

Scott: You're working on The Bachelor of Philosophy, the rough kind of program that you want to go through is to do a bachelor of Philosophy using only the MOOCs(massive open online courses) and open resources.

Jon: Yes, it's similar to your project that is sort of shocked when everybody's home and I need to talk to Scott Young and he's the only person doing it or has done it. But it is a 4 year degree and liberal arch university because mainly module app for 4-year MIT Computer Science Degree. This is 4 degree module with a major in Philosophy, in that case would be for your first two years you need to be certain distribution of requirements like certain 70% of courses need to be humanities, Social Science, Science and Math, then for your total four years in college you need to have a certain number of courses in your major so might be is Philosophies, also 10 Philosophies courses that which need to be taken at the intermediate.

Scott: What's different about what you're doing versus what I am doing is that you are using the MOOCs and it stands for Massive Open Online Courses and this is kind of the next generation of free University classes. What it was before was open courseware, where the idea was that Universities would be kind of just without really a lot of editing or tailoring to an online audience and just kind of scraping together what they were actually teaching in person classes and putting it up online. So let's just record all the lecture videos just start to finish, take all the lectures notes and upload them links to textbooks, copies of exams and papers, and it is really good for some classes. Some of the classes that I took are quite comprehensive and fairly close to being in the actual classroom. However, others really skanked and got 5 out of 15 of the lecture note in the link to text book and two exams and one of them has solution and that's about it and what I am seeing with your project is that these MOOCs that I didn't even do my project that long ago and was only like a year and a half ago that I've started. They really didn't exist when I started like they did the first that I want, just around the time that I was starting it. Now the fact that like how far it's come that you are contemplating doing the full degree just using these I think it's really impressive.

JON: That's a treat with the way you approach because when I saw the dates that you were working with them the first MooCS about tactically MOOC like things existed before end sort of writing is online, write around what you started. On the first year the focused largely on Computer Science courses but then they gradually expanded it with other areas in humanity where kind of piece together what happened in the course because you have chunks of them like you know the textbook, lecture notes, sometimes you have videos, sometimes you didn't see where to almost reconstruct what the professor was trying to do with the case of the MOOC classes, time taking and one of the advantage is the package is altogether right. You got a series of lecturers type to a series of assignments, tasks , papers or readings, they're a schedule laid out so there's some classes who were longer than other but every week there is a sort of allotment of things to do and I think the way you approach it is suited to learning style

always your learning style and other people's learning styles where your kind of going to be efficiently extracting information whether it's from text whether it is from notes whereas the courses that I've been taking which only appeals my learning style, planning to do some self-based courses later to have test out some of the other alternative to live free mechanisms today, would say one advantage now is if you do want to do this and you have the certain path just put it together for you.

Scott: Definitely. I haven't done that many MOOCS yet but I do a little bit of one course and get all the way through it and right now I am finishing one on Tedx which I really like the platform. It's start's really differently, it really feels a lot more like an actual class just for good or for bad that you have the lessons come out in certain dates, you have due dates for things, there's certificate at the end, and compare to what I was doing before which is piecing up to the other material it was really up to me to decide how I was going to use that and really justify how I was using it was fair in a way. That was hard on me because you are trying to pass the class and do the things but the same time you are also trying to kind of say that this is certainly what we have, this is a reasonable way of going through and emulate the actual classroom environment and then you have certain of outside people, and some people think that's fine, some people wants to nip pick. The MOOCS set it up that even if it's not exactly the things the in person class, they are set up from like an objective third person stand point. This is the way that you're evaluating it, the way that we consider it to be fair to evaluate this particular class.

Jon: There is similar to people who would have raised questions as to you approach of using this independent materials and with MOOCS there is sort of the same concern only written for the entire MOOC experiment because some people will look at a course and say that's equivalent of college course, and some people look at it and say it might be equivalent to college course in terms of the subject you are studying but the assessment aren't that rigorist so the papers you are writing appear graded. And so therefore you can really prove that you've learned as many as you would if you are in person class. The other way that you can sort of manifest by self-project is because there's aren't enough kind of formalized MOOCS to cover all the flaws of the courses that I want to take like extended beyond MOOCS and including things like iTunes U courses, and courses from all over technology like great courses like great courses to teaching company these are lecture only courses and people do bring up you know the question while actually just uttering the course right in just listening to lectures and you taking the course and doing the assignments to which I answer well and I took an astronomy course Life in the Universe Ohio State University Richard Pogge, the professor and that is recording real course that was 44 lectures, 45 minutes each that ended up 30+ hours of materials that's 2-3 times more lecture material than almost any other MOOC course I taken. And so I definitely learn a larger volume of material in that course and then the question of assignment. That is a real course so I can go to the professor Pogge's website find homework and assignment and like you do them then I'll grade it and then I automatically scored but their harder than the out of the questions I am being asked on my Einstein relativity course.

