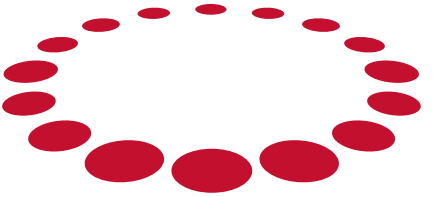

DEBATES
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Social Open Learning: Can Online Social Networks Transform Education?

Philipp Schmidt

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Provença, 324
08037 Barcelona
fbofill@fbofill.cat
www.fbofill.cat

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Author: Philipp Schmidt
Publishing Coordinator: Valtencir Mendes
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Introduction

I am based at the MIT Media Lab and I run an initiative called Learning Over Education and it's a somewhat controversial title and I want to get it out of the way before people start interpreting it in the way that's not intended.

My mother was a teacher and I'm a huge fan of educators and of teachers, but sometimes today education can feel like it's something that's being done to you and learning is really at its core something you do for yourself. And so we're trying to shift the conversation a little bit in the direction of learning as we're thinking about the impact of new technologies.

Now I want to ask one question before I jump to the first slide. How many of you remember when Netscape 1.0 was released in 1994? Okay. So it's a few, it's a few hands, maybe a quarter of the audience and it's important to remind ourselves sometimes that you are the or we are kind of the last, we're clinging on to the digital natives, we just made it into a world where most of our or much of adult life we've had the internet in some form or another so we could imagine its effect.

But what's amazing is now if you go and speak at other venues, everyone in the audience will not remember the time before the internet and for us to be kind of at this cusp where we remember the past and the institutions of the past and also we can start imagining the future, it's a really interesting space, I think, and it's hard to keep up with the ones like my students for example who have never, who cannot remember not having the ability to type questions into Google or going to Wikipedia — their entire lives have been digital and they take a lot of the things for granted that you or I may be sceptical about or a little nervous about or we may not be so happy about but there is kind of

this wave that's coming and I think that it's important that all of us who have been thinking about these things get involved and so here's how, how I got involved.

I, when the internet, kind of started, it's kind of scary, so Netscape came out almost 20 years ago which means I've been doing this for a very long time which worries me a little bit but as I got interested in these communities like Wikipedia and open source software where people would collaborate with each other online, I started realising that there was something interesting that was shifting and that is that talent is distributed equally across the world. There are as many smart and motivated people in sub-Saharan Africa as there are in north America or Europe, but opportunities not.

And so for many years my personal interest in this space has been to change this, to increase opportunities and the two tools I like to use are technology and learning and I think learning is a good path towards a better future and I think technology can make learning more accessible and create that path for more people.

And just as background this is the real time Wikipedia editing, not right now because I recorded this but this is kind of what happens in Wikipedia any moment.

And so in order to do this one of the things I did is I cofounded called Peer to Peer University which had a little bit of a crazy idea and that idea was that if you were interested in any topic and you would find other people interested in the same topic you could connect with each other online and learn it and you didn't have to wait for an expert to teach it to you. You didn't have to go to a university and enrol in a degree programme. In this new world you could just go out and learn anything you wanted and I'm still as excited by this possibility but also I've been doing this for long enough that I've realised it's not that easy so the organisation, Peer to Peer University, has kind of evolved over many years and now spends a lot of its time co-designing learning communities which is the topic of the talk today and the conversation and so with this background if you ask someone to speak about the core question, are open social learning communities the future of education, then of course the answer, my answer is going to be, yes, because that's what I've been

doing for 10 years and maybe longer and I'm going to try to explain why I believe this.

And there are interesting pieces in this question. So I want to talk a little bit about learning and education because I think there's a difference there and I think that it's important as we think about the effect of technology that we have a clear understanding of what we want to achieve through learning. The answers may be very different for all of us but I think often we jump into the conversation before we stop and we think about what do we really want to achieve with learning, what do we think is the role of the university and then, secondly, there are lots of predictions about the future. Often technology, but some other ideas as well, and so I want to talk a little bit about what that means and what other people are saying about the future. And then I want to spend some time talking about examples for social learning communities online that are coming out of my work at the MIT Media Lab that we're involved in and that we're learning through and so if we talk about the future I think it might make sense to also talk about the past a little bit. So where does this come from?

Social Open Learning

The origins of the University of Bologna go back to 1088, which is almost a thousand years now with the rounding error. That's a really incredibly long time if you think about companies that were around then that are still around really only very few, they're generally either breweries or restaurants or hotels, there's a great list on Wikipedia, but for the university to have been around for such a long time is an incredible both achievement so it says it plays a very important role in our society and has played through all these dramatic changes over a thousand years. And what's maybe even more surprising is that some parts of it still look very similar. So this is a painting about the university of Bologna in the 14th century and kind of like here you have someone who thinks he's an expert standing on the stage reading from a book, so we don't need books any more because everyone has phones and everyone can have books, but at the times book content was a big problem and then you have a bunch of students who are listening or talking to each other and at least one student is also sitting in the corner and sleeping and you don't know if he's just bored by the talk or maybe his football club won last night and he went out and drank too many Moritz and he's a little hungover but eh right, so this is kind of what learning in the 14th century looked like.

And in a way the past, right, these 600, 700 years, it's kind also the present still of education. A lot of education still looks that way and also when we think about education our mind immediately goes to that image. Right. So when we try to imagine education we immediately go to this image of sitting passively listening trying to stay awake, you know its really hard and so this is, I think, a good moment to ask ourselves, what is the difference between education and learning and are the two the same sometimes or how are they related, because we often use them

interchangeably and yet we know a lot more about learning today than we did in the 14th century.

So here's an interesting slide that comes out of the work of my colleague, Ros Picard, the MIT Media Lab. She put a wristband on one of her students and made him wear it for one week and he had to record in a diary what he was doing at the different times in the week.

