plentiful, and when their duplication and distribution costs so little." (Caswell, Henson, Jensen & Wiley, 2008)

The moral mission of open education has also found a touchstone in international human rights legislation. The Paris Declaration on OER (UNESCO, 2012) builds on the previous ten years of OER advocacy as well as article 26 of the United Nations Universal Declaration on Human Rights (United Nations, 1948) and article 13.1 of The International Covenant on Economic, Social and Cultural Rights (United Nations, 1966) in recognition of "the right of everyone to education".

While there are also prudential rather than explicitly moral motivations for adopting openness—an educator might move to using open textbooks with their students for purely pragmatic reasons, for instance—for many practitioners the ethical dimensions of open education are crucial because of a commitment to expanding access to education. Given this, there is remarkably little written about the ethics of open education. A review of sixty-eight empirical studies, systematic reviews and reports on MOOC (Rolfe, 2015) suggests there is "a paucity of literature" addressing the socio-ethical dimensions, noting that "many of the articles published provide empirical evidence showing that both forms of MOOC offer opportunities to learn and connect across geographical boundaries, yet we are at a point where social inclusion is polarised toward the more privileged" (Rolfe, 2015, p. 65).

Open education often does not live up to its own vision: in practice, unequal access to communications technology, unequal distribution of basic study skills, and unavailability of resources in certain languages mean that open approaches can act as a force for exclusion rather than inclusion (Emmanuel, 2013; Laurillard, 2014; Perryman, 2013). As openness increasingly enters the mainstream there is concern that the more radical ethical aspirations of the open movement are becoming secondary. Wiley (2015) for instance argues for a 'deeper' understanding of open ethics as a form of being with an ethic of care and sharing rather than a set of duties (such as a requirement to use open licensing). This paper claims to define neither a professional ethics of open nor a 'deeper' ethics of open. Rather, the intention is to provide a framework that will make it easier to build and identify these.

Professional ethics in education research

Ethics is now a fundamental part of institutional research practice, but this is a relatively recent state of affairs. Before World War II there were no internationally recognized standards for research involving human subjects. As is well known, physicians working for the Nazi regime performed acts of experimentation on many human beings including forced sterilization, hypothermia, trauma, the ingestion and topical application of noxious substances, pathological infections, and amputations,

among others. These experiments are all the more horrific because of the lack of any free consent given by those experimented upon. At the military tribunal for war crimes known as the "Doctors' Trial" (United States Adjutant General's Department, 1947) several of the defendants argued that the experiments carried out differed little from those carried out by other countries, and in any case the lack of international legislation distinguishing legal and illegal research meant that there was no grounds for disputing the legitimacy of their actions. In 1947, in the aftermath of war crimes trials, the Nuremberg Code (HHS, 2005) was produced to describe the conditions under which research involving human subjects could be considered ethical by setting out key principles that should inform research activity. Foremost among these principles is the idea of the informed consent of participants being fundamental to ethical practice. But also conveyed is the idea that experiments should be oriented towards the good of society; that harm and risk should be minimized; that researchers should be scientifically qualified; and that any party has the right to terminate the experiment at any point (*ibid.*).

Despite being very close to contemporary legislation governing research, the Nuremberg Code was never made legally binding. Further examples of unethical research emerged in the 20th century, some of which remain quite contentious. For instance, the notorious Tuskagee experiments continued in the USA until 1972, where physicians withheld treatment of more than 600 syphilitic African American men in order to study the progression and spread of the disease (CDC, 2013). Others are less clear-cut, such as the "Tearoom Trade" ethnographic study that involved a sympathetic researcher posing a voyeur in public toilets in order to gather data on illicit homosexual activity without the consent of the participants (Humphreys, 1970). The 1970s saw much debate on expected standards in research, and by the end of the decade the Belmont Report (1979) set out the principles of ethical research that still acts as the basis for ethical experimental research.[1]

In practice, ethics matters across the entirety of the research process, including design of the process and instruments; sampling; data collection; through to dissemination. All ethical guidance offered to researchers is predicated on the assumption that the researcher is in a position to exercise control over the research process as well as any smaller interventions that take place as part of the research. The responsibilities of researchers are also not limited only to their own actions, since we also expect a reasonable assessment of anticipated risk and consequences that might follow from an intervention. Researchers can also be thought to have ethical obligations for situations that are entirely out of their control.

The ethical guidelines for research involving human subjects offered by different professional bodies share the common origin outlined above. This can be illustrated by comparing advice from different professional bodies that advise researchers. Taking the example of the United Kingdom: the main bodies providing such advice are the UK Economic and Social Research Council (ESRC, 2015), the British Educational Research Association (BERA, 2014), and the British Psychological Society (BPS, 2010). Table 1 categorises some of the advice given according to the underlying key principles.