Scott: Right

Jon: That is a formal MOOC so I think it is less clear to say what you did. Or what I am doing, am I going to take a MOOC, or do an iTunes course, those are all equivalent of a college course you want. It is something that personally I judge primarily, did I learn as much as I would like a standard college course.

Scott: I think this is a certainly an interesting point too because we are talking about really were comparing this free online resources to actual university, like university that you have an admission, to pay tuition, that there's standardized board with this kind of things and there's a lot of critics out there who are suggesting that it is not the same, it does not count, this is just an fad or this is just going to be some marginal movement that's never going to really take educating seriously. Although, there are some arguments what maybe some of the intrinsically limitation of these are? I feel that it's so new that judging it based on how is right now seems to be just purposely ignorant of the ray of improvement that this online course materials have had. Like, your project, When did you start your project?

Jon: 1st of January this year

Scott: So, you started your project three months after I've finished mine, and the methodology you were able to use. Basically, one year than the next year was like using MOOCS as an example. Even if you weren't able to do the 100% the fact that was going to be a big basis of your degree where that is didn't even exist in the format that we're recognizing now with the major which is paying the universities. It didn't exist when I started which is only a year prior and I think it's foolish to say "Oh, well this online education thing is really a fad, and can't replace real Universities". I just think that it is a short sighted view point although I would say that one of the things that worse seeing because for both of us the motivation for learning our project was not to get accreditation, was not to be able to have a piece of paper that says "I know all of X, and I know that, and I could give that to an employer and they have high confidence that I know everything that I say that I know". In yourself you've already have had a career working there, you already have an undergraduate degree. For myself I already have a different undergraduate degree and most of my aspirations are on entrepreneurial were people are fairly they don't consider that much of formal degree process. So, I really see like bitch head being established in these courses are the people who are very interested in learning for learning sake regardless of what are the accreditation mechanism is ready. But I believe that will help us to established over time in a certain amount of legitimacy that if you know the people who are starting and completing this courses are people who are interested in self education that over time as they get better and crediting and making

standard, you might be able to say " I already have degree doing only MOOCS and people would not consider it to be just a made up thing", right?

Jon: I think it's a mainly criticisms against MOOCs. You really don't have access to professor, and you don't have the kind of access to peers that you would have enough, mainly sound entirely clear of the replacements for those social network sites or forums, provide those same kind of experiences. I'll be able to say they probably don't, they provide different experiences and I may not have the kind of sustain conversations in an online forum that I did in the dorm room session, intelligent conversations with people who know a lot more than I do because a lot of people taking these courses are older, they provide you the experiences, their international. Like what you've said, the whole flavour of what this is good as it look like is going to be not what you expected. You brought up a really good point about folks or kind of playing these are self-learners, or self-motivated learners. I just had an interview from Tedx who said about half the people taking courses are about to college age, which meaning they are independent learners and it strikes me that we have a place for 18 year old to finish high school and place to became educated the next four years between ages of 18-22. we also have place for people after college if they want to stay in school called graduate school, where you study what you studied in college only more depth and more specialized but there is isn't really kind of a socially normal heist plays for people who did what you did. Like you studied business in college and afterwards you thought "I wish I had the time just to study computer science or I study Chemistry in college" and years later I developed an interest in philosophy. I don't want to go to graduate school and spend five years specializing just one philosopher, I want to learn philosophy the way I was an undergraduate. I think at one possibility is that a new educational space might open up for people who are planning taking courses too was part of like lifelong learning and actually want the equivalent of a degree and what they want is a repeat of the educational experience of an undergraduate degree, specializing experience of a graduate degree.

Scott: This is something that really strikes me because I see two sort of main arguments against the kind of this new way of online education potential threat that has to collegiate' s. One are from the teachers, academics, and some professors who point to what has this limitation compared to an actual classroom and those criticisms to me always struck as me somewhat laughable because the way the criticisms is framed is that the university education model is some paragon of pedagogical virtue and everything else is lower than it. We already know studies about how people learn that the classroom format has not change in hundreds of years pretty much, it has not gotten up to date with technology in Science and how we understand how people learn how they actually function so the idea that this model is the best in everything else is some kind of poor substitute of it. It strikes me first is being ridiculous, it does not necessary says that MOOCS has a long way to go but when you cast the argument that way like how close can they replicate university, The question to me is maybe as an educational platform. Should we be trying to make it as close as possible that the University or should we be trying to overcome some of the limitations that Universities have because of the way that they are they are formatted?