Some things are not surprising, you know, when the student is studying, you know, there's a lot of..., oh I should explain: the graph shows electro-dermal activity, which his the current you can detect on your skin, and its an indicator for engagement. It can be physical engagement, physical activity or mental activity and so it's rough indicator for engagement and so some times of the week you would expect that when the student is studying and working on problems that they're engaged when you look at sleep you would expect it to look like this where you fall asleep your REM goes up and maybe you have a few slow wave sleep phases throughout and when they work in the lab, right, and they're applying their work they should be very engaged.

Now what's a little disconcerting is that the of all those activities that the student did through the week their engagement that is the lowest when their sitting in class. So, it's lower than when they're sleeping, obviously, it's also lower, at least in some cases, when they're watching TV, it's lower than when they're relaxing and you may say, well, you know it's just MIT, so they have really bad professors there and I think that would be a good, a valid hypothesis, but I think that probably this is true for many students in many universities and we happen to know now that we have these devices and we know more about how learning works that lectures are actually a terrible way to learn and it's going to be really difficult for all of you to listen to me for 35 or 40 minutes without falling asleep or letting your mind wander and so I have full empathy for that.

How does MIT learn?

So, but when we're thinking about the future of learning and the future of education we kind of want to know if lectures are not how students

learn, then how do they learn? And so I decided to ask some people who are supposedly experts, which are the students and I looked at some of the research and there's a huge body of research, a lot of it coming out of the Open University of Catalonia, but also it's useful sometimes to just ask people very simple questions and so I interviewed people from a whole range of backgrounds at MIT, students, people who had graduated, people who had dropped out and never graduated, administrators, professors, admissions officers and I asked them about the learning experience at MIT and the students I asked what was something in your MIT history that you would say was a really important learning experience what was something that happened at MIT that changed the course of your life or where you learned a skill that you're still applying today or where you had a new idea that just blew your mind and afterwards you chose a different career, for example.

And so I want to tell one of the stories I heard. I heard many, many stories. Many amazing stories. I heard almost no stories about lectures, not surprisingly, but I heard many amazing stories about the experiences and I think those stories exist in every university, I don't think they are unique to MIT. The stories are different everywhere but if you ask your students about the real learning that happens, a lot of surprising things that will come out. So here's one of the stories that really surprised me and delighted me, in a way.

If you look at this building, this is the dome of MIT, it's one of the most famous buildings on the campus and as you see here people love to take pictures of it. You know, it's a grand building and also this is where the graduation ceremony happens, so every year when the students graduate there are hundreds of students here and there are speeches, so this is a very important building at MIT.

And one morning in 2006 MIT woke up and it looked at the dome and there was a fire truck on top of the dome, and I mean you saw the picture before this is a very high building and this is a very big fire truck. It definitely wasn't there on September 10th 2006 and so how I found out about this story is I spoke to the person who was responsible for this and she graduated from MIT and went on to get a PhD in science. Then went on to become a successful scientist, managing a team of other scientists,

and when I asked her about what was the most important learning experience she said, without a doubt, the experience where I learned the most and that I'm most proud of in my entire academic history is putting the fire truck on top of the MIT dome and so that's surprising, you know, if MIT is a very expensive university if you had to pay for it you can pay 200,000 dollars for your degree. And putting the fire truck on top of the dome is not included in the 200,000, by the way. But then I asked her about the process and I realised it's not so surprising that she singled this out, because this was a 6 month project where she managed a team of 40 engineers and scientists, and they had to prepare for an operation that would happen in one night to get this, there was no room for error, they had to get this whole thing on top of the dome, get it installed make sure it's safe it doesn't fall down and they left instructions for how to take it part as well so that other people can safely take it apart and take it down. Which I think is really great.

So, you know, in a way if you think about great learning a lot of the aspects of good learning experiences you can find them in this example, and I'll just show you one more and I should say there's a history of these projects at MIT and they're called hacks. MIT hacking is not hacking with computers its finding kind of playful solutions to systems, and so I really love this one it's where students built a Tetris game onto the windows of the highest building on the campus, and then you could stand downstairs at the control and you could play Tetris on the building but this is an aside.

The Media Lab

So, but coming back to this example of learning, and this example of putting the fire truck on top of the building, there are a lot of components that or aspects that you could pick out and you would say that's a great learning experience and that's what we've been doing at the Media Lab, we've been trying to articulate a framework for learning that we implement every day at the Media Lab, so this is a picture of the MIT Media Lab where I work and most of it looks like this, it's double storey,

it's different research groups, doing very different things. There are 26 different research groups who work on totally unrelated things. We have 150 students and about 150 researchers and faculty.

It's an interesting place because it brings together very diverse backgrounds and people who are all very passionate about what they do. But, so, we this framework of learning is something we practice and observe every day at the Media Lab in the way we work with out students but it's also something we've been thinking about as a way to design technologies for learning, to design workshops for learning to design institutions, new institutions for learning. What are our design principles for this? And so we've come with 4 principles and we call them the 4Ps of creative learning.

The 4Ps of Creative Learning

And you will find these, maybe we'll do these together, they relate to the fire truck. So the first P is P for **Projects**, because when you build something or you create something and creating can be a poem or a novel, it doesn't have to be an engineering project, a lot of the things that you had assumed before, theoretically, turn out to be not true, you run into a lot of difficulties and there's a lot of learning that happens when you actually create the project. So you could learn about poetry for many years, but when you write poetry it's a very different activity, there are certain aspects of poetry that you can learn from doing it that you wouldn't be able to learn from just reading about it.