Table 1: Comparison of ethical research advice, UK professional bodies (categorized according to underlying principle)

Principle	ESRC (2015)	BERA (2014)	BPS (2010)
Respect for participant autonomy	Research participants should take part voluntarily, free from any coercion or undue influence, and their rights, dignity and (when possible) autonomy should be respected and appropriately protected. (ESRC, 2015, p. 4)	Individuals should be treated fairly, sensitively, with dignity, and within an ethic of respect and freedom from prejudice regardless of age, gender, sexuality, race, ethnicity, class, nationality, cultural identity, partnership status, faith, disability, political belief or any other significant difference. (BERA, 2011, §9)	Adherence to the concept of moral rights is an essential component of respect for the dignity of persons. Rights to privacy, self-determination, personal liberty and natural justice are of particular importance to psychologists, and they have a responsibility to protect and promote these rights in their research activities. (BPS, 2010 p. 8)
Avoid harm / minimize risk	Research should be worthwhile and provide value that outweighs any risk or harm. Researchers should aim to maximise the benefit of the research and minimise potential risk of harm to participants and researchers. All potential risk and harm should be mitigated by robust precautions. (ESRC, 2015, p. 4)	Researchers must recognize that participants may experience distress or discomfort in the research process and must take all necessary steps to reduce the sense of intrusion and to put them at their ease. They must desist immediately from any actions, ensuing from the research process, that cause emotional or other harm. (BERA, 2011, §20)	Harm to research participants must be avoided. Where risks arise as an unavoidable and integral element of the research, robust risk assessment and management protocols should be developed and complied with. Normally, the risk of harm must be no greater than that encountered in ordinary life, i.e. participants should not be exposed to risks greater than or additional to those to which they are exposed in their normal lifestyles. (BPS, 2010, p. 11)
Full disclosure	Research staff and participants should be given appropriate information about the purpose, methods and intended uses of the research, what their participation in the research entails and what risks and benefits, if any, are involved. (ESRC, 2015, p. 4)	Researchers who judge that the effect of the agreements they have made with participants, on confidentiality and anonymity, will allow the continuation of illegal behaviour, which has come to light in the course of the research, must carefully consider making disclosure to the appropriate authorities. (BERA, 2011, §29)	This Code expects all psychologists to seek to supply as full information as possible to those taking part in their research, recognising that if providing all of that information at the start of a person's participation may not be possible for methodological reasons [. . .] If a proposed research study involves deception, it should be designed in such a way that it protects the dignity and autonomy of the participants. (BPS, 2010, p. 24)

Principle	ESRC (2015)	BERA (2014)	BPS (2010)
Privacy & Data Security	Individual research participant and group preferences regarding anonymity should be respected and participant requirements concerning the confidential nature of information and personal data should be respected. (ESRC, 2015, p. 4)	The confidential and anonymous treatment of participants' data is considered the norm for the conduct of research. [. . .] 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) and any subsequent similar acts. (BERA, 2011, §26)	All records of consent, including audio-recordings, should be stored in the same secure conditions as research data, with due regard to the confidentiality and anonymity protocols of the research which will often involve the storage of personal identity data in a location separate from the linked data. (BPS, 2010, p. 20)
Integrity	Research should be designed, reviewed and undertaken to ensure recognised standards of integrity are met, and quality and transparency are assured. (ESRC, 2015, p. 4)	Subject to any limitations imposed by agreements to protect confidentiality and anonymity, researchers must make their data and methods amenable to reasonable external scrutiny. The assessment of the quality of the evidence supporting any inferences is an especially important feature of any research and must be open to scrutiny. (BERA, 2011, §46)	Research should be designed, reviewed and conducted in a way that ensures its quality, integrity and contribution to the development of knowledge and understanding. Research that is judged within a research community to be poorly designed or conducted wastes resources and devalues the contribution of the participants. At worst it can lead to misleading information being promulgated and can have the potential to cause harm. (BPS, 2010, p. 9)
Independence	The independence of research should be clear, and any conflicts of interest or partiality should be explicit. (ESRC, 2015, p. 4)	The right of researchers independently to publish the findings of their research [is] linked to the obligation on researchers to ensure that their findings are placed in the public domain and within reasonable reach of educational practitioners and policy makers, parents, pupils and the wider public. (BERA, 2011, §40)	The ethics review process should be independent of the research itself [. . .] this principle highlights the need to avoid conflicts of interest between researchers and those reviewing the ethics protocol, and between reviewers and organisational governance structures. (BPS, 2010, p. 27)