Jon: TO be fair educators are currently conservative and I think understandably so because every time somebody decides to get a form of education, they drag the teachers through the latest thing right now, and it's going to be portfolio, it's going to be open classroom now, the new technology trend. Now it's going to be this new technology trends so I think they are taking a wait and see attitude, they are also some sense that in today's economy administrators will going to take a look at free Mooc classes wherein intensive Mooc class is in say "why hire an ethics professor when we can just have might send out from Harvard give our justice lectures and can just \_\_\_and great papers and sort of flip classroom but with the teachers relocated to more marginal activity. I think that it is legitimate concern and the reason I am less concern about it is I just don't see that kind of independent learning that you did or I did is going to be appropriate for all people but more and more people are going to college or think everybody should go to college, there should be a place for people who can take advantage of this new technology. There should be a place want to be educated outside the classroom like the uncollege kids who want to do through mentoring and experience those kind of things and there'll be a place for people who learn best inside of a classroom with sort of instructor in front of them kind of helping guide them through and just end up blend that in some point I would like to have more conversations of my peers real and one on one conversations about the subjects and studying in theory the Mooc model will lead to evolve to the point where folks who need that and find that which case kind of online components become just one relevant of a learning process that might some people do as a group as supposed to individually.

Scott: right, and I think that what we are seeing is just the beginning of really taking advantage of the medium that is offered by those of online Mooc courses system is that is kind of I would like you to when movies were on the silvers screen and later there was television and people really sort of medium of television compared to movies because it is just lacked all of these things that movies had television didn't have. But, now I would say that if there's a lot of tele shows compare to movies at least they are very different format, there is some people would prefer movies, some prefer a television show but the idea that one is necessary didn't fear your medium or the other, they have different strengths and there's sort of things you can do on television, that you can't do in movies and vice versa. I feel that there is sort of parallel with university education and MOOCS that there's a lot of things that with the technology are just only starting now to get exploited like as an example I am doing this Walter Lewin Physics course which is on a MOOC and it was really taking his actual MIT physics class and trying to re-purpose that material in MOOC format, which is great. But it is also like the in between the lectures that is getting to do a little quizzes, and to get your feedback, what you're understand or not understanding, and you are generating all these data. That is kind of data that in an online course that could be send back in the system. There's lot of things that I think the technology just barely scratch the surface of being able to exploit that really are in some cases hard to do in a traditional classroom environment that are possibly more difficult to do.

Jon: I like your movie and television metaphor because think about what would people do with television first, they tried to make little movies or they would film plays so they were trying to replicate another art form. It's only when television became its own thing that created its own formats like television news or the sitcom or etc. So, they created specific for the media where bolt of the move force that has been taken so far, for the most part all been excellent experiences; I've enjoyed every one of them but I would say that both of them have been the greatest strength has been the professor. In the video lectures there is fifteen mini lectures for fifteen minutes lectures versus one full hour lecture is basically a strong lecture professor who's figured out really how to communicate this material and the assignments are arranged from perfunctory they make sure I read the material to at least worse than progress. I got a lot of pre-graded essays but only because I decided I was going to pull out into them. I could write something in an hour and get the same grade as I did if I put three hours into something I didn't know about before doing researching things. So, that's the factor in MOOCS and essentially they really are still not a 100% but still most of resemble. Automated virgins of existing classroom experiences where things getting interesting are like for example they don't follow that format, they break things down into very small increments with kind of challenging assessment questions built into every increment just too almost every increment. You can't progress something in a class unless you've learned something before something new that comes out based training but they applied to their subjects which make those quite different than the course I have taken from course zero or red X. when Ted X course that I have taken probably we'll see interesting course I've taken so far was Greek Zero. it is an ancient Greek texts, in that case the professor is really scaring you towards a kind of deep cage with specific text we've spent the last week looking Greek pottery as it relates and in that case it is not a classroom, it is something that you really only can have either of the computer or sort of one on one session with professors. I think that's where the future lies, starting to create these new technology platforms as unique things that will sort of deliver key chain differently than being delivered other places.

