PEER REVIEW OF OER IS NOT COMPREHENSIVE – POWER AND PASSION CALL FOR OTHER SOLUTIONS

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Introduction

Sustainable development is often interpreted with reference to the World Commission on Environment and Development, meaning that 'the needs of the present' should be met 'without compromising the ability of future generations to meet their own needs' from environmental, economic, and social perspectives (WCED, 1987). Scientific research is of course of highest importance when defining, elaborating and implementing policies for sustainable development, but nevertheless sustainable development is most of all a normative concept, rather than a scientific one (Abrahamson, 1997). It implies a moral duty to develop the society with an emphasis on improving the state of the environment, as well as socio-economic and environmental living conditions for present and future generations.

Food quality and animal welfare are aspects of sustainability which are of high interest not only to scientists and students but also to citizens and consumers. Consequently, food quality and animal welfare have legitimacy because of ethical concerns in the society rather than only because of researchers' curiosity. If the conception of food quality and animal welfare used by scientists are different from, or narrower than, the conceptual understanding by citizens and consumers, their findings may fail to address the issues of concern in society. To access the adequacy of those scientific conceptions the research community must therefore be in dialogue with society and address the current ethical concerns.

Consequently, dealing with complex issues, such as food quality and animal welfare, that are inherent in developing a sustainable society, requires a process of learning by every member of society. Such learning must also continue throughout life, as an ongoing adaptation to emerging challenges and new scientific findings. This can best be achieved when the learning is based on curiosity, inquiry, and collaboration, and grounded in real-life experience and situations. Such social interactions both mediate and are influenced by the learning process and constitute the basis for social learning. Thus, food quality and animal welfare are two such fields, in need of social learning processes.

Higher education has a societal responsibility to formally educate students and to be involved in informal learning of members of society. Individuals need to be assisted to become more aware of the complexities surrounding ethical decision making and more conscious of their

own ethical orientation in the contested areas of food quality and animal welfare, in order to make informed consumer choices, influence the food production methods and levels of animal welfare and articulate their stance in sustainable development. Both the search for a sustainable world and for social learning models draw attention from different activity systems of research, education, community organising, business and industry, policy making and governance (Wals & van der Leij, 2007).

OER practice is a methodology for meeting the challenge of an increasing and widening participation in higher education, and has the potential to be an important new learning approach for social learning towards sustainable development. The term Open Educational Resources (OER) was adopted at a UNESCO meeting in 2002 to refer to the open provision of digitized materials, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-commercial purposes. The model of sharing learning materials openly and for free is well established but the quality of OER is one of several challenges (McAndrew & Farrow, 2013), affecting trust in educational value and thus adoption.

Nevertheless, the lack of quality assessment systems for OER can explain low OER adoption in educational institutions (Kanwar et al., 2010), since faculty involved in formal learning are used to peer review system for quality assessment in research and education. In research peer review of scientific articles is the norm and is related to trust (Smith, 2006; Iiyoshi & Kumar, 2008), and in higher education the traditional resources used are scientific articles and textbooks, which also most often have been exposed to some kind of review.

But when focusing more on the learners and less on the educational institutions, the question is not if the OER is accurate, in the sense without errors or demonstrating scientific reliable results, but if it shares with you the value-laden presuppositions about what is important. A reflexive approach to moral questions that arise in the subjects of food quality and animal welfare may strengthen our ability to respond creatively to the deeper and profoundly existential qualities of the global food system and thus of sustainable development. Moral frameworks can complicate binaries, such as right or wrong – selfish and selfless, and generate natural understandings such as protect, rather than prey upon, the weak; and apply expertise for the betterment of society (Sharp, 2009).

Aim

The aim of this article is to support the discussion on the role of OER for sustainable development by i) highlighting the need for a critical debate on issues related to quality of OER and ii) emphasizing that both accuracy and legitimacy is essential for quality.

This article presents empirical research highlighting the interplay between accuracy, meaning if the content is current knowledge without errors, and legitimacy, meaning if the content is relevant to the learner and based on the value system of the learner or the general accepted value system in a certain context. It highlights the power structures and question if higher

education has the authority to be the main assessor of OER in the future, and if peer review is the only and preferred methodology for quality assessment. It asks the question if the wisdom of the crowd and its demand for knowledge is building the legitimacy of OER and how that corresponds to the quality assessment of OER, and therefore how this might contribute to a sustainable development of society.

The problem of quality assessment in OER

Gibbons et al. (1994), stated already twenty years ago that "peer reviews are no longer the dominant method of quality assessment; social relevance has become an increasingly important criterion when assessing results", and it has been suggested that the future quality assessment of OER will be conducted by a combination of learners and peers (Ehlers, 2006; Clements & Pawlowski, 2011).

Nonetheless, peer review is generally the preferred quality instrument seeking to maintain academic standards and objectivity (Smith, 2006). Alternative quality instruments are ratings, recommendations, and benchmarking, the latter are not many academics familiar with (Clements & Pawlowski, 2011). Different types of index are sometimes used in peer review based on tools which measure different dimensions. Such tools tend to be instrumental and some academics are considering other approaches contesting quantification.