And so a lot of work at the Media Lab is engineering and technology so, you know, we have a lot of projects that look like this and the nice thing about projects is also you can show them to other people and you can say hey I've done this thing, I don't have to do a test, you can say look at my solar car it drives or you can say look at my poem, it's beautiful, and then you can share with other people and that's actually the second P, it's **Peers**.

And so a lot of the work at the Media Lab works in collaborative groups. And one of the reasons in the interviews I heard one person

say, well, everything is peer learning because nobody is smart enough to get through MIT by themselves and I think in some institutions that's true.

At Harvard, for example, they did a study about success of Harvard students because they were interested, what makes Harvard students do well and what makes other Harvard students not succeed, and at Harvard and MIT this is a real concern, because on one hand it's extremely expensive so for a student to come in spend a year a two spending a lot of money and then dropping out it's both a financial disaster for them, it's a human disaster for them because they feel they failed so finding ways to support them is really important. Harvard did a big study where they asked all of their students questions about what they're doing and how they're succeeding, it's called the Harvard Assessment Study, and the number one indicator for success was the ability to join or form study groups, so it wasn't how many courses you were taking, it wasn't if you were taking big courses or small courses it wasn't all the other things you would have expected to hear.

The number one most important thing was can you find other people that help you and that you can help them when they need help, because the nice thing about peer learning is also, even when you're try to learn something, the moment someone asks you a question and you explain it to them, you, it turns out you actually learn the things in a much deeper way. And I think that probably everyone has experienced this. If you get asked the question about something you think you know very well and it's a surprising question it changes your whole, you kind of have to go back and check that you really understand this thing.

So the third P is **Passion** and passion is, essentially means that if you are really interested in something, if it connects to your personal interests you will work much harder and you will go much deeper than if I'm telling you that you should learn something, so we try to enable all of our students to find things that they are passionate about. Pick technologies that they are excited about. Choose projects that they think can change the world and find those things that really grabs their attention and then we try to support them, but finding ways to attach learning to the things that people are already interested in I think is really important,

rather than the other way around where first you have to learn all of the background about everything and then you allowed to start doing things. So passion is really important.

And then the last one is **Play** and play and passion are easy to misunderstand, so for some people I'll go back to passion. For some people call it purpose if passion sounds to hippy or to soft think abut this as purpose. There should be a purpose to your learning and play, by play we don't mean playing around but we mean taking risks, experimenting, not being afraid to fail. I, like, the idea was in kindergarten we play and at least until very recently you couldn't fail at kindergarten and actually ironically the director of the Media Lab Joey Ito, he's a college dropout, he never finished his college degree and he got kicked out of kindergarten, so we used to have this great example where we would say you couldn't fail at kindergarten until Joey took over the Media Lab and now we realise you can get kicked out of kindergarten

But generally learning should be an experience where you are taking risks because, and this is actually another quote from Joey, he says that no one is ever won the Nobel prize for following the rules and it's true. If you just follow the rules, you know, you can learn a lot and be very successful but for real learning to happen you have to feel you're allowed to break the rules. And so I'll come back to all of these things and actually I didn't do this but the fire truck example you will find all of these 4Ps very strongly represented in that experience.

So let me say a couple of words about future and future, the future of education is a big topic right now. If you Google future of education there will probably be another even about the future of education right now somewhere else in the world.

And everyone has an opinion on it and often those opinions are related to technology, so there's a new technology and people go, oh, new technology the future of education everything is going to change and everyone will have access it will be cheaper, more efficient, better and most times that doesn't happen. There are some technologies where it does happen. The book, for example, is a technology that fundamentally changed a lot of things. But many technologies, just some examples in the last hundred years, radio, television massive open online courses haven't fundamentally

changed the way things are, because they've been used to perpetuate the old models.

When a new technology comes the easiest thing to do is you take the new technology but you apply it to what you already know, so many of the new set of courses you know they kind of look like 14th century Bologna, except, you know, we have a bunch of experts in this case, except they don't have a book, but they come through a video, but it's still kind of one directional, the video and then you have a bunch of students and they're watching the video, they're still listening passively and actually this is a much bigger problem now, because first of all we can see them any more when they're sleeping and there are many, many more who are dropping out, who are trying to take these online courses and they're not succeeding and yet we don't know why they're not succeeding, we don't know they're not succeeding. It's really hard to learn something about the people who are not benefiting. So I'm a huge fan of technology, but technology, it's not, the problem or the opportunity is not the technology, it's how it's being applied.

And I briefly want to mention kind of the core technology that I think all of my work evolves around and which I think is a paradigm-changing technology kind of like the book was, and that's the internet. This is a beautiful illustration of the internet that's in the Museum of Modern Art in New York and the interesting thing about the internet is that a lot of design principles were baked into the architecture of the internet that are perfect for learning, so the internet as a designed network was open, anyone could connect to it, all you needed was a cable and a computer and you could connect into the internet. It's got a little more complicated these days but fundamentally on a technology level that's still the case.

It lets anyone contribute, right, so it doesn't matter which of those nodes you are it's not like radio or TV, where there's one big player in the middle and they push all the content out to everyone, it's really everyone can speak and listen at the same time and there's a peer to peer ethos that you can see in the architecture of the technology, that then permeates the communities that people build on the internet that is very different from a top down model where you're waiting for permission. You don't have to wait for permission on the internet.

And then for people who are curious, and I assume many of you are, it's just the ultimate discovery playground you could spend your entire life just being on the internet finding new people to talk to, finding new content, new ideas, doing new things, so the one thing that I think we often do when we think about what this is, we think of this as computers right so there are millions of computers and they're connected by cables, but what I think of when I see this is the people in front of the computers and that's when I think the technology becomes a paradigm-changer. If it's just about connecting computers it's less interesting. If it's about connecting millions of people who could be learning with each other I think this changes almost everything and I just want to say one more thing about technology design using the Media Lab as my thinking aid.