Scott: The things you're saying which I think is particularly valid is that the new sort of Mooc platform, the standard for a valuation very wide like the consistency that " I am taking a classroom MIT, I can have a certain expectation on the workload in difficulty in what is going to be expected of me". One of the things I found is a bit of advantage of using the open course-ware when I did mine which it there is a disadvantage in terms of materials is. The material is generally less put together and poor but because for me I was taking a technical program it was sort of doing programming assignments plus exams was the reasonable validated basis that when you do an exam you might not be like " well, they didn't really have much material for this and I had to piece together textbook, it was a little bit hard but when you were doing the exam you are like some MIT students actually wrote the exam after doing the class that I know kind of overview so what they're not succeed at it or what they're not going to get their graded grade is someone who in the actual classrooms spent the full four months got to have access to all the resources that I don't have is that sort of up for debate. But the actual exam itself I was reasonably confident that they are just going to give me sort of watered down virgin of the evaluation to make me feel good that I did this but I didn't actually reach the standard which a different program. I haven't done

that many of the MOOCs, one that I've done right on TEdx which is from Lewin is comparable from the one that I did using the actual exam, they are very similar in their evaluation and so I feel when he was running this class was insistent on " working on do this ask the actual MIT class would be" So, little bit easier because they don't do exams under the time constraints and they all think just because the technology is a bit fickle, they give you couple attempts at the question but they are not multiple choice. They actually write out the algebraic formula for things and it has software for analysing it which I think is a big step up from a lot of programs that even people using in university. They are four answers in two of them were clearly ridiculous so 50/50 I didn't do these questions but I can get it right if you have the time,

Jon: I think you got two good points. 1. Is challenging lessons as they piece these courses together when you are working with MIT open courseware. This MIT full semester MIT courses were comparable. Somebody somewhere MIT decided that this Physics course comes full semester credit and this computer science course comes for 1 full semester credits so therefore the two courses are comparable whereas in the case of Moocs you have some professors who definitely want this course to be as rigorous if not more so as if full semester at whenever. MIT or Harvard so the course will be 14 weeks or 16 weeks in 4-5 hours a week of the material. The assignments will be as challenging as they can make them, given them the technology where there are some of the professors who clearly have something important to teach. I got to finish one course this property and liability course. It was very clearly a professor who has information about this as philosophy about the subject means a lot as many people to learn as possible so as result they don't want to create huge barrier and making it really difficult to pass the class coz you will like lots of people to take it and pass it. So I am saying that those have each one credit might agree that in some point some have to sit down and decide what this course worth versus, the other course is worth.

Scott: And in that generally something that I found very difficult to communicate when I was doing the MIT challenge is that the two groups of people for me that I saw. There's the first group of people who are completely blown away that these courses existed all that even it is possible to get all of the material from MIT degree to actually like hover the curriculum. There are the other people who think for some reason that it's like I've got an exact copy of every single class, and every single thing is exactly the same what's in MIT. Why did you do this? and it's like "well, coz they didn't have it and there's nothing that I can do about that" so that's a little bit frustrating that the people who are like who says nothing to do with what MIT actually doing, and then the people on the other hand who are kind of treating it like I am doing like MIT. But, just distance at like " I am not actually a student there I am just piecing together myself. So, I feel like while when we are talking about is just the fact that I have done this and you've done this but I don't know that many people attempted to do this. I think that's also a symptom of the fact that it's still very new and the courses are improving and changing rapidly. I think it will look back 3-4 years from now at least for our purposes for the self-education purpose that there'll be a lot of people who will consider trying the degree.

Jon: I think the test will not really be when you do this MIT material in one year or I do the sort of fun graduate of Philosophy in one year. It will be when lots of people do it in three years - four years that mean we are progressing and we can press the time frame for different reasons. I am doing this to learn about these technologies and new test teaching methods and I want to be able to say something about it this year. The attitude is to expose myself to as much of it as possible and so therefore I could comment on what is testing in this environment. Was it me by getting credits? So, I would say if I was doing this normal fashion of this kind of learning alone was the criteria and not sort of learning. Learning the subject and learning at the same time and spread it out over about 4 years but 2- 3 years and make sure that I spend more time every week on the forums that I go out of my way to create sort of learning meet-ups with local people to sit and discuss and, do all the things that just don't have to do at this point. I would say that's positive if I can do it in one year but other people could do it in 3-4 years because they started now by the time they are in a third year where's maybe 400 courses to expect from now will be 4,000 courses. It's only way to sort out the better quality courses from lesser quality courses and we have not gotten on how to proof that you've learned this stuff adequate. I think whether you see as a new challenge or a degree of freedom. One good thing about it is that it demonstrates if somebody can do it in a year, you will be definitely do in 2-3. What I thought regret about your project is that again looking at somebody who's not 18 and has to go a whole life changing experience and college is away from home etc. if you are going through that undergraduate level of education. We had a college experience, we just want to learn and if you just want to learn you can do it quite efficiently. Not everybody needs to do it as efficiently as we did. You can't do in less than four years and had been the only thing you do.

