R: Uhm , so this has never been done before… we just did our best job to get everything sorted… so… it would be really interesting to get your feedback on how things went… like what was good? What could be changed for next year? So… we’ll just kind of do it chronologically- so proposals-

M: okay

R: so how… the proposal was very open?

M: yeah

R: So what did you kinda think of the proposal process?

M: It was… it was nice because the open end nature of it made it easy to think of ideas and we weren’t particularly restricted to one part.

R: yeah

M: But the difficult at the same time that there was no inspiration or anything to draw from in the first place… so… I spent most of my time creating that idea, refining it with my friends

M: hmm

M: Like… could this be complicated for year 8 children? Would this be fun? And so on… so… while it’s… it was easy to make… think of ideas but really hard to refine them.

R: Yeah, almost like, knowing would a year 8 be able to do this? How did you find that, trying to make it so a year 8 student could…

M: I tried first to, see how my other friends who aren’t doing computer science would find it?

R: hmmm

M: So like my girlfriend isn’t doing computer science right now, so I showed her some of things I was working on and said “if I were to give you this without context would you be able to understand what I’m trying to follow”. So that was one indicator, so that, this would be understandable for somebody that’s never done Computer Science before…

R: Yeah

M: But I don’t think that… that was the only think I could do, because, people who are older might be more able to understand stuff easily… whereas I wasn’t able to test it on anybody younger, but it seemed to work thankfully!

R: It’s a good idea! How did you… uhm… how did you hear about the project?

M: I heard about the project through emails sent to everyone in the school

R: Yeah

M: and then throughout some of our practical lessons we had some stuff that we did in our spare time, so that kind of drove home what this project is, what it’s needed for…

R: Cool! So then you had your proposal, did you manage to do… what you’d planned? Or did you have to change some bits when it got to the lesson?

M: I had to change… a lot of the presentation on the fly. One of the key difficulties was, the… the [CLUBA] one was an hour and a half, but [SchoolST] was an hour. So I often had to make different materials for each…?

R: Yeah

M: And then edit that on the fly, and then, uhm, which was useful because if the kids from [SCHOOLST] got ahead then I would use materials from [CLUBBA], and the other way around too. So… the classes were smaller which meant that I could teach everyone more… more detailed concepts because I could just go one-by-one, but with a classroom of more… how can I try to tell them all the information, all at once, without being able to teach individually?

R: So your ideas prepared you?

M: Yes

R: So were there any challenges, like… any particular challenges outside of the lessons, and how you had to change them on the fly, were there any big challenges that happened in either settingup at the school, or at the [CLUBA].

M: I’d say mainly two challenges that happened in both. One was materials. So there were other problems already because from the first lesson I could see that some, if you were sat far a tht e back you wouldn’t be able to see the screen.

R: Yeah

M: So from then on I discovered more major problems, like some of the concepts were… perhaps underdeveloped. So they wouldn’t be able to be able to be taught straight- I would have to use metaphors, for example, like Boolean. Like I got this idea from [TeacherK], like you could take your shoes on or take your shoes off-

R: hmm

M: To show them the difference between one and the other, and sometimes the other challenge was just engaging with the class. So classroom engagement was one of my hardest things to tackle during both [CLUBA] and {SCHOOLST], if somebody starts talking it spreads like fire and everyone starts talking. So often… not shouting, but assuring how can I get everyone to listen at the same time… I felt like I had to rely on the teacher for that

R: And that’s okay, that’s why teachers train right? They have many years to know how to manage a classroom.

M: Yeah

R: So don’t worry too much about that, about having to rely on teachers for that, because that’s kinda how it should be. You shouldn’t have to expect to hold their attention the whole time!

MM: Yeah

R: So we did a little bit about classroom management stuff, do you think a little bit more would be helpful? Like, the stuff we did on that training day?

