Teacher maker camp 2015

"*Making is not a subject, it is a process to learn something. Find the right question, the right prompt, and start Making to solve problems. The barrier to entry is low, the possibilities are endless.*"

In October 2015, a large group of teachers, educators and innovators gathered in Amsterdam at Waag Society for the 2015 Teacher Maker Camp. A 4-day Education Making Hackathon fuelled by with technology, design, arts and science involving a group of secondary, primary, arts, science and PABO teachers from around the Netherlands.

The packed programme applied design processes, team challenges, experimentation, and project-based learning to solving problems by creating all kinds of brand new stuff in the classroom. We stepped out of our teaching role, and into the - sometimes insecure - position of being an "active learner" - with astounding results.

The big question we all explored was: How can we make education better and prepare kids for their future by getting them involved in making things in the classroom. Not just "random" crafting, but Making with a capital **M**: self-motivated, challenging, while working as a group both *with* and *without* the latest technology.

Activities & personal experience
Every morning we split up into small units and were saddled with interesting (but near impossible) timed challenges such as 'make a magic machine', the 'marshmallow challenge' or the 'spaghetti challenge'.
Every afternoon we worked on our own self-initated project. In the group I found myself in, we created a 'care tree' to help people become aware of and manage their own stress levels. Connected to interactive clothing, it radiated ambient light, or played music,meditation and nature sounds, depending on your stress levels or the amount of time you've spent alone (which can itself be a cause and symptom of wider social anxiety).

We used a bare conductive development board, the shop-bot, to make a wooden tree, a digital sewing machine for the embroidery designs, and for embedding the sensors we used interactive LED lights, arduinos and conductive thread with a tingling result. Everybody contributed enthusiastically by getting stuck in with whatever aspect they enjoyed most. The entire project was actively and collaboratively chosen and shaped by the group as a whole, while the end-product radiated evidence of each individual member's curiosity, creativity and motivation.

So how can all this experience and these new skills be translated into the classroom?
One of the main ongoing debates we held was around how to create a framework for making in the classroom. Eibert Draisma students taught us the need for a small framework, which offers a possibility to go very deep and contains a broad range of solutions. Something like – "*design something that suggests it's alive, and use an Arduino*", which became a liberating approach for me.

According to Astrid Poot, in order to create you need Wonder (something beautiful, unexpected), Design (a problem, challenge and solution), and a promise (something useful that you learn). Bring all that together and you get some awesome creations!

An important milestone of the session was the CineKid Festival, in which children are in charge and given the opportunity to play freely with technological applications. Their main advice for engaging kids is also a warning to any passive tech-media hungry individual: don't be fooled into thinking that because you know how to use tech, you know anything about how or why it works - get curious about the systems that lie behind it and you can reclaim power about how you (or any of us) spend time with our gadgets.

"*Don't let yourself be excluded, technology is made by 2% of the population but used by 100% of them. By giving kids an understanding of the systems that lie behind the black box that technology often is, they can make free choices*".

In the end...
The feeling I'm mostly left with at the end of this flurry of fabrication, is that I have lost my 'fear of freedom'. With access to materials (even a minimal amount), enough time set aside, a clear context and framework, and plenty of available help, there's a lot of opportunity to give students space to think, make and solve. Given these freedoms - and, just as importantly, the specific constraints - human curiosity and creativity can ignite in ways that keep you working for days on end, forgetting to eat, sleep or even breathe. Although I'm relieved to finish (after all, everyone needs their food, sleep and oxygen!), a deeper part of me is eager to return, to exploit the realms of my imagination, the ingenuity of the group and the opportunity to make something the world has never seen. I think that's the sort of challenge that might get anyone's students inspired but I recommend you try it for yourself..