Principle	ESRC (2015)	BERA (2014)	BPS (2010)
Informed Consent	Informed consent entails giving sufficient information about the research and ensuring that there is no explicit or implicit coercion . . . so that prospective participants can make an informed and free decision on their possible involvement [. . .] The consent forms should be signed off by the research participants to indicate consent. (ESRC, 2015, p. 4)	Researchers must take the steps necessary to ensure that all participants in the research understand the process in which they are to be engaged, including why their participation is necessary, how it will be used and how and to whom it will be reported. Social networking and other on-line activities, including their video-based environments, present challenges for consideration of consent issues and the participants must be clearly informed that their participation and interactions are being monitored and analysed for research. (BERA, 2011, §11)	The consent of participants in research, whatever their age or competence, should always be sought, by means appropriate to their age and competence level. For children under 16 years of age and for other persons where capacity to consent may be impaired the additional consent of parents or those with legal responsibility for the individual should normally also be sought. (BPS, 2010, p. 16)

While not a full systematic review, this comparison makes clear the great deal of overlap between the underlying principles. Similar guidance is given by other bodies around the world, including the federal regulations concerning the protection of human research subjects published by the USA Department of Human and Health Services (HHS, 2009). These similarities are best understood as resulting from a shared genealogy influenced by Nuremberg and Belmont. Researchers working in the USA must typically comply with these principles, and obtain the approval of an Institutional Review Board (IRB) for research involving human subjects. The processes for institutional approval of research involving human subjects are standardised, typically involving some form of risk assessment checklist, which shows that the advice outlined above, has been considered and appropriate actions taken.

Because these principles have a shared genealogy (as outlined above) they are extremely similar at institutions throughout the world: to comply with institutional rules researchers need to have their proposal approved by an expert panel who consider the same key principles. All international signatories to the Declaration of Helsinki (World Medical Association, 2013) subscribe to a similar process for all research involving human subjects, and the Declaration acts as the basis for human research ethics worldwide.[2]

Since these are principles rather than specific acts of guidance, they have often been interpreted in accord with new technological advances. For instance, the Association of Internet Research (AOIR, 2012) has published ethical recommendations regarding the use of the internet in research which reflects the affordances of working with large data sets, scraping information, curating and sharing information online, and so on. But even in this recent advice there is no mention of the importance of openness as an approach.

Research Beyond the Institution

The processes and principles described above are typically applied in institutional contexts through the mechanisms by which approval is offered to research activities such as collecting information through surveys; interviews; using data about individuals or groups; acceptable professional standards for analysis; and strategies for dissemination. However, research activities are increasingly taking place outside institutions using open, publically available data and technologies to collect and analyze data as well as disseminate findings. Following Weller (2013), I will characterize extra-institutional open research as 'guerrilla research'. For activities of this type, no further permissions are usually needed from research participants, as data used is already publically available and openly licensed. 'Guerrilla' researchers do not typically collect primary data. Rather, their contribution is in the application of new methods to legacy data, or combining existing data sets in novel ways. Research of this type may be characterized as agile and quick to initiate and complete with a minimal business case. Unfettered by institutional or disciplinary rules, guerrilla researchers can explore alterative funding models (such as crowdsourcing) and alternative forms of dissemination (such as through blogs, social media, infographics and data visualizations). Examples of research of this type include:

- Jordan (2014) used openly available and crowd-sourced data on MOOC enrolment and completion to perform a trends analysis using linear regression. This study showed that the average completion rate for MOOC was 10%, and that the massive enrolment seen in some early MOOC was falling as more courses became available. The data from the study was made openly available to others to corroborate results or perform alternative analyses. A blog post about the work went viral and became the *de facto* citation for MOOC completion rates (Weller, 2014, p. 14).
- In the United Kingdom, the Freedom of Information Act (2000) provides for public access to information held by public authorities on the basis that "[o]penness is fundamental to the political health of a modern state" (Cabinet Office, 1997). Open data about government can form the basis of research enquiry. In 2009, Tony Hirst—a lecturer at The Open University, UK—created a Google Map which cross referenced open data about the expenses claims of Members of Parliament (MPs) with information about the distance of their constituency to London. The map highlighted MPs who claimed disproportionately more than others in a similar location and was picked up by national newspaper *The Guardian* (Arthur, 2009) leading to further maps and explorations of data. This work had a high impact despite being quick to initiate.
- Another example is provided by Coal Run, Ohio. A mapping mash-up which cross-referenced city boundaries, water supply lines, and house occupancy by race showed that almost all the white households in Coal Run had water service while all but a few black homes did not. On the basis of this study residents successfully sued Zanesville and Muskingham County for $11 million in 2008 (Burtman, 2009).
- In 2013, social network Facebook carried out a study into 'emotional contagion'. To find out whether the psychological states of its users can be manipulated showed 689,003 users either only 'positive' or 'negative' status updates to ascertain whether this would affect their mood. The researchers found experimental evidence that emotional contagion occurs without direct interaction between people and without cues (Kramer, Guillory & Hancock, 2014). The experiment remains controversial because no consent was sought from the unwitting

participants: it was argued that anyone who holds a Facebook account signs up to the terms and conditions of using Facebook and thus has given implied consent. This threshold would be unlikely to be high enough for most institutional review boards—especially given (i) the intention to cause psychological stress, and (ii) the impossibility of a small research team knowing what impact the study would have on such a large sample. Indeed, though the study involved researchers from Cornell University their IRB covered only the analysis of data and not its collection. Furthermore, because the work was for a private company it was believed that different ethical expectations apply: "[b]ecause this experiment was conducted by Facebook, Inc. for internal purposes, the Cornell University IRB determined that the project did not fall under Cornell's Human Research Protection Program" (Verma, 2014).