So this is a picture of the Media Lab from the outside. It has three principles for success in everything that it does and we build a lot of technology and those 3 principles are uniqueness, so if someone else is doing this already we try to do something else. It's impact so it's not enough to have an idea it has to change the world or someone's life in some way. It could be many people it could be a few people in a really deep meaningful way. And then the last one, my favourite one, is magic and we, those are the 3 official success criteria of the Media Lab and people often ask me or ask 'magic'? How do you define magic? And it's a little bit like learning, or at least some aspects of learning, like curiosity, you don't really, you can't really define it in a rubric or in a table but when you experience it you know it's happening so you know when we see something that's magical we're all enchanted. It puts a smile on our face. When we have a new idea, an epiphany, we know what that feeling feels like. We know we can never go back and so there's something that we can't measure yet today that's really important about technology and about learning and my personal opinion is we shouldn't even try to measure right now because sometimes it can be dangerous.

So, summing up, technology can be the opportunity, can be the problem but it's really about how you use it. Another one I'll just briefly mention and also because my two examples come back to this is educators. So I think teachers and educators are absolutely crucial for the future of education.

Now I don't think they're the only solution and I think there are some problems. As I said my mom was a teacher and I actually was a student once in her class so I think she was strict with me but I thought she was a pretty good teacher and, you know, I've had some very good teachers in my life but I've also had a lot of teachers were kind of okay and I've also had a few teachers who were really terrible and so I don't want to put all of my faith into teachers, I think that's too much, but teachers are, at least in the US, totally under appreciated an there's a lot of room for improvement building the future of education, just helping teachers.

Examples of Creative Learning

So I want to give two examples for communities they both use technology and I'll talk a little bit about how we designed them and how you would design for online social learning communities.

So the first one is Learning Creative Learning. It's not your usual online course and it came about when I first started working at the Media Lab. This has been my main collaborator, Mitchell Resnick, and I'll talk about him a little more in a second. But Mitch and I, the MOOCs a lot of people were talking about, massive open online courses, and there was a lot of excitement about MOOCs and Mitch and I were not so interested in MOOCs or not so, we felt that they were doing some things really well, like making content available to many people and producing more content. We thought they were good things, but there were aspects of aspects of learning that we really cared about that we didn't see represented in MOOCs, and so in true Media Lab style instead of writing a critical article about MOOCs we decided we were going to tinker with very large online courses. I've done a lot of work on smaller online courses, he'd done a lot of work teaching at the Media Lab so we brought those two aspects together and we decided well how does this happen, how does this work if you scale it up. And so we scaled it up to 25,000 people, so we had a fairly large community of people signing up and we used the Media Lab, the formal course that exists at the Media Lab as kind of our backbone, as our starting point and then we made changes to that

because some things don't work on line and some things you need to change a little bit and one of the things that's very different when you think abut an online community compared to a course, your role changes. In a course you are much more in control, you define a lot more about what happens for each individual student each week, you test things there's kind of generally a more rigid structure.

At the Media Lab it's a little bit different, but once you have a community the size of 25,000 people and you want to creative learning to happen there's no way you could even try this, so your role becomes much more the role of a host, so you're hosting a large party, essentially you get to decide what music is going to be played, at least initially until someone comes and they take away the remote control and maybe you can prepare some snacks or some topics that people can talk about. You may have some ideas about who should be sitting with whom where you think they have things in common, but then you know 25,000 people show up and you have to be comfortable to let go, you have to create ways for those people to start changing what happens and making this an experience that they want to have and then you can model certain behaviours, you can set certain examples but there's a way of kind of co-creating that has to happen and so we did this very intentionally. We invited everyone who showed up to create this course with us. We said we don't know how to do this for 25,000 people, we would love to get you involved and not just tell us to do it, but feel free to do it yourself.

And so this is an interesting picture to me because it looks very common, it's a map of the people on the course, every online course has these maps, but we didn't come up with the idea and we didn't make the map, so in the first week Arriano Paciano from Italy, he sent a message on the discussion forum said I would love to have a map, can you please make a map for the course and everyone put their pin on it, and we wrote back and said that's a really fantastic idea but we don't want to make the map, we want you to make the map and so Arriano made the map, he created it on Google maps, he wrote a little how to, he became the steward of the map, people asked him questions, my pin has disappeared and these are by far are not all the people, but in Google maps there was a limitation after a few hundred people you had to make

another map, so there are dozens of maps and Arriano really became the map guy and he's still involved 2 years later, there's a community now, he's famous in the community and that was how he started.

And it was an idea that also is particularly important for community which we realised later, because seeing the visual representation of the other people who are somewhere with you actually creates a much stronger sense of community than having an abstract list of names, so if you have a thousand names on a long list it doesn't feel very person but if you can see the pin on a map at least you can start imaging there's a person there and it creates a stronger sense of community, and so we've tried to do that in all aspects of the course, we created activities every week that would let the people explore the things they were interested in. We wanted them to feel like they were in control of this course and we were giving them some activities and then they could do these with other people, their families or people they wanted to work with. Then every week there was a very strong aspect of sharing back what they had done and a lot of the activities were offline and so the first one this is the first marshmallow challenge, which if you don't know the marshmallow challenge I highly recommend that you Google it and you do it, it's really amazing, it's an amazing learning experience and I won't give away... there are some groups of people who are really good at it and there are some groups of people who are really bad at it. Management consultants are really bad at it.

And some weeks we did online activities. Scratch was mentioned before. It's a programming environment for kids but you can use it to create stories, to create games, to create greeting cards and also the kind of environment where if you're a very advanced programmer you can use it to do very complex things, and if you're a beginner you can use it to do very simple things so we designed activities that we thought would let the community feel engaged in the course rather than recipients of knowledge.

