**Re-Inventing Education for the Digital Age – David Middlebeck – Youtube**

Our world has always been in a race between technology and education. Usually these two go hand in hand. But there are some points in history where technology races so far ahead that education can barely keep the pace. Let me give you the quickest history example.

In the 15th century, technology race ahead as a great piece of technology was invented. The printing press allowing to print books much cheaper than ever before. Well, unfortunately only a small fraction of the entire population knew how to read, ultimately leading to massive social conflicts and inequality. Until at some point in time, the whole education system was revolutionized in order to keep up as the first universities and schools were born. Well this happened a couple of times in history whenever technology race ahead, it first leads social pain and inequality. Until at some point in time, the whole education system gets turned upside down in order to keep up.

Now, let’s jump back into 2019 do we have similar race between technology and education today. I think yes we do. We’ve invented in you and the powerful technology called digitalization. Everyday we can now see how smartphones, how the internet, how artificial intelligence changes our jobs as well as changes our private lives. A recent study by McKinsey predicts that in the next 10 years up to one-third of all work activites could be completely replace because of automation.

Today the algorithms built by just a few techies in Silicon Valley decide how we communicate with each other. They decide how we buy things. They can even be used to manipulate entire elections as we’ve seen in the US. But the vast majority of us here today has no idea of how this technology actually works, right? But what I’m wondering is how should we as citizens to be able to make wise political decisions, if we do not understand what’s possible and what’s not. So, like in this historic example, we’ve just seen there’s now an increasing gap between those who’ve designed the changes and those who’ve left behind because they lack the skills of the means to adapt. Once again, technology races ahead and education falls behind.

I personally, worked the data scientist. I studied information system and artificial intelligence at University of Muensten at Harvard, I then went on to lead the team of 15 engineers in an analytic startup, everyday I stood up and did my very best to help technology races ahead, until some point at time I realized that actually the much bigger challenges and the much bigger opportunity for our society resides at the part of that race, a helping digital education, a helping supporting people to catch up. So this year, I quit my job to work full-time on digital education.

I think let’s take a look at the second part of our race here. Education. Well, there we see that our education institutions are now facing conditions that have dramatically changes in recent years, right? We move from an old world with the situation where a great learning content is rare a new world where much of the knowledge is a commodity and often free to you is either as a Youtube material, blogpost or some other type of material. We also move from an old world with very stable career paths to a new world, well much of knowledge that we learn in high education is not relevant, ten years later anymore.

I’m 26 now, my own generation will probably retire in 2060, but I can’t even predict what skill will be relevant for myself five years from now. And how did our educational institutions changes in face of these dramatic shifts. Not a lot, right? We still live in a world that will be hundreds of people in the same huge lecture halls designed from one-size fits all teaching philosophy right? And even more we see this old world and live long learning. We still have many companies where employees just spend maybe two or maybe three days a year with training, right? This would be like if I go to the doctor and ask what should I do to stay fit and healty for the rest of my life and he says well, “david I advice you just run a marathon very early in your life, you’ll be fine, fit and healthy for the rest of you life”, doesn’t sound like a great advice, does it? So I’m afraid we are about to lose that race between technology and education as the way we teach has not evolve with the dramatic shift. That is require these days. Now I don’t think we can tolerate that I think we need a new generation that takes this issue into their own hands.

So, two years ago, my friend Myers and I decided to start on the green field to build an education into experience from the ground up. We develop this idea of what we call a Learning Accelerator. Learning Accelerator is based on a very simple but radical idea using state of the art technology put all available efforts into the individual learner and the learning environment. To bring this idea to life, we found it a nonprofit organization right here Munster. Actually just a few minutes away from the stage. We call it TechLabs. Techlabs teaches coding skills in the field of web development, data science, artificial intelligence. It’s a 16-week program. Completely for free open for everyone and designed so then you can complete it parallel to your studies or to your regular job for example.

TechLabs is built on three fundamental principles that define our idea of learning accelerate and our idea of digital education in the 21st century. The first one is the effective combination of online and offline learning. Every student at techlabs gets access to our own online learning platform with video, assignments, articles. Most of this content is not produced by us but sourced and curated from the grade and often three resources of the web. So if you’re a morning person, you can do e-learning lessons in the morning, if you’re night owl you do it a night. If you struggle with a certain concept you can always go back to revisit the lecture because the computer doesn’t get tired to explain it to you three or four times in a row.