Scott: I think that is totally true and the other thing that I found is an example like doing the MIT degree in one year, I would say because I don't know all the MOOCS that you are taking but it sounds like some of them are a little bit are not as rigorist as an actual class. They are a little bit lighter than an actual class that you've found for that particular subject but a lot of the classes that I've taken at the end of the day I had to write the exam that I did at the end of the class that however I got that point. I did half the kind of have the same sort of knowledge otherwise I would fail miserably like the MIT exams that are not known for really being easy. And so, I was really that whole year I was working like nonstop to try to reach this deadline but I think that if I have wanted to do part time, and just to do it in my spare time maybe putting in 10 or 15 hours a week using the same methodology that I was using before but 10-15 hrs. a week I probably could have got it done in like the 4 year time period and then still had another job or run my business and not had a huge interruption in my life just having something that I am investing part time and get a similar level of result and so I think that something that might have been appeal more to people because that was the biggest question that I got when I finished it was like how did you take a year off to do this and to me it seems a little crazy because people take 4 years off to do the degrees all the time. That's is not unusual thing, I just only took a quarter of the amount of time off for my regular life but it is a question people have because if you are going to use something in-conventional and in particular if you are going to do it with a bit risk to it that it's not as certain that



after you spend this one year that you are for sure you are going to be getting a piece of paper that you can say that you have a job then after .Maybe you don't have an access to\_ or you are already working a job and you don't want to quit it. Using this material to go certain of a part time route to do the same kind of thing but in a part time setting make sense for more people than what we are doing right now.

Jon: there is a part of the culture that is very popular half the people taking a Ted Ex courses are people your age and older. Great courses had been selling on CD before that there cassette tapes so those were popular for decades. So, there is a culture of adult learners who want to have access particularly to these undergraduate level courses. I think the next step would be people want to do more than listen to a course in their car like I used to do, listening to courses versus music. The next step up would be saying that these actually whether just a MOOC packages exists or will exist for some of the new kind of materials that will build up around whether to iTunes or other some sources that these will build up to the point where if you done number of classes then you would an undergraduate program, you will have equal level of undergraduate degree. What's missing in that this point is we haven't talked about yet but just how you prove. And the college setting prove it because you passed one screening process and then you sensibly passed another series of smaller screening process in each and every one courses called tests or papers, homework or assignments that you got to the end of the process and most employers don't look at your grades they just look at the fact that you have a degree, or a diploma and possibly where you got it. Whereas, going the route I am going and can at least say that you passed the MIT exams, and took 2-3 courses and those courses has a lot of tests and there's a lot of assignments and I did a lot of reading, I did it all but I can't tell you that every piece of it was challenging as what I had in college because it was not.

Scott: Right, and I think that you see point which this idea of signalling which is something that as I said there were 2 sort of main critics and one is that the pedagogical critic of these MOOCS are not teaching people as well as colleges which we discussed sort of the evidence and support of that and all of some evidence against that but the other argument has nothing to with that. This is something that I read some blogs and often there economist who talk about education and their prediction is these things will fail because people are already going to school not for educational reasons but because having degree has some sort of signalling power to it that it shows that college had to go through ignitions process which is already filter a lot of people who they don't want and you had to go through a program which shows that you are at least reasonably intelligent that you can conform the social norm that you have. These kinds of things that they are signalling certain qualities about you, a and their critic is that these MOOCS are not going to be able to replicate those signalling courses that we saw because the reason of no admission process their isn't sort of your not paying the same of amount of conformity which is what supposedly these employers are looking for. It's really hard for me to really comment on this because I think this is a complex issue but I think my points are first that I feel that were in a position were already in a position were starting to, the college degrees are become more valuable because we are looking for more knowledge, professions, more people are working in these industries but more people are joining

college and the people are sort of a margin. The people who are maybe not the kind of person who should not be going to college, maybe the kind of person that the employers don't really want with whatever skills they have from their college degree are really having a hard time finding jobs and so there's a lot of criticism kind of it. College has becoming extremely expensive and maybe out of touch with the employment demand. To me that am almost courtesing that maybe the question is also whether or not college is still simply exactly the same things again. Maybe it's signalling the same things in some industries but not others with some degrees and not others. I think it'll be interesting, I feel like the signalling argument that human society's very fluid if a lot of people who do these MOOCs and do self-study course maybe it doesn't signal the same thing in colleges but maybe the signals different things like I know that after I finished the MIT challenge when I was writing about it I got a few people who are saying like HR representative said software companies were saying " Yeah, this is exactly the guy we want to hire because he is demonstrated that he is intelligent and can learn things on his own without a lot of guidance and who is someone a self-starter and so that would be kind of person that if you brought into team and they are like, you need to learn X they would know that I will be able to do that because I would have kind of initiative where someone who know spending the entire time just following the rules and didn't have any kind of way of working around things if the path wasn't laid out exactly for. Maybe he's not the person they want so I think that it remains to be seen coz not enough people who have really done in a large scale to know whether or not is valuable but I think it'll be interesting to see whether or not there's different signals, reasons that people might want something who has this kind of degree as supposed to more traditional one.