One other thing we did was live events which was very unusual, so every week we ran a live event, we did a seminar, we had conversations, we had a big group of people show up in a chat and we even did breakout rooms so we wanted people to talk to each other. We wanted them to feel like they're part of all these people showing up at the same

time and there's something really qualitatively different when you come to this space online or offline at the same time each week and there's a sense of community that develops. People would recognise each other, they would always introduce themselves at the beginning, hey I'm from Rome, I'm from Barcelona, and it was just nice to see the people come together in that way.

And we created a discussion forum, we gave them some other tools that are more obvious and we let people create lots of other groups, so in the end there were 450 individual discussion groups run by people from the community about things that they were interested in. We hadn't pre-created all of those, we couldn't imagine what all those things would be that they were interested in, but we totally supported it and thought it was great and some of them were offline. So not everything was online. You don't have to have an online course that's just online. I think an online course that has offline components brings a whole different quality to a lot of the learning.

So Learning Creative Learning which started as more of a course really grew into a community and we've run it twice as a course so with kind of a start and end date but all the materials are always available, you don't to show up at a certain time to get to the materials or to join the discussion forum, but we found that people find it helpful if they can signup for something and they can do it with other people. So we've just launched a new model where we're hoping that the community itself will start running the course, so when a thousand people sign up, we put them into a cohort and we kick off a round of emails where it kind of suggests certain things they could do each week alongside, with all the other people who are already there and so far I'd say mixed successes. The first week was really good, the second week was very slow and we're already thinking about could we have more language-specific communities or country-specific communities, because it's really important that there are some people involved who feel passionately about the subject but also who want to invest in building community and we can't do that for the whole world. We're hoping that other people will come in with us and we've written a report, Mitchell, I mentioned him before, Natalie Rusk and myself, about this experience at reports.p2p.org it's everything open

access so if you want to, it's a very friendly report, it's not very academic but it summaries some of those design ideas and decisions.

And so my second example that I want to talk about a little bit for online social learning communities is called Edcamp. And when Learning creative Learning is not your typical online course then Edcamp is not your typical conference. It's an unconference for educators run by educators and there have been over 550 Edcamps by now in dozens of countries.

I've just checked today there hasn't been one in Spain so I think that would maybe a nice project for someone who's interested in getting involved in this space. It's a really great community around the world of educators who organise these events where other educators can come and they talk about the things that they're interested in. I mentioned that they are unconferences and I should probably say one word about what is an unconference. Who knows what an unconference is or a barcamp?

Unconference

Essentially an unconference is a conference that's run by the participants so generally you set a date or time, everyone shows up at that moment and the first session is that anyone who wants to host a workshop or host a presentation or host a panel can raise their hand get on stage and they can say, oh what have we got here, for example, I can't read any of these, but what is that enterprise micro-some things? So if I'm the expert or I'm really interested or I have a problem with this micro enterprise something topic I get up on stage I say I really want to talk about this topic, I can present a little bit about my work, but I want to have a discussion and then a few people raise their hands to indicate they may be interested. Then you use kind of a time grid and a room grid and you create a conference on the fly, and people have been doing this in many years in different formats and they work really, really well. People generally feel more engaged, more excited, it's much easier to be an at unconference than to be at a conference where you're generally sitting and listening. At an unconference you get to talk to ask questions you're

in smaller groups, so it's a really great model and it works very well in the physical world. And it doesn't really work so well in the online world yet, at least it didn't and so we set out to change that and talk to Edcamp and said would you be interested in trying to do an Edcamp online and they said yeah that would be great because not everyone can come to these events and we would like to experiment with this online. So we built a tool and I don't know if this will play but we built a tool called unhangout that leverages Google hangouts and most of this is actually pretty straightforward, there is a live video at the top where you can have presenters speaking or you can embed videos, there's a chat room where people can chat in the lobby, there's a list of people that you can see who's there you an see their names and then the interesting thing really is this, there's an unlimited number of breakout groups, so while the event is happening we can create more breakout groups and we can give them names and we can use the feedback from the community to create those groups, so if the community says I really want to have a breakout group on the colour red, we create a breakout room for the colour red, and if there's someone who wants to talk about blue we make one for blue, purple, you know, we can spin them out while the event is happening and because we're using Google hangout for all the hard work it's really easy for us to do, because in terms of technology none of the heavy load ends up on our system and so this is a picture of the actual Edcamp unonline. Kristen Swansen is one of the founders of Edcamp and who is just a terrific educator and innovator and she's giving a kind of an introduction, you can see this is some of the sessions — educator professional development 1, educator professional development 2, 20% of your time which I think is the topic is can you create kind of an innovation culture in schools where teachers can spend 20% of their time working on projects that they're interested in, but all of these were suggested by the people, so there are 117 people, by those people who showed up for the event and then they would break into these rooms and you can see here we had 117 people and one cat. I don't now if you can see the cat on the screen but and then people have conversations about the topics that they're most interested in so what are some of the benefits of these virtual Edcamps, because Edcamps in the face to face world work really well, what is the online add to it?

Well it adds distribution so two online events we've done so far and 15 face to face events have been the result of this, so people would come to the online event and they would get a sense of what this community feels like, and then they would say I'm going to do a face to face Edcamp in my community where maybe nobody has done an Edcamp yet.

Professional development for teachers. I don't know exactly what the situation is in Spain but in the US teachers have to continuously get professional certification so while they're teachers they have to go to workshops, they have to take classes and a lot of it is very, kind of, let's say traditional right so it's not always super high quality, it's not always about the latest topics, some of it is kind of lagging behind a little bit, whereas Edcamps are kind of at the cutting edge of what teachers want to do in the classroom today, like here's an experiment I did with my class I want to share it with you and so not surprisingly 86% of the respondents said that this was a good alternative to traditional professional development.