However, the process of peer review has been criticised for neither being standardised and objective, nor reliable for detecting fraud, and for being time consuming and expensive (Smith, 1988; Horton, 2000; Smith, 2006). A strong evidence for bias against women when awarding grants has been revealed (Wennerås & Wolf, 1997) and reviewers have been found to steal ideas and block or slow down the publication of scientific results of competitors (Smith, 2006).

The view on OER as an artefact is fundamentally wrong and should be changed to OER as a process (Kanwar et al., 2010). Atenas and Haveman (2013) suggested changing focus in quality assurance from the OER to the repositories for OER, because the technical infrastructure underpins the OER activities. Consequently, they found that only 11.5% of the reviewed repositories had established formal peer review procedures, which they claimed is an efficient and reliable method to ensure resource quality, but explained the low incidence with this method being resource intensive. We question this methodology not only because peer-review generally is criticised, but also because evaluations of OER repositories are not comprehensive since the activities related to the individual resources need to be evaluated.

Gourley & Lane (2009) argued with reference to the wisdom of the crowd that collectively developed resources are of higher quality than those the individual can develop on their own. Thus, the social development can be seen as a collegial activity similar to the creative exchange in research when researchers are building upon each other's work and discuss their findings with fellow researchers in order to get a shared understanding (Iiyoshi & Kumar, 2008), and

these social activities can be seen as an integrated, open and formative peer review, "conducted in real time in front of the eyes of anybody interested" (Smith, 2006).

Furthermore, quality assessment of OER in subjects related to normative assumptions (on a scale from good to bad) can be debated, since what is good quality to one is not acceptable to the other (Camilleri et al., 2014). The conceptions of contested subject areas such as food quality and animal welfare that scientists adopt has a determining influence on the research they undertake and the interpretations of the scientific results and, hence, the message to society for deciding on quality and welfare issues (Fraser et al., 1997).

Material and methods

This article reports the results from two different studies, an international survey to higher education teachers on their views on quality of OER, and a peer review process of an OER named "Farmland". Farmland is a game about the production of food aiming at learning 10-12 years old children about animal welfare. It is available in 23 languages and has been produced by the European Commission. The quality of the game had not previously been examined, neither through peer review nor more inclusive methods.

The survey to higher education teachers was an investigation of differences in passion and altruism dependent on subject areas (animal welfare versus other animal or food production subjects) and how that can influence the views on quality assessment of OER and the power structures involved.

The peer review process was conducted by doctoral students in the subject of animal welfare, by the systematic use of a quality evaluation tool developed by Hays et al. (2005) and the results communicated with the European Commission. No approaches had been taken to apply methods for social ranking and recommendations. The discussions between peers were analyzed together with the final report to the European Commission.

Results

The survey indicated that teachers in animal welfare wanted a quality approach based on peer-review in combination with user recommendations; other teachers wanted to combine peer review with assessment by an independent organisation. Teachers in animal welfare gave higher priority to student involvement and societal relevance than teachers in other subject areas. Animal welfare teachers correspondingly wanted to give students more agency since they found it more engaging and did not find it a quality problem to involve students in the creation of OER.

The peer review clearly indicated that the creators of Farmland had a definition of animal welfare and a view on animal welfare which did not correspond to the underlying values of the peer reviewers. "We believe that there is a need for explaining what good animal welfare is according to Farmland (and the Commission). Is the EU minimum legislation a good welfare level or is an animal-welfare-friendly way higher than the [legislated] EU minimum level?".

"In the introduction to the game it states that; 'In the henhouse you'll see that a fit and healthy hen lays more eggs than an uncared for hen'. These are of course important factors for hen's welfare but we believe that it is important to teach the children that health and welfare is not synonyms. An animal can be in good physical health but at the same time experience poor welfare (FAWC, 2009)".

The peers argued that the authority is not clearly stated and "a reference list can function both as a way of giving the page 'authority' and as a list for further information about animal welfare". The OER was stereotyped and had a sexist undertone, and animal welfare was not discussed in broader contexts such as democracy and sustainability, which is expected to have the potential to open up the minds of the users.

The OER was not found to be inter-cultural. Visually, it reflected a Northern European tradition but some of the procedures described were not permitted in every Northern European country. Farmland had errors, it withheld information, it did not take into consideration the latest scientific evidence, and it was in some situations based on sensory conflicts.

Farmland did not uncover the different stakeholder perspectives on animal welfare, "it had a farmer's perspective but might have higher impact if starting from a consumer perspective". "We are lacking a focus on how consumers can influence the welfare of animals depending on consumers' choice". "One of the most efficient ways to improve animal welfare for a non-farmer is to be an aware and knowledgeable consumer". The learning objectives were not clearly stated and the OER was not based on constructive alignment. "We miss a statement about why it is important for children to learn about animal welfare. Understanding the relevance of purposes and learning objectives will probably motivate the children to learn more". "It would be good to make sure that the informational text mirrors the goals of Farmland; describe the hen's life cycle, describe the hens' needs and natural behaviour and why different resources are important, additionally give more information about egg as food". "The idea of the game is to work quickly, which contradicts with an animal-friendly handling, although the header is: Here you have a chance to try rearing farm animals in an animal-welfare-friendly way".