M: I think the stuff we did on that day was incredibly helpful because… had I gone in, without any…. Kind of… I think I would have been torn apart. It was really hard doing it. I think at the same time, having more than… would be helpful as well. Actual engagement was… I think was the hardest thing to tackle. Presentation and stuff was something… I don’t know… either on the fly or any time I wanted to, it wasn’t really hard to change the material… It was more about how could we engage the students with the material throughout. One thing I think, maybe helpful… Is showing… how classrooms might actually be like? Like… [muffled] because from the first lesson I didn’t feel like I did good but second and third I felt like it was much easier because I knew what to expect.

R: That’s really interesting, because one of the- a couple of the teachers, have brought up, is maybe about doing like an observation lesson.

M: yeah

R: So do you think that would help, if you just had a lesson where you were a classroom assistant rather than the leader of the classroom?

M: I think one observation lesson would be completely helpful, because I think if my first lesson... that was… although I was teaching it, it was more like an observation at the same time, I was learning what each student ability was, I was learning how they were getting ahead so… second and third lesson I was targeting material to students who would probably far behind, who were really far ahead, because I knew a lot of the classroom would be more…

R: Yeah, that’s really cool. One of the thing I’m really interested in, in a research point of view, is… about… so computer science is a very technical subject.

M: Yeah

R: And kind of, no matter what you do, if you want to work in it, or do research in it, at some point you’re going to have to explain very difficult concepts to people who don’t understand

M: yeah

R: so I think in this, you’re kinda getting the opportunity to take all this knowledge you have and then share it with teachers, share it with kids… do you feel like that sort of thing that you managed to achieve, that you managed to… that you felt you got from this process?

M: Yeah, definitely. One of my secondary aims was not just to teach micro:bit, but also just to teach underlying foundations of computer science so… one nice coincidence was one of my pieces of coursework was a literature review, and I thought since I’m doing micro:bit, I’ll do it on pedagogy and lit reviews on computational thinking. So once I found out about how computational thinking can be really helpful, I wanted to take that forward, and I wanted to focus on… while teaching the concepts, how can I also teach them to mainly do abstraction, decomposition, problem solving… so throughout the third lesson I was asking each student a lot of questions, like “what do you think you need to do to do this?”, “what do you think Boolean is?” and so on. And uhm

R: Yeah

M: To them, it was more like a quiz, to them it was more like had they been able to learn this stuff. One thing that I think was really helpful is that everyone student- some students weren’t able to do it all, but they all had the same idea of what Boolean was, and this is what functions are… and they understand for example that the function, it would take all this code in a separate way and breaking down the problem and so on. Thankfully, it was good to know that both my primary goal and my secondary goal was achieved

R: Awesome, that’s really good to hear! Do you think there’s any other kind of skills you think you learned from the process?

M: Well.. communication? Because it was really working on how I engaged with people at the same time, and I would say… just adaptability… because I was adapting all the time to any changes in the classroom. Like, in the third lesson, I don’t think radio was working to its full ability-

R: It can be a bit…

M: So we just changed it to be… so instead of maybe radio, we can attach speakers to this…

R: Yeah

M: And then what they did, the speaker would give away the fact that they were a person who’d been- instead of the radio. It was definitely something I could use, but in ten seconds I might have to change the entire idea to fit that moment in time.

R: Yeah… cool… So just kind of, one thing just popped up in my mind there. Had you used the micro:bit before this process? Had you seen or-?

M: Unfortunately… not?

R: No, that’s fine!

M: So for me, the micor:bit was a new step as well. I hadn’t seen one or used one before, primarily the only thing I’d seem similar was the raspberry pi, so it was nice to have an introduction to the new technology

R: because I was thinking maybe, uh, it would be nice to do some kindof workshop that people can come to and try out the micro:bit, learn what it does, because I think there’s a lot about “make some crazy ideas”, but not knowing enough about what the micro:bit can do?

M: Yeah

R: So what do you think, some kind of workshop, maybe on a Wednesday afternoon would maybe help?

M: yeah I think so, I think if you want more people to enter for this, and having students to…not just develop a classroom presentation but also learning about a new technology they might not have seen before… I think that was one thing that kinda held people back. So perhaps working on what the micro:bit can do, some of its functions, would be helpful? It might… uhm, show the other people… like it’s not a mystery to be feared, it’s not something great to tackle, because once I started working on the idea…

R: Yeah

M: it was kind of a straight up take of I knew what to do immediately, it was easy to handle.