While the dependence of such activities on open tools and technologies might be thought of as the emergence of a distinctive new discipline, the distinction between institutional and 'guerrilla' research should be thought of as a spectrum rather than a binary. Many institutional researchers work with open data sets, for example. But the correct balance between traditional and 'guerrilla' research activities has not been established, and these activities are often not recognized as valid by institutions. It should also be noted that openness extends research opportunities beyond the academy to people who may not have had a formal training in research ethics.

What these examples show is that quite powerful insights can be generated by making different or creative use of available data; but also that the insights they provide can be charged with ethical significance. Given that 'guerrilla research' can uncover socially important information, a case could be made that research of this type should be supported through, for instance, facilitating data mining and widely teaching the skills needed to curate, clean and analyze information. However, the examples given are rather selective and there remain several issues around this kind of research. Whether conducted in public or private institutions, unconventional research activities (and their outputs) are often not institutionally recognized. This can lead to a lack of institutional guidance or an unwillingness to endorse such activities, and a subsequent reluctance for faculty to engage with them. Furthermore, it can be unclear who owns the intellectual produced in 'guerrilla research' and this can also pose a barrier (though open licensing could potentially help by clarifying permissions).

While openly licensed data can be legally used according to the license provided, it should not be assumed that everything that can be done with the data is also ethically justified. When using data beyond its original study consent might not qualify as 'informed' and it becomes especially important to explain open licensing and open dissemination to ensure that consent is informed. Another risk with the use of third party datasets is the lack of connection between the researcher and the original context that produced the data and the risk of misinterpretation or misunderstanding of context. Longo & Drazen (2016, p. 276) express concern that "people who had nothing to do with the design and execution of the study but use another group's data for their own ends" could be seen as "research parasites" who try to subvert or appropriate the activities of others. This could potentially act as a barrier to openly sharing, or encourage researchers not to release data unless they believe it has no more potential value.

These examples demonstrate that clearer guidance is needed for educators and researchers working within open education. Yet, by the very nature of openness, it is extremely difficult to prescribe appropriate actions because of the diverse contexts of open educational practices. What is required, then, is a framework which can accommodate diverse elements, identify ethical elements and present them in a way that aids understanding, reflection, and practical decision-making. The proposed framework proceeds by delineating three key areas from moral philosophy.

A Framework for the Ethics of Open Education

Ethics is the attempt to arrive at understandings of human behavior and values that are both systematic and action-guiding. Moral philosophers typically distinguish the study of different elements of ethics into three subdomains: *normative ethics; applied ethics;* and *meta-ethics.* 'Normative ethics' is concerned with actions and their moral value, and is prescriptive in the sense that it attempts to establish how people should behave, which rules they should follow, and which beliefs and values one should have. Normative ethics attempts to guide actions according to some standard, rule or principle. Note that this is not guided by empirical norms, or social mores: 'normative' here does not refer to 'the norm' in terms of what is held socially acceptable but rather to some standard of correctness that can be used to judge the rightness of an action. Another way to put this is to say that, unlike an ethnographic description, normative ethics is concerned with what *should be* the case rather than what *is*. Three main normative theories—deontological, consequentialist and virtue—are further discussed below.

'Applied ethics' is used to denote those studies that attempt the practical application of a normative theory, i.e. how can we apply the moral principles that have been identified consistently and concretely. Because applied ethics is concerned with real world problems a great deal of specificity is typical of the enquiries. Research ethics, professional ethics, business ethics, environmental ethics, the ethics of biotechnology and medical ethics, among others, fall under this category. It may be feasible that open education develops a professional code of ethics. However, as shown in the preceding discussion of 'guerrilla' research and the contextual qualities of openness, there are reasons not to expect this in the short-term as the contexts of open practices are so diverse and unpredictable.

The third area of moral philosophy is *meta-ethics.* Whereas the first two were concerned with the rightness (or wrongness) of specific actions, meta-ethics is concerned instead with the meaning, use and significance of moral language like 'good', 'bad', 'right', 'wrong' and so forth. Meta-ethical questions are more wide-ranging than they might first seem, and meta-ethics overlaps with a number of different aspects of philosophy, including epistemology and metaphysics. In addition, meta-ethics include wider theoretical questions like whether moral judgements should be considered subjective or objective, or whether ethical judgements result from ultimately selfish or altruistic motives. It is important to note that meta-ethical theories do not attempt to guide actions; they are not normative. Rather, they are attempts to reconstruct and make sense of our experience of morality and moral intuition by analysing our moral experiences.