Recruitment: 48% of the event had never been to an Edcamp so for Edcamp this is a great way of pulling in new people and growing their community and engagement. 55% of the people created or voted on a session, so if you compare this to a normal conference where usually you see the programme, you arrive in the morning and then you go to each session you're interested in, but you don't, maybe you get to raise your hand and ask a question but, that's generally as engaged as people are but here in this event 55% of the people took an active role either they said I want to go this session, this should happen or they created a session, so it's a different kind of engagement and surprisingly you know some of these things work really well online and maybe sometimes better than offline.

So are open social learning communities the future of education? I think so, I hope I've made a little bit of a case why I think so. I want to connect two ideas that I mentioned before because I think that's very important. One is I talked about peer learning and how in the Harvard Assessment Study they found that the ability to join study groups or form new study groups was the most important factor for being a success for a Harvard student. Now if you forget about Harvard which is a few thousand students and you think about the internet which is millions,

hundreds of millions of people, then the power that that skills gives you becomes much larger, so if you are a learner who's able to go into the internet, find other people that you can learn with, that help you, that is a huge advantage over someone who does not have that skill.

So this kind of becoming a better learner developing 21st century skills is now not only is a very good thing but also is a very important thing for everyone to develop. I want to end on this quote which I think is great. When we talked about the future of education today Alan Kay said the best way to predict the future is to invent it and so I'm trying to invent the future that is built around social learning communities online, but that should not be the only future and I think all of you are inventors in some form and many of you will be interested in education and learning and so I hope that you will predict the future of education by inventing it with me.

Questions

Why are drop out rates so high in the US when there are initiatives as innovative as Media Lab?

We have these advanced ideas about learning and yet we have such low results in the Pisa study so there are many reasons for this. One is the ideas that I've just presented now are not the reality in US schools. In effect US schools are going the exact opposite way and one of the reasons why the Media Lab started this effort which I didn't talk very much about but Learning Over Education is an initiative at the Media Lab which combines three research groups which is unusual, usually the groups stick to themselves and one of the reasons why we're doing this is exactly for this reason that the examples for a different kind of learning in the US are missing right now and so the whole field is moving towards standardised testing, aligned curricula, treating everyone the same, still within the grades, so keeping all the structure and adding more to it and then even introducing standardised testing to the kindergarten now, so the exact opposite of what we are promoting, so I hope that if something like this becomes more widespread the Pisa results will also go up.

At the same time I'm also a little nervous about the Pisa results because whenever you measure certain things it drives policy, it drives activity and I heard Pasi Sahlberg, the Finnish, he wrote a book called the Finnish Lessons about the Finnish school system. He said something very interesting, he said Finland was moving away from the Finnish system that they're so famous for now when the first Pisa study came out and they scored at the top, and it saved their school system because they were trying to change it and become more like the rest of Europe and

the US with accountability and more standardisation, and so Pisa saved them and then they became very proud of this model and they stuck to it. I'm a little worried about Pisa as the overall measure for learning and education, I think we have to be careful with that, but why does the US rank low and also why does the US have terrible education system, is because of low investment in public education and a push towards standardisation in assessment and testing, so I think a lot of things in the US are a big problem.

How can we get collaborative CMOOC platforms to as many people as possible without the technology being an obstacle?

xMOOCs v cMOOCs. I totally agree, for me cMOOCs are the interesting ones and so for those of you who many not be totally familiar with the distinction, xMOOCs are kind of the MOOCS that became famous, that were in the New York Times were coming out of Stanford where you had 100,000 people sign up, it was usually video lectures and then there was self assessment so you do automated assessment, you would solve a problem, submit your answer and a computer would say yes or no and cMOOCs were much more communities more in line with what I talked about where people would group around a common interest but then there would be no platform, people would use Twitter and their own blogs and email and the conversation would be distributed all over the web and it's very messy, it's very hard to follow, there's very little structure. So how do you scale that?

I don't think anyone has figured out how to scale the pure cMOOC and I think when you start scaling you have to compromise between the two, you have to create more clear, maybe more clarity around certain aspects and I think one piece that is very helpful is to have some common technologies so while people should still be able to use all of their tools that they want to use in our course, and also I should add in our course we used only open source software except Google hangout and in the first one Google + communities but we used only open source software or hosted software so we didn't pay for software, it was software that was

off the shelf available to anyone, so it wasn't like we built this incredibly sophisticated platform that's why it worked so well, it was, we used kind of the most basic tools but we did stick to a few tools for like we didn't say use anything you want and I think that was a very helpful for people and I think that's where a lot of people in cMOOCs get lost so I think sticking to a few tools, good moderation having some kind of check in points.

Who is leading the learning revolution?

There was a question about, is MIT leading the learning revolution to learn? I have to be very careful here. I work for the Media Lab, which is an institute at MIT. MIT does a lot of things that look very different from this and we like each other very well but I can't speak on behalf of MIT at all and MIT also does a lot of things that don't look like this, like MOOCs. MIT is one of the major MOOC providers, they've developed EDx and I think the people who are leading the project at MIT itself are excellent people. I think they have a lot of good ideas about how to change and improve education at MIT, but what we're doing is I guess kind of a little bit outside of the norm more than what the other people at MIT are doing.

How can we get the reflections and trends coming from Media Lab to schools?

And then there was a specific question about how does this example influence schools and that's a very important question. So we're doing some things but I think you asked the question right? So Learning Creative Learning essentially is a course for educators and it was kind of the back door into schools instead of going through the districts, in the US everything is by district, or by the principals, we said find the teachers who are excited, help them and then we'll infiltrate the schools, so that's one, building a community of people who are excited about these ideas who are in schools.