Jon: I think the test will be when evolution back I wrote about the oral arguments that you mentioned. In fact a lot of the property liability course I took which is lot of economics course which you can demonstrate this material to immediately applicable to your doing if I can plan to touch on one of the subjects I study in every couple of weeks to apply for this project itself but the economic arguments I think are very strong and compelling. There is a reason MOOCs are free, right? Perhaps it because it develops as a cultural norm that things should be free like open software sort of developed in that era of knowledge, should be free but if you take a look at what people do pay for the wrong learning they'll pay \$2,000 if you do the math and divide the tuition by numbers of class you attended it'll be \$2,000-5,000 just to take the same justice class that I after that Ted x. Same modernization class I am taking in that course era. I am doing that right now, I pay whatever thousands for it back when I was in college that I pay nothing for now. But I do pay \$30 a month to subscribe to a service because of the video lessons and I am using software, and that is how I learn to use Word Press, podcast. People will spend money to train themselves that will further their career or con-generate potential. The example I used if you go to mutiny site, which is another kind of side where anybody can create your own MOOC and compels that their courses like in Greek History their courses in our history. There are courses in blog, literature, they are all free, all have about somewhere between 500 or thousands of people who wrote and you got the course in excel and that is \$99 and it has 35,000 people. So, people will spend money for training but most spend money to learn things that could further under career, at the same time people taking whether courses they are spending 4-6 or more hours a week. So it seems to be we are

ready to transfer money and the time in using the minimal voyage, that's a lot of money. We see that people like spending money on one thing and that under-time on another and spend the money to improve their career and money making prospects or spend their time to make they better intellectually.

Scott: I think that is not even always struck me to instead I like that a lot of these new courses are free just because part of the mission or the philosophy was that its meant to make education accessible to people who were didn't have access to it. Like if you are from under impoverish background you could still access on all of these things and still educate yourself. I don't know that's actually what is happening, my suspicion is that its already educated people who already could afford it and spend money on these courses of the one's taking it but that's the side point but I do think that for me that it is the idea that education should be free or that it shouldn't cost anything. I feel like there's definitely some noble aims in the courses that I like to develop but I think from the average person or the actual person going through it that if you are going to spend a hundred hours doing your course if it one of the options was pay \$200 for this course, I would totally pay the \$200 course if someone were put together the materials and it was high quality and well done and that kind of thing. I feel like the low expense, the low cost nature of this education is the fracture because I think that universities have to a certain extent kind of monopolize the educational environment and so that aside from what you are talking about which is learning their specifics skills like learning excel, that is something that would pay for their self to do that. The courses that were talking about here is the university courses there are often way out of proportion but the cost that you could deliver an extremely high quality course for online. I think some of the really prestigious institutions like Harvard and MIT are putting the map for free almost kind of because they see as branding it expense more than anything like them like having lost their high quality courses up there are just sort of spreading the MIT or Harvard reputation around the world and so charging people for it just as not worth if they can increase exposure but in the future we are going to see also some paid courses because I think that if some were to put together really high quality course that had some of the things that we are talking about to define educational outcomes and it was in a subject that a lot of people had expressed interest in. That kind of thing people would want to spend money to invest in, so I think that we are going to see both the rise of free courses and the paid courses.

Jon: I am guessing actually before that we are going to have a sort of high branding and we have it right now. You can take certain courses that I am through a sort of credentialing and process review by primarily through organization by American Counsel Education (ACE) which review courses and think this is worthy if you are a member of the organization and students come's up to you and prove that they have taken the scores. It is worth it for you, and could give them an hour of creditors or 2 hours or 3 hours of credit and that's pretty very good for a program to certainly years ago so it is useful kind of level or certain of how these courses will relate to each other. I think it will end up being use for more but what's happening is you'll pay the MOOC fender a portion to the credentials having taken the course, you'll pay ACE a certain percentage or few dollars to get transcript, and you may need to pay

your university some processing fees. That will creep up and which was 20 years ago or 30 years ago is a worth it to spend \$500/\$600 so that you could take a course outside of school. Well, maybe not especially if they credit \$1500 in school. This is the reason why we are having this conversation because college has gone so outrageously expensive, right?