The framework is oriented towards normative ethics in order to focus on bringing out normative conclusions in relation to open education research.

- *Deontological* theories emphasize moral obligation and the rule-based nature of morality. Religious ethics are typically deontological, for example, with clear rules about acceptable and unacceptable behavior. There are also many important non-religious deontological theories which endorse respect for individuals and their rational autonomy. In open research this is most closely identified with the need to respect participants, learners, and colleagues. Informed consent is related to respect for persons.
- *Consequentialist* theories (notably, Utilitarianism) understand morality as a matter of bringing about the right consequences; to do what is objectively 'right' in terms of the wider context rather than what is necessarily best for oneself. There are differing theories within consequentialism about which outcomes should be thought desirable. Avoiding harm and minimizing risk is a clear example of a consequentialist consideration, but acting to bring about good consequences—such as through learning and dissemination—is equally important.

- *Virtue* theories (derived from Plato and Aristotle) emphasize the importance of virtue, character and experience in acting ethically and in accordance with one's nature. Virtue theorists hold that good judgment and excellence in ethics is a matter of practical wisdom (*phronêsis*). Integrity and independence can be understood as virtues in this sense. 'Openness' itself could also be understood as a virtue (minimally in the sense of 'full disclosure' but perhaps as a wider 'ethic of open').

These theories are compared in Table 2.

Table 2: Summary of main normative ethical theories

Normative Theory	Definition of 'good'	Focus	Strengths	Weaknesses
Deontological	Fulfillment or discharge of moral obligations	Responsibility, intention & duty	- Avoids overly demanding aspects of consequentialism - Accounting for cross-cultural moral intuitions - Reflects our moral intuitions and captures the sense in which morality 'binds' us like a law - Clear moral boundaries	- Possible conflicts between different duties and rights - Outcome 'blindness' - Inflexibility: rules do not change according to context
Consequentialist	Acting to promote best outcomes	Consequences and outcomes	- Captures 'objective' sense of morality - Can incorporate multiple perspectives - A practical approach to ethical problems	- Endorsement of counter-intuitive or objectionable outcomes - Issues surrounding metrics - No necessary link with intention behind actions (which seem in themselves to be significant)
Virtue Ethics	Flourishing (*eudemonia*)	Individual character and 'well-being' Developing practical wisdom (*phronêsis*)	- No complex procedure of decision-making. It trusts that a 'virtuous' person will make good moral choices. - Recognises morality as an holistic, developmental process - Emphasis on enjoying life and it being good to live virtuously - Considers life experiences as a whole - Linked to personal development	- Disagreement: 'virtuous' people may not agree on the right thing to do - Problems with proposed link between virtue and flourishing - Struggles to accommodate value plurality - Promotes self-centredness or egoism

This paper proposes that these three theories can act as a useful anchor for thinking through ethical issues 'in the open'; that is, contexts where openness is emphasized and/or without institutional support. For the purposes of this framework we will focus on the three positions, here described in everyday language.

Table 3: Uncompleted Framework

	Duties & Responsibilities (deontological)	Outcomes (consequentialist)	Personal Development (virtue)
Respect for participant autonomy			
Avoid harm / minimize risk			
Full disclosure			
Privacy & data security			
Integrity			
Independence			
Informed Consent			

Applying the Framework: OER Research Hub

By way of illustration, the framework (table 3) will be examined through consideration of ethical issues in the OER Research Hub project. OER Research Hub (2015) was a research project funded by The William and Flora Hewlett Foundation to provide and aggregate leading research into the impact of open educational resources across higher education, further education, schooling and informal learning. In OER Research Hub a broad view of potential impact was taken so as avoid prescription about the possible direct or indirect results of OER implementation. The project methodology involved a collaboration program with high profile OER projects provided opportunities to reach out to a targeted international OER community engaged in establishing new OER practice and dissemination activities. In order to provide a universal structure for researching diverse contexts of OER application a series of eleven hypotheses about OER were addressed across the project. Evidence was then gathered for and against the hypotheses throughout the research. Headline findings from the project are summarized in the evidence report (de los Arcos *et al.*, 2014) and the data report (de los Arcos *et al.*, 2015). Each hypothesis reflected claims commonly made about the impact of OER. Supplementary to the evidence acquired from these targeted collaborations the project also curated secondary evidence from research literature. The data was used to generate a number of visualizations, and to map evidence (OER Impact Map, 2014) as well as writing more traditional quantitative and qualitative scientific papers.