Farmland was not adapted to the target group (the amount of written text with small and grey font and the absence of film clips or speaker voice was not comprehensive for children) and performance assessment and feedback was inadequate. It was based on a multimodal approach, "however there should be strong connection between the 3 digital learning module outcomes, so that the user is learning the same thing from the texts or playing the game, [or the PowerPoint about the life of the specific animal]". "Different farming systems are described, but too few pictures are showing the reality. We believe that it is actually hard for consumers [and children] to understand how modern animal husbandry systems of today look like".

Hence, the criticism had factual, contextual and educational dimensions. The technological dimensions, however, were good; "it is easy to navigate on the pages, it is user-friendly and very easy to install on any computer".

Discussion

The fourth generation activity theory is about expansive learning, and builds on the idea that there are inner contradictions within the learners' activity system and that knowledge creation transcends the context given, and is therefore found to be a useful framework for analysing the peer review process (Engeström, 2008). Engeström also asks the question, "What makes people strive for something beyond the immediately obvious goal or situation?" (Engeström 1995, p.441) and he later adds an agency layer, that reflects the individual intentions and breaks away pre-existing patterns of activity (Engeström, 2011).

Activity theory has illuminated important aspects of the objects of desire in collaborative activities of scientific practices (Nardi, 2005). In a collective activity system many actors and interests are involved and by separating motive and object it become clear that different motives can lead to the same object and activity (ibid). In collaborative systems negotiations and collective reflection are resulting in a collective object, but these activities are guided by human agency and passion (ibid).

Teachers in animal welfare have passionately held motives – objects of desire – since many see themselves as advocates for animals as a vulnerable group and want to influence the society through developing new scientific results and feeding the legislative authorities with evidence (Broom, 2009) and as participants in the societal debate. The peer review indicated that when the creators are not transparent with their values and, in this case their animal welfare definition, the risk is indoctrination. The reviewers criticised the uncertainness of the authority behind the OER but we argue that higher education does not have the authority to be the only assessor of quality of OER in the future, since the peer reviewers also have agency, which will affect their assessment.

At least three different motives in animal welfare have been identified; all that matters is that animals functions well, are healthy and productive (McGlone, 1993), animals should be allowed to live a natural life and perform its natural behaviour (Kiley-Worthington, 1989), and animals' feelings and emotions are important for animal welfare (Duncan, 1996). Scientists advocating restrictive conceptions of animal welfare sometimes propose corresponding restrictions on the scope of animal welfare. Thus, McGlone (1993) suggested that behavioural research is not necessary to understand animal welfare, Kiley-Worthington (1989) proposed that research on animals environmental preferences is not needed, and Duncan (1996) suggested that since it is the feelings of animals' which govern its welfare, feelings should be measured in order to assess animal welfare (Fraser et al., 1997).

Thus, the positions taken by scientists are neither right or wrong, the disagreements are related to value-laden presuppositions about what is important for animal welfare; the danger

is that researchers through their power determine what is to be researched, what type of research to undertake and thereby also provide society with their predetermined evidence (Fraser et al., 1997), which is affecting societal decisions on what we are allowed to do with our animals. As the results indicate, peer reviewers are gatekeepers having power to impose their values on other people, and since these experts' statements could not be supplemented by user evaluations they stood unchallenged. The survey indicated that teachers in animal welfare trusted students and users more than other teachers did and wanted quality instruments based on both peer review and user recommendations. We argue on this basis that peer review is not comprehensive but need to be supplemented with more collective instruments in order to be democratic.

OER is a new kind of learning approach which can be based on participatory enquiry and since openness is both the objectives and the instruments a peer review assessment of the artefact cannot be comprehensive. The design of the process should be able to challenge mental models by utilising pluralism and diversity and therefore it requires a complex mix of quality instruments (Camilleri et al., 2014) enabling users to be involved in the quality process. Atenas & Havemann (2013) suggest that evaluation of OER repositories partly can be based on an analysis of measurements of number of downloads of a single OER or social media sharings. Such quality instruments can in combination with peer review be a trust-worthy evaluation because it embraces both accuracy and legitimacy.

Striving to share the same object between multiple activity systems complicates the issue of power and passion. Commercially-driven cooperative industries generally have a profit motive of interest, animal activist communities have an empathy motive of interest, and consumer communities may have other motives. Since animal welfare is a domain of relevance for various interest groups, collective activity systems are interacting and a shared object for animal welfare will influence their objects of desire, their activities, their negotiations and their shared object.

Kleine (2013) argues that in order to achieve sustainable development a move from an individual to a collective approach is necessary, involving i) accept limits of system earth, ii) overcome individualistic bias and iii) seek participatory and fair ways to negotiate limits. Peer review of OER is not comprehensive; participatory instruments are necessary for the evaluation of OER and ultimately for sustainable development, and the interaction between i) the network of users of OER and ii)the network in publishing industry and formal education, suggested by Camilleri et al. (2014) may form the future solution.

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