Scratch is another example where Scratch doesn't, isn't, Scratch's strategy so far has been to be out of school, people use it at home in the library and afterschool programmes but generally the better schools, and so the question now is how do we get Scratch into the school so every kid can use it and there are two ideas, one is Scratch Ed which is an educator community again using the educators who want to do this and supporting them, and the other one is creating curricula that makes it easier for teachers to take Scratch and apply it in the classroom so we are thinking about those things. Then there's one project I didn't talk about there's a faculty member at the Media Lab who is designing a new type of Montessori school, so he's not trying to get this into schools, he's starting new schools and he has 9 schools already they're very small, they're micro-schools they will never have more than 18 kids per school, 2 teachers and 18 kids, they run out of store fronts, so a store closes you rent the store and put a school in it and he's growing very quickly right now, there's a lot of interest, his strategy is why don't we just build new schools, which I think is also interesting.

How can we get working groups to work? Is leadership needed?

The question about group work is excellent and so there are lots of reasons why we know now why groups don't work. And actually sometimes groups are terrible because they have something called groupthink where it's almost like when the group starts getting an idea even when it's the wrong idea, the person with the right idea can't influence the group anymore because everyone wants to believe that the bad idea is what should be done.

But I don't agree with your solution, so I think there's a slightly different solution. You said there needs to be a leader and I would just say, I don't, I agree with that almost 100%, the twist I would make is that there needs to be leadership, but it doesn't have to be a leader it could be someone who we would consider more of a facilitator so someone who isn't telling everyone what to do, but just makes sure everyone gets to speak and kind of points out where the group may be having difficulties,

and this is exactly the challenge we ran into with Peer to Peer University when we first tried this, that some groups run really well if they had these natural facilitators. One interesting thing that we found is that it was often interesting people who weren't experts in the content who were better facilitators because they focused on process, they focused on the relationships they wanted to make sure everyone had a good time people who are experts on content often get distracted by what's the right answer and are we covering all the important points, so I think the solution is helping people become better facilitators in these online communities and at Learning Creative Learning we tried to, we tried to model what it means to be a good facilitator as much as we could, so all the conversations we're having in groups are open so you can see how we're dealing with groups. When we see groups producing things we always, we try to encourage good behaviour in a way, so it's, yeah, I think it's there's not like one perfect solution or answer to this, but you absolutely right to make groups work facilitation or other aspects of the group fabric that holds together are really important.

How can we certify the competencies acquired on collaborative platforms?

A lot of this online learning work attracts people who already have degrees where you, it's for people who want to learn more, who want to spend their time in these projects but who already have a degree and we haven't really cracked the next level where people who also want to do these things, but then actually the UOC is a probably a good example for someone, an organisation that has a lot of experience in this space but really at massive scale cracking this next community where people want to learn in these new ways, want to be experimental but they also need certification or some form of recognition so that they can get a better job or you know they can get a higher salary, or they can get a job in the first place, so I think it's a combination of a number of things, one is and these are observations that I've had in the last few years and I think somehow this comes together, one is, if you go to any community and you ask the people who is the expert for a particular aspect, even

if you go to a second grade, well maybe, a seven grade math class and you ask the students who's the expert in algebra, they all know so there's something in communities where communities are extremely good at figuring our who is good at what and we haven't found ways to use technology to make that easier, so I think that's an area, using peer assessment, peer reviews, who do you listen to, who are you into acting with, who do you go to ask a question, all those things can be tracked now and just surfacing expertise out of communities I think is very exciting space.

The second one is portfolios, so students at the Media Lab all get a degree, at the end we only have masters and PhD students, they all get a piece of paper at the end but really what they leave with is a portfolio of projects and a network of people, so the piece of paper is almost meaningless it's, you know, so we have a degree called media arts and sciences. I have never seen a job description that said we're looking for media arts and science graduates, so we basically educate people to be unemployable, but what they leave with is with these projects they've built which are often very interdisciplinary, involve very advanced technologies and they can show these projects and so if we can find opportunities for students when they're learning things to create projects that they are proud of and we make it easier to see those projects, then that could also be a form of recognition. Then the last one I think there's a big problem with the monopoly on certification in most countries and it was put in place for all the right reasons, like quality, you want to make sure that it's meaningful if you go to university and you get the piece of paper you haven't wasted your time. You want to make sure if you're an employer and if you look at the piece of paper you can trust the piece of paper, so all the intentions behind it are really really good but we've come to this position now where we don't allow anyone to compete like it's either you're an accredited university or you're not and all these other certificates are kind of second class or it takes a long time to establish them in the market or corporations seem to be better actually than others in establish them. I think it would be great to add many more certifications so let's not get rid of the university degrees, I think that university degrees are great aggregate signals for an experience, but why don't we

add many more and letting other people add more certificates and then letting kind of the market, and I mean the market in the best possible way, not in the American way, letting the market decide, you know, if the MACBA in Barcelona gives digital badges for people who have studied Catalan art for example, and over time those badges are respected by other people then that's great, right, like building an ecosystem where more people can create those micro-credentials I think would be very interesting and would actually help a lot of people who have experiences that fall outside of the more formal traditional education system so that's where digital badges come in and it's very unclear where this field will go. There's been a lot of work done already and as we were talking a little bit earlier, LinkedIn is a very interesting organisation, the space where, you know, it's not completely unfeasible that LinkedIn will become the global certification authority for all of your credentials, which, for, I would be a little nervous about if I was a university, well I work for a university, but if I was a university I'd be a little nervous about this, but in many ways it could also be an opportunity to allow new kinds of certificates but players like LinkedIn or similar systems, I think, will play a much bigger role in this space.

How can we introduce social learning into corporate production processes?