On the other side, we use the offline meetings for interaction of students, for inviting speakers and for social events. The second principle is called personalization. Let me ask you here in audience. Who of you use Amazon and orders at Amazon? That’s impressive, right? And see I think a large part a significant of this success is based on the fact that Amazon learns our behavior over time, right? That it learns what product we might like or buy next. But what I’m wondering is why does our society spend billion on improving and researching this personalization algorithms at services like Amazon or Spotify. But close to nothing for providing this personalized digital learning opportunities in education, isn’t it strange? We’ve completely failed to use this personalization technology to use them in education. We still live in a world where some of us think it’s actually code called personalization if the instructor learns the student’s name. I mean that’s there’s a great star but when it comes to education people are radically different, aren’t they? Everybody needs a specific pace, a specific paths, a specific learning goal and destination.

So techlabs, every students gets a unique, personalized learning paths based on prior knowledge. And even with the basic version on our platform that we use right now, the results are absolutely stunning and you can just imagine the wonderful things that woul happen if universities and schools would deploy/employ at a large scale.

Now, the third principle, is called community. Learning tech skills isn’t easy. And if you struggle with a certain concept and this always happens at some point at time when we encoding, it’s often not the instructor but the fellow learners and the peers that help you to stay motivated to keep on track. I think we already understimate today the value of this actual learning community and our education institutions today. So by killing this traditional one-size fits all lecture and leading people have a flexible e-learning lecture at home we actually free up the value of offline time for deep interaction with our students.

So we use technology to make the classroom more social. I think this is one of the kind of very paradox things these days, right? That actually using tech transforms some very unsocial experience, people listening in a lecture hall just being quite, listening into a social environment that embraces curiosity, diversity and just value in learning new things. So how does all this look like in practice?

In your first week, you usually start with just meeting your fellow learners and your learning community. Then a few days later, you might actually start with your own elearning track that have been personalized and generated just for you. And if you’re a beginner, for example, this might actually be one of your first lessons. Teaching you how to write a small program to let a cat say “hello world”. But soon you’ll be able to team up with other learners in the comunity, to work on your own small first coding project. And this will be usually a slightly more useful thing than the cat we’ve just seen for example, one of our teams just use the new coding skills to predict bike traffic flows and minister optimize the entire infrastructure.

The whole thing a techlabs run by a team of volunteers who often spend more than 10 hours a week with improving and designing our program. We teamed up with experienced mentors who guide our students, with psychologist who help us with personalization and we even teamed up with professors who know use the techlabs’ program to free up their valuable offline time for deeper interaction with the students and to work on exciting projects. And this all kind of worked after just one and a half years we have created 300 more tickets. We have open two more locations in Copenhagen, Barcelona, aiming to create 10 more in Germany next year, aiming ultimately to create 1000 techies by 2020. And 90% of all techlabs with the participants had no coding experience at all before joining our 16 weeks program,

This, for example, is Jin. Jin started, friend of jin. Jin started the techlabs program last semester. A few months later, she participated in Germany’s largest *hekefon* finishing third. And this on the left is Mea, also from Muslim here. After completing the tehlabs program she went to Harvard Medical School to apply her coding skills there for research. A couple of weeks ago, she wrote me a message saying all thank she was, the techlabs provided her decoding experience that she used then from Medical Research at Harvard.

For me thought, the biggest reward is actually seeing these people being surprised by their own learning progress. I think for many of us here this happen last as a child maybe we’ll be how to ride bycicle. But I think, we found the way to recreate the feeling many times, it’s worth to fight for it. I think this is just the beginning, why we start with learning accelerators for coding skills right now, I think this new model of education is equally switch to teach all sort of other skills. It suited for teaching kids, suited for live long learning, and suited to educate the workforce of entire companies with a focus on personalization while leveraging the free and powerful resources of the web.

So what can we do today? To make this come true. I think what is important to understand is that we are all part of this education systems as a teachers of course but also as parents, as students, as colleagues at work, we are all responsible to help education to catch up with the technology and there’s so many ways for you to make a change if you are parents or students hold your instituitions, your teachers at school, your managers at work hold them accountable for providing these effective and personalized learning opportunities. It’s there, it’s possible. And if you are working in education, ask yourself how can personalization, blended learning, community, how can it transforms my own classroom into e-learning accelarator. I promise it’s actually not that hard.

In the end, this new type of education isn’t just about teaching just a few more technical skills. It’s about teaching people to take charge of their lives and participate the meeting one of the greatest challenges facing humanity today. The wise management of the power that we have gained through digital technology.