

Comment on Norm Friesen's: "Dissection and Simulation: Brilliance and Transparency, or Encumbrance and Disruption?"

Estrid Sørensen
Ruhr-University Bochum

Abstract

Friesen's comparison between classroom practices and digital dissection carries the flaws of treating the digital and non-digital learning materials differently when comparing. This reply paper argues for a symmetric comparison through a focus on the way in which comparability between digital and non-digital learning materials is established by the researcher. It is suggested that such comparison might have brought about a result more favorable for digital technology.

Keywords: comparability, Bruno Latour, learning-materials, digital materiality, symmetry principle

Comparing different media is important in order to gain an understanding of their specificities; what they do to our lives, to our ways of interacting, to our thoughts, feelings and bodily engagements. As any researcher engaging in comparison is aware, this endeavor often requires considerable intervention in shaping the objects of comparison to make them comparable. Comparability has to be created (Niewöhner & Scheffer, 2010; Sørensen, 2008). Creating comparability between digital media, tools and practices with their non-digital counterparts confronts us with particular difficulties: on the one hand, we have objects that are familiar, well-integrated in particular practices, and which to a greater or lesser degree are 'domesticated' (Smits, 2006). On the other, we have objects that are new and even foreign or strange, that do not fit well with habitual practices, but rather irritate these, requiring practitioners to change their ways of going about things, often as well requiring an adjustment in social relationships.

In his paper Norm Friesen takes upon himself the task of comparing two objects which are different along these lines: classroom dissection and a digital simulation of dissection. As is unfortunately quite common when scholars compare digital and non-digital media, Friesen does not reflect on the way in which he creates comparability in his study. For this reason, and because I think a more symmetric comparison would have led to quite different conclusions, this will be the focus of my comment.

Friesen starts out by describing the rich practices unfolding in classroom dissections. Based on interviews, the analysis provides much more than just insight into what is done during dissection. We get to know how children experience dissection, how several of their senses are activated, how they, in their struggle to cope with this emotionally and morally provoking experience make jokes, name dead animals, focus on limited body parts and bracket out the 'whole animal', etc. Through interview excerpts a sense of the particular personal investments in the classroom activities is conveyed.

The dissection simulation is described solely on the basis of imagined generalized 'users'' engagement with the program. There is no reference in the paper to which 'users' were studied. However, regardless of who and how many were actually involved, alone the different textual depiction of, on the one hand, anonymous 'users' and on the other, specific children with personal utterances transports an impression of the simulation as sterile and "brilliant," and of the classroom dissection as creatively and emotionally complex. Would it have been possible to convey a similar impression of the simulation if we were indeed confronted with transcripts of

sounds of disgust children might have expressed while cutting and pinning the frog in the simulation?

My experience with children's use of digital programs tells me that it is very unlikely that they would go through the operations of the program in the rational and emotionally disengaged way in which Friesen describes the simulation: cutting the frog's skin, securing body parts with pins, identifying organs, etc. These operations, presented in the account of the dissection simulation, are in my reading a discussion of *instruction*, while the account of the rich social practices of the classroom dissection reports for *learning*. Since Lave and Wenger's (Lave & Wenger, 1991) seminal book on learning as participation, scholars of learning theory have been careful not to confuse the perspective of the instructor with the learners' perspective. When indeed compared as if instruction and learning were similar activities something interesting happens to the way the involved learning materials are portrayed. Because learning is a process involving active learners participating in specific ways in the classroom, the technologies or tools applied—scissors, scalpel, pins, etc.—come to be depicted in Friesen's example as of marginal relevance to the activity, as passive and in the power of their active, participating human users. When instruction is accounted for, and especially when no human teacher is involved but it is the technology that is described as teaching, as is the case in Friesen's discussion of the dissection simulation, the technology is granted much more agency, disregarding the ways in which learners might actively engage in different ways with this technology. The asymmetric account of one situation as learning and the other as teaching leads to an asymmetry in the agency granted to the learning materials involved.

What happens if we conceive of the dissection simulation as a learning situation involving active participating children? As I worked through the demo version of the froguts.com dissection simulation I tried to imagine how the 4th grade children involved in my own research would have reacted. I heard their “ugh,” “phew,” “yech” in my inner ear expressing their emotional reactions. But more important are the kinds of stories that I know from my computer lab studies that children share in front of the monitor. These stories would most likely paint a much ‘bloodier’ and ‘dirtier’ (and ‘noisier’ to use Friesen's vocabulary) picture of the dissection activity than what you get from a disinterested account of what is displayed on the screen. When doing empirical research with children using computer programs it becomes evident that there are no such things as “hyperreal” “microworlds” without histories and futures, without place and intimacy. As a researcher for over a year of children and their activities with computers and virtual worlds in the computer lab of a Danish local school I have come to learn a lot about their social relations, experiences and dreams, sorrows and joys. The children were present in flesh and blood, and through their activities with the computers and stories around them, they came to relate a great variety of facets of their lives to the digital technology. Digital technology is always embedded in rich social practice.

Especially in school, where they usually engage with computers in larger groups, children share their digital experiences while having them. Just as Friesen shows is the case in the classroom dissection, working with digital programs in school is most often a social activity for children. Accordingly, it is our task as social researchers to describe the rich social activities unfolding, just as Friesen has done in his discussion of the classroom dissection. To most social scientists it would have been obviously reductive had he described the activity as a matter of simple operations such as “cutting the skin,” “pinning the body parts,” and “removing the organs.” That it is still acceptable in the social sciences to present such accounts when it comes to analyses of digital media can probably be explained by a nostalgic and modern bias distinguishing what Heidegger calls “things” (such as scissors, knives or scalpels, and pins) from “objects” (such as machines, computers, and digital simulations) (Heidegger, 1982). As Latour explains, this bias is

fundamental to our understanding of what counts as social, human and ‘good’ and what is regarded technical, alienating and ‘bad’ (Latour, 2004). This position is unfortunate, as it makes it difficult to investigate what kinds of sociality, emotionality and indeed reality actually unfold in our contemporary technicized world. We end up evaluating digital media on the basis of criteria given by non-digital ones, and accordingly we necessarily come to depict the former as a deficit version of the latter.

This said, I want to close my comment by emphasizing the importance of Friesen’s endeavor of investigating what kinds of bodily and sensory engagements are involved in using digital media, such as a dissection simulation. I think this can very well be done by contrasting it to non-digital dissection, only such a comparison must be symmetric. In my comparison of traditional learning materials such as text books, blackboard, pen and paper etc. with a virtual environment in a school setting, I constructed comparability between the two by investigating in both settings how children, teachers and materials got mutually involved with each other, as well as what knowledge was constituted and what ways of being present these different involvements lead to (Sørensen, 2009). The children I observed were clearly bodily active—with much more than their hands, as Friesen describes. They rarely sat passively on their chairs while working on a computer. So, rather than asking *how much* bodily and sensory activity is involved, we should inquire *how* and *which* senses, and *how* the body becomes active when doing digital dissection. We should do just the same with digital simulation that Friesen does with classroom dissection. We should create comparability symmetrically.

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