Scott: Yeah

Jon: Sort of 500 of a course to \$5,000 a course, to the point where people have to have alternatives. People looking for alternatives and might be using those alternatives so could they can shrink their college spending for 4 years to 3 years. I am using these resources to take care of quarter of the requirements for the last money. Like you and me does it all for free and just let the market decide if they have some value to it?

Scott: Right, I think what like you also been blogging about your project and I did that extensively when I was doing mine as well. I think one of the advantages that I had so I don't know what kind of presence you are working with online before you started but for me in some ways compare to typical MIT student I probably have a little bit more of an advantage than a typical MIT student because that I have this extensive blog that if I was serious about getting into software development programming I would have a lot more access than an MIT student would have just with being able to have a large blog and having a lots of people being able to look and talk about what I am working on, whereas I think that is some of the difficulty for someone who doesn't have leverage, can't leverage that openness is that if you are submitting your resume on a stack of papers they clearly my education is going to look inferior to someone who actually went to MIT or someone who even went to get a computer science degree from a less prestigious school. In my experiences definitely going to be inferior to that is going to be that this guy doesn't have this list system in the other pile. And, so I think that isn't nature handicap for a lot of people if you are going through this kind of like that very first bottom filter where your submitting resume isn't doing that kind of thing. But, I also know a lot of people that they are using more informal channels to get their employment. So they are using their network and their sort of "this person is good and getting recommendations and that kind of thing", and that can be hard when you are first getting started but I know a lot of people that after they got their first few jobs they very rarely have had anything more than informal interview and informal resume to process because what their names wasn't that but their experience was carried so much weight within their circle. I think that for those kind of people this form of education is almost better because you could have acquire kind of the knowledge you want without having a jump though all hoops and at the same time you are not restricted because if you actually speak to someone and I know someone who is hiring at a particular software company I could very clearly state what kind of my skills are, what I know and they would be able to verify that, I just have to get over that first hurdle of actually talking to them.

Jon: Oh yeah. I think you hit on it because it is like unconventional education. People who go unconventional education pathways are going to have unconventional employment pathways also.

Scott: right

John: and, we talked before about taking one year off to do this versus 4 years. The way to describe to people is if I wanted to comment on online education the logical thing to do would have been to go to graduate school and get an advance education of Masters with PhD, and spend 4, 5, 6 years whatever time it takes to get a degree of philosophy or one of these other subjects and then would I be one of many people with Master's degree for PhD and philosophy?

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Scott: right

Jon: whereas well done and I thought I was the only person who have ever done this.

Scott: Sorry to hear that you are scared Jon

Jon: So it's only the two of us so therefore then being with another person with an advance degree unconventional becomes more conventional. Our resumes will not get to the decision makers were looking for people with the degree in computer programming for example or only companies with the master's degree because we don't have them. The person the first past is not the decision maker, worse is the decision maker company like somebody in the Philippines whose job is to throw all out the resumes that don't have MA but it doesn't matter right because the way you open up the opportunity is going to be through the connections you make through doing something interesting, doing things that are a bit interest you to the context you make, the conversation like this that happens. in that case yes somebody who is worried about how is it going to look on their resumes when they apply for their first job after college and they should be able to go to college.

Scott: I think for someone who is this type of path on what we are doing if we are looking at who would this had this most economic benefit for so forget just the whole learning for learning sake kind of benefit or you're interested in the subject which I think probably the main reason. But if you strictly looking at

the economic summit and we are saying you "you want to get a certain amount of education because you believe that educational of that knowledge will further you in your career". For example and like you were talking about the being able to think about the economic signalling, are you just because you get the property and liability for expecting there is in a lot of these classes there is direct kind of practical component to it. Maybe it's not, they are teaching you excel skills but in just being able to think through things to be able to organize your thoughts around certain ways of thinking which are difficult to train but once you have them you can think better about those issues and so I feel like the people who are getting the most benefit are going to be people who are the top performers, people who are doing really well. The unconventionality of whatever you are doing is not going to hurt you as much as someone who well, I did it because you I was a marginal candidate and I could not get any university. I think that both well for the long term potential of online education and signalling because if you see people who are sort boasting about this who are trying to do projects like this and actually putting it on resumes if it tends to be people who are exceptional students that didn't want to deal with like " I just don't want to do four years, I just want to get it faster, that's too slow for me. I am hoping that is going to lead sort of long term of positive signalling about group of people is supposed to " I did this because regular university was too hard and I don't have the intellectual heft for it" or something like that. I feel that in the long term that would probably help people who are wanting to put this on their resumes or do some project like this if what it ends up signalling is that you are intelligent and self-starting as supposed to being a you don't fit in the system that we've created.