There are several reasons why this project is interesting from the perspective of ethics and openness. OER Research Hub was committed to exploring openness in practice and endeavored to be as open as possible. The goal of the project was to research open education through open methods while also determining what kind of methods might be considered 'open'. There are several aspects of this project that are important from the perspective of an open ethics:

- Although most of the research was conducted in the USA, the project worked with more than 7,000 research participants over 150 countries. This required sensitivity to a wide range of cultural norms and expectations;

- As a university research project involving human subjects, OER Research Hub was subject to the regulations of The Open University, UK. This necessitated ethical considerations in line with traditional expectations: compliance with UK Data Protection Act (1998) as well as relevant codes in other countries, such as and the USA's Protection of Human Subjects (HHS, 2009). In addition, all data collection activities complied with The Open University's 'Ethics Principles for Research Involving Human Participants' and 'Code of Practice';
- Risk assessments were carried out for the project as a whole and for individual collaborations where appropriate;
- An open, collaborative research methodology (where questions were sometimes reworded or reordered according to the research needs of collaborators) meant that the epistemological integrity of the research could be called into question;
- Use of third-party data respected the original consent given at the time;
- Because of the 'open' approach to data collection special care must be taken with respect to statistical claims made on the basis of the data set;
- While OER Research Hub was a project at a higher education institution, its outputs (instruments, data, etc.) could be used in a 'guerrilla' context and this was considered throughout their construction and dissemination;
- Sharing results through the project website, blog and social media accounts helped to raise the profile of the work but meant that less polished work was presented to the world;
- Open release of research data, open access publication and digital scholarship were nonetheless key elements of an open dissemination strategy;
- The (redacted) research dataset was made openly available and with commentary (Farrow *et al.*, 2015);
- The experiences of the research team informed the production of a free open course with Peer 2 Peer University (Pitt *et al*., 2014) on the relevance of openness for research.

Table 4 shows the (retrospectively) completed framework, summarizing some of the ethical concerns and considerations from the project. Each element of the grid identifies ethical aspects of the project that were affected by openness.

Table 4: Completed framework for OER Research Hub project

	Duties & Responsibilities	Outcomes	Personal Development
Respect for participant autonomy	Unforced and un-incentivized participation; no compulsory questions; translation of survey into local languages for field work	Some gaps in data due to unanswered questions	Encouraged reflection on how to encourage participation through effective research design
Avoid harm / minimize risk	Follow all relevant institutional review board requirements, especially important in unfamiliar national contexts with different cultural expectations	All names, contact details and identifiable information removed from open data Collaboration model meant dozens of separate IRB applications; often extremely impractical	The research team developed a stronger sense of how open sharing could introduce new and unforeseen possibilities for harm and acted accordingly Open research involving institutions should allow extra time for review board

	Duties & Responsibilities	**Outcomes**	**Personal Development**
Full disclosure	Explained nature of open licensed dissemination to participants and give participants (e.g. interviewees) option to add criteria to their recordings being released in open	Completed institutional ethical reviews for all collaboration partners and individual institutions Some concerns over whether participants would be as forthcoming if they thought their responses might not be anonymous	Raising openness with participants helped clarify expectations for future work Developing an 'ethic of open' as expected practice
Privacy & Data Security	Data was collected and stored securely according to relevant institutional policies Research instruments were designed to only collect personal information relevant to hypotheses (e.g. gender, disability were included but sexual orientation was not).	Some countries, states and provinces exhibit differences in legal expectations around cloud storage of data. It was important to comply with the local expectations Open dissemination strategy required redacting survey data sets of information, which arguably diminishes their value for re-use	Practical experience of conducting research in different contexts makes it easier to prepare subsequent interventions Participants may become more used to sharing data openly
Integrity	As instruments and data were released openly it was important to ensure that the work could be followed and reproduced	OER Hub is producing a 'researcher pack' which will encourage intended re-use of instruments. An annual survey will provide a set of comparative data points for those re-using questions, etc. High quality research into OER impact is needed by developing OER movement for planning and advocacy	Researchers were required to engage closely with validity of the research Improved sense of awareness of the challenges of using open and mixed methodologies
Independence	Research team had a duty both to be independent and to act responsively to actually existing research needs of diverse organisations	Collaborative research model involved some compromises over research methodology but in return large data sets were acquired Occasionally a fine line between research objectivity and advocacy	Use of the framework encourages authentic reflection and ownership rather than 'box-ticking' risk assessment Importance of projecting a clear and independent research identity; this was partly achieved through social media

	Duties & Responsibilities	Outcomes	Personal Development
Informed Consent	A duty to ensure that all participants understood the intention to openly disseminate results and redacted data; custom consent form	Information collected from more than 7,000 participants has been disseminated without incident	Encouraged deeper reflection on meaning of 'informed consent' in an open world where data can be repurposed indefinitely and in unforeseen ways

Conclusion

It should be noted that the proposed framework cannot replace existing processes of institutional approval for research work, and should be thought of as complementary. 'Guerrilla' researchers working outside institutions with open data must effectively act as their own review board by behaving in a manner that is consistent with institutional excellence. The framework facilitates this by (i) encouraging reflection on areas of potential moral significance; (ii) encouraging the same ethical standards as one would expect to find adhered to in institutional settings, while (iii) noting that even institutional guidance may not reflect what is now possible with open technologies. The framework does not endorse any particular moral philosophy or vision of open education, focusing on the explanatory rather than the normative force of any particular viewpoint (though of course using of the tool could lead to substantive normative conclusions).