Some things are really hard to teach but they are much easier to learn. Or maybe even some things can be learned but they can't be taught and so a lot of these soft skills I feel fall into that category, where, if you create a context where people can explore or experience them they're not hard to learn. But if someone doesn't have them and you try to teach them and you say be more proactive or be more curious, it's impossible, and so, well, one thing and also the other thing is it's really difficult to do online, especially if it's not live video, you can't see the person, it's really difficult to get a sense of why are they not responding, is it because they think it's a boring conversation, is it because they're too shy, is it because, you know, are they even there still, I don't know, so using tools that are more live and synchronous for the online part, but then the other one is we're

doing one project now where we've started or we are about to start study groups in public libraries in Chicago, because especially for people who are struggling with this online world, who don't have the soft skills, who maybe have the motivation like they want to do something but they don't know exactly how and they are likely to drop out if they take an online course, having a study group that meets face to face, we think, is very important and so it's going to be an experiment where we're hoping to bring people together face to face and I think in those contexts it's much easier to first of all to get better at collaborating with other people but also developing kind of self confidence and, you know, some of the aspects you need to get to the soft skills and the last thing and I'm not an expert on this but it reminded me about the story I read about the industrial model in Japan where also the car manufacturers change the assembly lines and they created these little units of people who were in full control of their part of the assembly line, anyone in that factory could stop the assembly line at any moment, and they were allowed to move the tools and design their piece however they thought was the best way and it increased both engagement and motivation and productivity and workers became more motivated because they felt they had some ownership over the process. So it's this weird chicken and egg problem where on one hand, you know, we can't give them more ownership because they're not ready, on the other hand they'll never be ready if you don't give them more ownership so it's I think it's really hard, it's a really hard problem.

What effects does the place you live in have on the learning experience?

And then cross cultural I am not an expert on this but I mean the very simple basic ones communication, language, familiarity with technology, access to technology, like there's so many just just input factors that aren't even getting to the more interesting subtle difference on how people or why people learn, how they would ask questions, how they, I mean another one is I mean, how do you deal with authority it's a very cultural characteristic and it completely changes how you learn and how you might want to learn.

I still think that the 4Ps are a good way to learn in any culture, but I think they lend themselves more naturally to certain cultures that are, where young people are used to challenging authority for example cultures where young people are taught, so I lived in south Africa for 11 years before moving to Boston and I was born in Germany, my dad was born in Hungary, my mom was born in Poland and I just broke the chair I hope that's not on the video so there is a little bit of cross cultural background and I lost my train of thought now, but, I think it's an area that needs to be explored more in South Africa this idea of asking questions to the elders is very discouraged and so creating these kind of learning communities in a culture where asking questions is discouraged is much harder. But young people pick up things very quickly and so if you created an environment where other young people ask questions I think they'll pick it up, they'll want to ask questions but and also I don't think everyone should learn the same way, I don't think everyone should be the same way, I think we should all be different and learn in different ways and that's much more interesting, but there are no systems right now that will, you know, support all kinds of different styles of learning in some way.

Does the change in the educational model have to come hand in hand with collaborative learning networks?

I think we're still at the end of the first generation, right, so when we think about the fundamental new technology, the first generation is always difficult so we should now start to see really interesting experiments in my opinion so we're kind of at the beginning what I hope will be bigger changes, but then what you were talking about I think is really culture change but it's not technology change or just the schools, it's really a different understanding of why are we learning, how are we learning, what role plays technology, what role to parents play, what role does the university play and for me I would describe that almost like a new culture of learning and we're doing some things to support that process so one is people need to, so telling the story of learning in new ways

I think is really important and so we have this how MIT learns project is essentially a storytelling project and we're going to create animated movies that talk about how students learn at MIT, that's very unexpected but it's very playful and kind of it gives you a sense of the feeling of this learning, but we're finding new ways of telling that story so people can experience it. So it's clear if we write another report or an article and we publish it and, you know, 9 people read it it's not going to change the culture of learning. If we create an animated movie that maybe a million parents watch and then they talk to their children, I think that different types of storytelling are really interesting, different types of academic storytelling. I do, you know, I have a technology background and I still think that in some cases technology can enable social practices where people do things differently because they can now, that is much stronger then anything you could regulate or suggest or and I only have a negative example you now essentially when file sharing happened, sharing music was legal and everyone did it like everyone starting sharing digital files because we could and you know by the time it took the long so long to catch up and also it wasn't that we wanted to break the law it was that we wanted to share music and the moment you could do it legally and pay for it most people were very happy to pay for it and do it legally, but so my point is that sometimes you can come up with technologies that are so compelling that people do things in new ways that maybe there's maybe there's kind of this wave of users that will change behaviours, so I think Scratch is an example for that if we can get millions of kids using Scratch today they'll demand different teaching when they get to 7th grade.

And then the last one is a generational issue also there's some level of innovation you know one retirement at a time where it takes time for people to leave the system and new people to come into the system who are going to be in decision making have decision making powers who have grown up with the internet, they'll imagine a future that is different from the future that someone else imagines and so I think having more people there and I'm not suggesting at all that the older generation is a problem in this process I think absolutely not I think they have experience that needs to be very important in this entire conversation, but it's very dif-

ficult even for people at a very senior level to make these big decisions because if they don't have enough support in their companies or in their organisations and that support comes with time as more young people come into the kind of lower positions or junior faculty or students, you know the university can do things that the students will approve that would be very difficult to do 10 years ago so I think it's some of us unfortunately we don't work at the speed of the internet.

About the author

J. Philipp Schmidt is Director's Fellow at MIT Media Lab. Co-founded Peer 2 Peer University (P2PU), the grassroots community for social open learning, and also led the MIT Learning Creative Learning. Philipp is an open education activist, he co-authored the Cape Town Open Education Declaration, served as a founding board member for the OpenCourseWare Consortium, and has been awarded Shuttleworth and Ashoka fellowships. https://www.media.mit.edu/

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