R: Awesome, uhm… timeline? Blasting through all these questions! [laughs] So, how did the timeline work for you? So, from… being introduced to the project, preparing the project, delivering your lessons, did the time fit well? Were there any issues with the time? Or…

M: Timeline-wise it was genuinely okay, but there were a few hiccoughs on the way. Just last weekend, or a week ago, I had a problem because my coursework is mostly coursework based and going into exams, it was often difficult to modify the presentations before the lessons, because I also had a deadline due that day..

R: Yeah

M: So it was a little bit, toward lesson two and three, it was a little bit too close to exam period? Maybe moving it a little bit up and closer might be better? Although mainly I think just starting the timelines a week or two, or even three weeks before might be a bit more btter, because it would leave a much bigger gap between the end of the lessons and the beginning of the exam period and coursework…

R: Sounds good to me! One of the things I was thinking about was introducing the project in say… December? Or maybe even late November, being like “here’s a workshop, think of ideas”, have the submission be in the Christmas holidays and then people can start working on it after January exams?

M: yeah, I think…

R: It’s difficult, because if you think about the rest of the time. October… is a bit early, Novemeber is still maybe a bit early but maybe okay to do a bit of preparation, maybe a workshop, maybe some kind of engagement stuff? You’ve got December coursework, January deadlines, February new things, March holidays…

M: Yeah

R: April and May… holiday and exams and deadlines and… trying to think of where it would fit best.

M: I think maybe, initial exposure in like November… with the idea that the deadline would be due… maybe a week or two after the exams?

R: Yeah

M: So that would leave a tiny gap for them to actually do the presentation, because in November they’ll have the initial idea and then work to define that. And then from that point, start on it…? Uhm… I think that might, unfortunately intercept with the- the- holiday in March though?

R: maybe? I’ve not looked into it loads, I was just trying to figure out where would be best? If we did move it, when would it be best to move it to? Could we move it then…?

M: Yeah… Either way though… Even then, this more like mid-[muffled]. I still feel like it was really easy to handle, because…

R: hmm

M: Because I did a few presentations and I had a really good outline already and it didn’t really matter about deadlines because I wasn’t really working in its entirety, I was just adding a few slides and uhm… so, would… it didn’t really interfere it was more like… a nitpick, if something had to be perfect.

R: Yeah, that’s awesome! Uhm… my next question is about support. SO that’s like, support from like the teachers you worked with, support from the BBC and support from me. So how… do you feel like there’s anything more that could be done? Like, by the teachers could have done to help you prepare? To deliver things?

M: Uhm.. I’m not too sure. I think teacher-wise… then that… maybe… what might help is maybe a description of what the classroom is like?

R: Hmm?

M: So… uhm… Say like… this part of the classroom, or “this classroom is middle of the-“, “they struggle with X, Y and Z”, “they do well with these parts”. I think a general description of what the classroom can do, cause if you can sort of understand… maybe they failed to understand perhaps? Even with other subjects perhaps, so [muffled]. So like, in English they might struggle with stuff, then maybe problem solving? Or something they do a lot, like decomposition? But again, but again it’s a nitpick-

R: Don’t worry about the nitpicking- it’s, if we could make the ideal CLIMB scheme, what would that be?

M: S-

R: -so-

M: -yeah I think just a description would be a help, because. uhm… it takes a lot out of the first lesson, so lesson one might… be well... I was teaching… I was just-I had-, like “these few are getting far ahead, I need to make extra materials for them”

R: Yeah

M: “These students are having – having difficulties and they need to be helped out individually”

R: Hmm

M: At the same time, I was trying to understand all this class, and they having problems understanding Booleans, but they were having an easy time understanding functions

R: yeah

M: and things like that.

R: Hmmm. So what about- do you think there’s any more the BBC could have done to help support you?

M: Uhm… on the BBCs end? Uhm, I think mainly just having- so… this is kind of the first time this has run…?