Jon: Right, like you are dying to work in cube. I guess the only thing after that is I have chosen to go down this sort of humanity's route studying philosophy but even when I went to college I studied chemistry but there's a lot of liberal arts in that program too because I went to a liberal arts college. I think what the challenges that conventional education is facing this are becoming verbal occasional right. The number one major in college right now is business.

Scott: Yeas, I studied business.

Jon: And lots of other people did to, lots of people studying computer science and we need more business people, we need more engineers, computer scientist, we need all of those but I think people would be better business men, computer scientist, etc. if they have more well-rounded, understanding. I started business as well out of shortly after college, I didn't have business experience and programming experience but at the same time I did have Liberal Arts experience so I developed ways of thinking about the world. I developed sort of the sense of being aesthetics; it could be applied to products. We have talked about Steve Jobs learned in college but it was exposed. He was surrounded by these liberal arts ideas and concepts and programs and I think would make me very sad would be if it ended up that sort of free online university gets so directed towards to the new industries. Hi-tech entrepreneurship etc. that we kind of lose side the fact that all that needs to be informed by critical thinking skills and

understanding culture, and all that comes out of liberal arts degree So, I am hoping this will lead to a resuscitation of an interest of liberal arts because that's one thing that will really fonder or struggling anyway in a conventional college these days. Competing against new facilities for the business departments, computer science department.

Scott: I think that MIT is not very much Art pro .Arts collegiate is a sort of Math and science school and the thing that different. I guess I found valuable in doing the MIT education, I did it in full and didn't sort of stripped it away to just the part that part that I wanted to do, I said no I wanted to do the close as possible the full experience it was isn't unfortunate that the humanities and arts classes were the ones that were like I couldn't make to fit the criteria I have like they didn't have any material I might really need to spars for that so I am thinking that's something that I'd like to do more of now. Now that I have finished it, but if you go to an MIT or if you do the MIT computer science sort of program you get way more bread than a program that would typically have and I know this because I know a lot of programmers and I have done programs in myself is that the entire industry feel like looking at vocationally what kind of matters is hyper-specialization that you really narrow down to being able to do X extremely well. I think there is value in like obviously you don't want to hire someone who is going to kind of second rate, and everything you want to hire someone who is the best of the thing that you are hiring them for. But at the same time I think that it is a bit misleading because there is so much change, industry, and maybe you'll switch careers, maybe you'll do something like that and so you don't want to just be this entirely narrow person of only narrow's specialization you know nothing about other subjects and so the MIT program I really appreciated because in order to get the degree you have to take two classes in physics, chemistry, biology, mathematics, humanity courses, like I ended up spending a lot of classes which not really that related to computer science like I did number of economics classes, I even did about education. So, like I was a little deficient on humanities courses because my criteria of using the final exam was really hard to apply those MIT material but I think in the future that is something that else that you could do that this idea that you could do a degree not just to learn something specializing in their skills but have this kind of foundation amount of education about a lot of subjects so if I later wanted to learn psychology or wanted to learn Greek history or these kinds of things that you have a strong based in a lot different subjects you don't just know "x" and you have to relate everything to x and really understand it.

Jon: Yeah, I think there are only two skills that never go a lot of style. How to think critically and how to learn So, if those can be instilled in more people ideally the younger and younger age then there will be more people available to take advantage of one of these resources that what they told the courses like your using MOOCS like I am using so just to extent. Friend of mine is an educator I thought when he heard on what I was doing he said that it is great that this online material best for somebody who needs it at least. You did find an undergraduate, even if it didn't learn the stuff we would have found. We have to increase the number of people who really take advantage of this material meaning they are not just able learners but hungry learners, they want to learn that they're just not assignment doers and grade

gathers but they are thinkers and critical thinkers and problem solvers. I think it is going to be like the free education options we've picked on everybody but maybe right now it is only for 1 1/2% of the population but if we could somehow turn that into 5%, that is 100 of thousands of kids eventually billions of people who will benefit from this and the 90% would benefit from other universities spread out to different but specializing. One said learning style are top than the others so I just don't see as a either or this sort of part of the menu and it is mostly applicable to lifelong learners but that is fine because they don't mind if it's a working progress, I don't care that my professors disappear three times in the same day or over a month because the material learning is fine. But as time goes on you'll get to find production quality of that the pedagogical will be developed the tools will be more and more improved to do the assessments by the time. There are more high-school will soon thinking, this is the better option than spending \$400,000 for college and try this or somebody who is like you and me. I really want to learn history like I forgot to do when I went to college to that degree that this stuff will be there.

Scott: I think that's really a good point and on that note I'd like to thank you for coming on the call and having this discussion with me.

Jon: Ok, thank you so much and I appreciate it and I will look forward to continuing to hear what you do

Scott:Yeah

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