

When technology is threat to education

- What *if* the egg is more useful than the chicken never thought

An Essay about Bromleys (1997) article Social Chicken and Techological Egg

Forewords

If seems a good word to start essay about technological education. "If technology is irresistible flood..." "If technology really is a symbol of quality in education..." "If debate about technology only based in narrative stories, as Bromley states..." "If" = "Technology"? It is quite weird though, cause other conversations - and my essay writing - about educational subjects usually starts with "when". "When teaching is...children learn." "The quality of early childhood education rises, when..." "When educational policies started to refer the new sociology of childhood..." just few examples to give. It's difficult to say why we still speak about technology in education so cautiously. I'm talking about "we" as a teachers – from early childhood education to university level. Those peoples who should adopt technology as a part of their methods and subjects to teach students. It is also strange that when we normal talks about success and fails in common education, the good things often are based by statistical facts (like PISA results) and those fails are just results of some single mistakes. But in technology it is opposite. We are happy to refer that "It is bad for all children to play digital games..." or "Today's kid's are all bad behaving because of violence in TV or videogames...". There is also successions when to use technology based education (check Ekapeli), but those are single stories, narratives, something that cannot think as an option for all children.

As Bromley states few times in his article, large number of different stories have been told about technology in education. Bromley had found this fact in year 1997, but I think that can be told in year 2010. Even if technological development have been fast and unpredictable, people and their attitudes haven't change so fast. That's why I think it's important but to try to see the future, also rewatch the past from different views. If – again if – those view are also those narratives, Bromley talks about, I feel important to follow ways and thinking that narratives some times ago formed and see their success and mistakes. It is to learn not from theories only, but practice too.

Technological philosophy –

When the determinist and the neuralist went for virtual coffee

If I was a technological determinist, I should keep technology a magnificent and mighty power which will conquer world and we, human, can't waste our time to resist it's reign. Technology will

also grant possibility for lifelong learning (which would not be possible without it) and participation and empowerment for everyone who are willingly to embrace it. Technology is also a global phenomenon. Where ever you take let's say computers, people will use them same ways, culture will not make any differences, when it's about technology. It is quite easy be technological determinist, because for me, technology is totally black and white issue and it has nothing to do with the people who develop and use it.

Then, however, if I adopt the view of technological neutralist, I do believe that there is no biases in technology. Technology does not have any controversial issues, because it is only a neutral tool that you can use the way you like and need. All problems with technology will emerge, when people do use technology in wrong ways. Technology itself it's pure and free from sensibility and prejudices.

I'm afraid that mr. Bromley don't adopt any of these two views and maybe nor should I, because I think it is important sometimes stop to think technology we use, or teach students to use: Who has invented it and for what purpose? Is it really suitable for the function we use it and has it been designed for more? Does the users need to know what he/she is using, who made it and for what, or is it enough that I, as a teacher, know it. This kind of knowledge can at least spare teacher from surprises, but it could also be part of teachers professionalism. It is important to read about educational history and didactic methods because teachers need to know what is the purpose for they teaching methods. So why not learn of things from technology if we are going to let student use them more and more as a learning method. I think it is also important to recognize and understand why technological determinist and neutralist think the way they do. When you ad their company someone who can be called as a technological pessimist the teacher really needs skills to understand, but also explain the social opportunities, threats and utilities of technology. In such case it will be easier if the teacher knows enough about context where and why technology has been build up.

What relationship does technology have with the rest of social life?

School is place for social relationships and it could even more be a place for social learning. In some cases children in some levels of proximal development learns more effective from each other than a teacher who's level is too high that teacher could easily understand students thinking (or foul schemes in it) or student could catch up teachers meanings. In fact learning without a teacher can be really efficient, so maybe sometimes we should consider the role of the teacher. Maybe it is not to make students learn, but wake up their motivation and involvement in learning. That can how ever be hard for many kindergarten and class teachers.

Bromley presents two models of relationship between technology and society. Another is Judy Wajcman's model of use and abuse where people both uses and abuses (i.e. develops) technology, but on the other hand technology also uses and abuses people. I find this model a bit determinist itself because words "use" and "abuse" assumes that act is conscious. Technology don't (yet) owns a will of it own, so it a bit dangerous to tell somebody not so philosophic person that technology abuses him.

Bromley's idea, which ask question about existence order of chicken and egg, is called model of social shaping. Bromley asserts that social biases, intentions, values and stances exist in technology because it has been created by humans who carry those in their approaches. Then the technology is never free of controversial issues of it's own and does affect people who uses technology. And again, when they develop technology of their own, they pass those values eg. forward.

There is something that Bromley does not talk about. If people transfer their social biases in new technology they create, can they also build in it something social they want in it? Something they think to be good and valued and something they wished to share with society. And when they do so, if they are socially intelligent, can they do that so clever that people who using their technological inventions can't even notice that they have been affected – or brainwashed, if you like.

With adults the problem is not so scary, because it is ok to believe that they can consider the influences they got, but with children the problem do exist. The convention of the rights of the child states that children should be protected from harmful issues both psychical an physical. Many kindergarten teacher at least seems to think that media and technology are something that children needs to be protected. It is kind of weird that people who's responsibility is to educate small children find technology so dangerous and harmful. I don't have any researched proves about this, but I do have practical experience from over 30 kindergartens in the metropolitan area of Finland. The convention (UN) does not, however, state that children should be protected from the society – it's biases and values – because they live in.

If not today, then very soon in the future, people shall make their own technology – software at least. You can code anything you need within your mobile phone. When user needs an application, he simply makes it (or maybe order it via internet from someone in fair prize). Present teachers are already a bit scared about the fact that children are more able to code and use technology than the teachers are. So what about future when technology becomes their social life? How should

professionalism of teachers improve so they could adopt other views towards teaching.

Biases in the mirror – Can school change?

Bromley introduces his model of social shaping for his agenda: to examine what is the social context between school and technology and what kind of context has been and does exist when educational computing has evolved. In other words: why bring computers in school and what norms and biases technology hold and brings withing in the schools. In this part those past ten years have change the point of view towards the first question. Nowadays I can't imagine school nor kindergarten without media and technology. So it is a bit useless to talk about what has or hasn't become of the school without technology. How ever it is still important to talk about values and biases in both technology and in teacher's thinking. Because the second question is still, after ten years, current. Technology and media holds many values and biases and if teacher's cannot manage with technology as machines, how they could cope with those biases, that people who design technology for white, western man (bias as it) creates in the technology.

Maybe one answer could be learning together. Can teachers give up their power to teach and start to learn together, with the children. Technology and media is everywhere, but professional teacher could – and should – find possibilities for pedagogical intervention from there. The skill to ask right questions and pay intention to media literature are not so far away goal for teachers. Maybe we could stop teaching only knowledge and information, that children can find in internet on they own as we could learn from Sugata Mitra's Hole in the Wall -project. Maybe we could focus on supporting learning and help children to form big picture from the information and help them to create causal-connections.

When watching Mitra's video lecture in TED I started to wonder why so many of this succesful technological education cases are just stories or if- sentences? Is techology still a threat to teachers? So great threath that when you start to talk about it as a possibility for education you are condemned to be a technological determinist that has become blind to educational realities.

References:

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