It is not presently possible to prescribe all contexts where openness might make an ethical difference and, in any case, it is important for practitioners to continue to reflect on issues themselves and practice their own autonomy and *phronêsis* as researchers and educators. This contribution has shown that the principles underlying traditional research ethics can be applied in open contexts but special consideration must be given to the consequences of open dissemination practices. A tool for those working as open researchers or those researching open education has been proposed and evaluated through the example of OER Research Hub. The framework is designed to facilitate identification of ethically significant features of a particular context and aid reflection on how different ethical consideration might be in tension with one another. Further guidance on ethics in open education can be found in the OER Research Hub Ethics Manual (Farrow, 2013) and in the P2Pu course 'Open Research' which was written by members of the OER Research Hub team (Pitt *et al*., 2014). Free online training in research ethics is also available from the National Institutes of Health (2014).

Acknowledgement

Notes

[1]   Though ubiquitous, the principles advocated in Belmont have been criticized by some (e.g. Shore, 2006) for treating participants alike and failing to recognize important differences between subjects such as gender, ethnicity, culture, or geography.

2   Although the principles subscribed to in each country are the same, some studies have found they are not always applied consistently. For instance, Hearnshaw (2004) finds that many countries eschew the review board for un-contentious experiments while the UK "has an arduous process for gaining ethical approval for a non-invasive intervention study" (*Ibid.*)

References

AOIR (2012). *Ethical Decision-Making and Internet Research Recommendations from the AoIR Ethics Working Committee* (Version 2.0). Retrieved from http://aoir.org/reports/ethics2.pdf

Arthur, C. (2009, April 3). MPs' expenses, by amount, on a map: does distance matter? *The Guardian*. Retrieved from http://www.theguardian.com/news/datablog/2009/apr/03/mps-expenses-house ofcommons

Belmont Report (1979). *The Belmont Report: Ethical principles and guidelines for the protection of human subjects of research*. Retrieved from http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html

BERA (2014). *Ethical guidelines for educational research*. Retrieved from http://www.bera.ac.uk/researchers-resources/resources-for-researchers

BPS (2010). *Code of Human Research Ethics*. The British Psychological Society. Retrieved from http://www.bps.org.uk/sites/default/files/documents/code_of_human_research_ethics.pdf

Burtman, B. (2009, December 28). The Revolution Will Be Mapped. *Pacific Standard*. Retrieved from http://www.psmag.com/books-and-culture/the-revolution-will-be-mapped-7130

Cabinet Office (1997). *Your Right to Know: the Government's Proposals for a Freedom of Information Act* (Command Paper). London: The Stationery Office. Retrieved from https://www.gov.uk/government/publications/your-right-to-know-the-governments-proposals-for-a-freedom-of-information-act

Caswell, T., Henson, S., Jensen, M., & Wiley, D. (2008). Open Content and Open Educational Resources: Enabling universal education. *The International Review Of Research In Open And Distributed Learning, 9*(1). Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/469/1001

CDC (2013). *U.S. Public Health Service Syphilis Study at Tuskegee*. Center for Disease Control. And Prevention. Retrieved from http://www.cdc.gov/tuskegee/

Data Protection Act (1998). London: The Stationery Office. Retrieved from http://www.legislation.gov.uk/ukpga/1998/29/contents

de los Arcos, B., Farrow, R., Perryman, L.-A., Pitt, R. & Weller, M. (2014). *OER Evidence Report 2013–2014*. OER Research Hub. Retrieved from http://oerhub.net/reports

de los Arcos, B., Farrow, R., Perryman, L.-A., Pitt, R. & Weller, M. (2015). *OER Data Report 2013–2015*. OER Research Hub. Retrieved from http://oerhub.net/reports

Emmanuel, E. J. (2013). Online Education: MOOCs Taken by Educated Few. *Nature 503*, 342. http://dx.doi.org/10.1038/503342a

ESRC (2015). *ESRC Framework for Research Ethics*. Economics and Social Research Council. Retrieved from http://www.esrc.ac.uk/files/funding/guidance-for-applicants/esrc-framework-for-research-ethics-2015/

Farrow, R. (2013). *OER Research Hub Ethics Manual*. Retrieved from http://oerhub.net/reports

Farrow, R., Pitt, R., de los Arcos, B., Perryman, L.-A., Weller, M. & McAndrew, P. (2015). Impact of OER use on teaching and learning: Data from OER Research Hub (2013–2014). *British Journal of Educational Technology*, *46*(5), 972–976. http://dx.doi.org/10.1111/bjet.12310

Floridi, L. (2011). *The Philosophy of Information.* Oxford University Press.