R: Hmm

M: I don’t think it’s been that bad, but maybe next year… presenting students with… stuff they liked from last year? Ideas they found really helpful or that they thought was really successful? Looking at that in more details and giving inspiration and stuff, and one thing- I’d be glad to do, is to share everything I’ve done with the next iteration.

R: yeah?

M: Providing everybody with the slides, so they can be helpful, and see what parts they didn’t find so good, and so on. So having something with tips and tricks for them, on how to…

R: Yeah that would be really cool! The idea is that, everybody is… everybody would like to contribute everything they’ve done, any worksheets, any… presentations… and then, just a really short explanation about what went well, what didn’t go well, and then package those up and then the schools can have a look at them, and then schools can look at them and say “oh I like this resource, and I like this idea and that idea” and then they can deliver these resources that have already been done, or they can make their own from what’s there, and then just help support the different schools in continuing micro:bit stuff. SO I’m gonna send an email about, probably after all the interviews , asking for that. So uhm…. Next year. One of the things I’d like to propose to the BBC… is around, sort of the beginning? So beginning with the proposals, is how the schools and school pupils or… I mean, including like [CLUBA] as well. So what they would like the lessons to be about? Not necessarily the nitty-gritty, but like “we want to do something about Boolean logic” or “Something to do with problem solving.” So they can give something they’re interested in, or something where they’re at in their… in their education?

M: Yeah

R: and then the kids can have some involvement, like they can say “we want a lesson about…-“

M: Yeah

R: “-spaceships, or why planes don’t crash into each other.” Something, like, an interest that they have or a question they want answered… or something they find engaging…?

M: Yeah

R: Because I don’t know how much Dr Who stood up- Did your class know much about Dr Who?

M: I don’t think they really knew much about it really, but then again, the stuff I taught, the stuff I was using… because I didn’t watch as much Dr Who… when I asked my friends “What monster can shape shift?” they said “Oh… the autons were introduced in the 1970s” but the Slithereens might have been better, I made the mistake.... But yeah… I think… the idea here it would br really nice to have, because with Dr Who, you’re limiting engagement to the few who are watching Dr Who in the classroom since it’s not a popular show, whereas it’s something that the entire classroom want to see, you’re gonna have a much better time engaging them, and you can still… like why should they care? “I want to do this because I wanted to know this”, that would work better.

R: Hmm… yeah, so the idea that the teachers and the schools essentially could put forward, say if we had five schools taking part, they can say “Here a five schools in the Newcastle area”, almost like a brief “this is what we want you to make”, and then people can make things to fit those different options. Then the schools can have a bit of a say about what goes on, the BBC can have a bit of a say of what goes on, and they can say “hmm we like this one and this one” and those go through… and then… the idea of you going and doing an observation period…

M: Yeah

R: and then doing lessons

M: Yeah, I think if the schools have more… perhaps say? In havinh- it might- It might allow them to customise the idea to say “I want something more specific” and… yeah.

R: So that’s about it for my main questions, is there anything else you feel that… in the ideal version of the project, you’d prefer to change…? Or…?

M: Uhm, I’d say maybe more preparation… classroom management I would suggest. How to deal with engagement fully? One of my other biggest problems was for example, was one of the kids wasn’t really behaving well… uh. I didn’t know hwo to deal with him because I didn’t really have the training to, so I was kinda relying on the teacher to… uh… deal with that essentially

R: Yeah

M: At the same time, I often didn’t know what to do. Like, do I just carry on teaching the lesson? Do I tell them off for making noise, to other students?

R: yeah

M: So, I think maybe having, uh, a preparation thing on that would be helpful as well?

R: Or even, like, I said- It shouldn’t be too much on you. But maybe preparing th teacher a bit more? Like what’s expected of them if there is a teacher in the class? That they need to step in at that point?

M: Yeah. Uhm, I think that might be uh… so in one of the- I think one of the perceptions for the session was that the student teacher would handle everything? I think that was a ittle bit- a little too much to do….

R: Yeah…. Is there anything else you can think of, or…?

M: I think that’s pretty much it-

R: Awesome-

M: I just wanted to say it was great to take part, and it was really helpful.

R: Hurray! I’m glad. I’m glad it was helpful.