Freedom of Information Act (2000). London: The Stationery Office. Retrieved from http://www.legislation.gov.uk/ukpga/2000/36/contents

Hearnshaw, H. (2004). Comparison of requirements of research ethics committees in 11 European countries for a non-invasive interventional study. *British Medical Journal 328*,140. http://dx.doi.org/10.1136/bmj.328.7432.140

Hewlett Foundation (undated). *Open Educational Resources*. Retrieved from http://www.hewlett.org/programs/education/open-educational-resources

HHS (2005) [1947]. *The Nuremberg Code*. U.S. Department of Human and Health Sciences. Retrieved from http://www.hhs.gov/ohrp/archive/nurcode.html

HHS (2009). *Code of Federal Regulations: Protection of Human Subjects*. U.S. Department of Human and Health Sciences. Retrieved from http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html

Humphreys, L. (1970). *Tearoom trade: a study of homosexual encounters in public places.* London: Duckworth.

Jordan, K. (2014). Initial trends in enrolment and completion of massive open online courses. *International Review of Research in Open and Distance Learning*, *15*(1), 133–160. Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/1651

Kramer, A. D. I., Guillory, J. E., & Hancock, J. T. (2014). Experimental evidence of massive-scale emotional contagion through social networks. *Proceedings of the National Academy of Sciences of the United States of America 111*(24). Retrieved from http://www.pnas.org/content/111/24/8788.full

Laurillard, D. (2014, June 26). What is the Problem for Which MOOCs are the Solution? *ALT Online Newsletter*. Retrieved from https://newsletter.alt.ac.uk/2014/06/what-is-the-problem-for-which-moocs-are-the-solution/

Longo, D. L. & Drazen, J. M. (2016). Data Sharing. *New England Journal of Medicine, 374*, 276–277. http://dx.doi.org/10.1056/NEJMe1516564

National Institutes of Health (2014). *Protecting Human Research Participants*. Retrieved from http://phrp.nihtraining.com/

OER Impact Map (2014). *OER Impact Map*. Retrieved from http://oermap.org

OER Research Hub (2015). *Open Educational Resources Research Hub*. Retrieved from http://oerhub.net

Perryman, L.-A. (2013, August 16). *Can OER Break Down Barriers to Participation in Education?* OER Research Hub. Retrieved from http://oerresearchhub.org/2013/08/16/can-oer-break-down-barriers-to-participation-in-education/

Pitt, R., Farrow, R., de los Arcos, B., & Weller, M. (2014). Open Research. *Peer 2 Peer University* (P2Pu). Retrieved from https://courses.p2pu.org/he/courses/2377/open-research-2014/

Rolfe, V. (2015) A systematic review of the socio-ethical aspects of Massive Online Open Courses. *The European Journal of Open, Distance and e-Learning*, *18*(1), 53–72. Retrieved from http://eprints.uwe.ac.uk/26803

Shore, N. (2006). Re-conceptualizing the Belmont Report: A community-based participatory research perspective. *Journal of Community Practice, 14*(4), 5–26. http://dx.doi.org/10.1300/J125v14n04_02

UNESCO (2012). *What is the Paris OER Declaration?* Retrieved from http://www.unesco.org/new/en/communication-and-information/access-to-knowledge/open-educational-resources/what-is-the-paris-oer-declaration/

United Nations (1948). The Universal Declaration of Human Rights. Retrieved from http://www.un.org/en/universal-declaration-human-rights/

United Nations (1966). *International Covenant on Economic, Social and Cultural Rights*. Retrieved from http://www.ohchr.org/EN/ProfessionalInterest/Pages/CESCR.aspx

United States Adjutant General's Department (1947). *Trials of War Criminals Before Nuremberg Military Tribunals Under Control Council Law No. 10 (October, 1946–April, 1949). The Medical Case*. U.S. Government Printing Office, Washington, D.C.

Verma, I. M. (2014). Editorial Expression of Concern: Experimental evidence of massivescale emotional contagion through social networks. *Proceedings of the National Academy of Sciences of the United States of America* 111(29), 10779.

Weller, M. (2013). The Art Of Guerrilla Research. *The Ed Techie.* Retrieved from http://nogoodreason.typepad.co.uk/no_good_reason/2013/10/the-art-of-guerrilla-research.html

Weller, M. (2014). *Battle for Open: How openness won and why it doesn't feel like victory*. London: Ubiquity Press. http://dx.doi.org/10.5334/bam

Wiley, D. (2015). The Deeper Ethics of Education and Open: Generosity, Care, and Relationships. *Iterating Toward Openness.* Retrieved from http://opencontent.org/blog/archives/3732

World Medical Association (2013). Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Subjects. *The Journal of the American Medical Association. 310*(20), 2191–2194. http://dx.doi.org/10.1001/jama.2013.281053