Researcher: -what went well… what would need to change for next year?

E: Yeah…

R: Uhm, cause I think there are some things, especially yours with the DBS check thing-

E: Yeah.

R: Uhm, cause it was like “oh it should be fine, it should be fine”, because most schools are fine with you visiting up to three times without a DBS check, and then Teacher8 was like “Oh you need a DBS check.” And I’m like “uuuhhh…” It all got sorted in the end, so it’s fine!

E: Yeah [laughs].

R: So, uhm, we’ll start off at the beginning. How did you… how did you get to know about the project?

E: Uhm, my dissertation supervisor [member of Open Lab] signed me up for it. He was the one who mentioned it to me and said “I think you should- you should definitely do this for your dissertation”. He didn’t tell me what it was, just that it had something to do with the micro:bit and I said “of course I’ll do it!”. He did say that it would involve- you’re going to have to teach kids, you’re going to have to get hands on and teach them, and I was a bit nervous about that but I thought… I thought it was good experience-

R: Do you think it helped your dissertation?

E: Oh yeah, it really really did-

R: Awesome

E: Yeah I had a lot to talk about in my dissertation, and… just… even just preparing the lessons was good enough research for me. Going online, and finding out what’s available… uhm, so, the initiative did prompt me to do a lot of research for the dissertation, so it did help, yeah.

R: So one of the things I’m thinking about next year, like, offering it as a dissertation topic… or getting a lecturer to offer it as a dissertation topic. Saying like “oh educational technologies, HCI-“

E: Yeah, yeah-

R: -so something like that, uhm, so… you found out about the project, and then you started writing your proposal.

E: So I think I found out about the project after I’d written my proposal for my dissertation-

R: Okay..

E: So…

R: So, I mean the micro:bit proposal, the two page proposal-

E: Oh! I was gonna say! Yeah, no, the microbit one… uhm… that was, that was quite easy to write. I spoke to M3 and he’s in third year too, and he said he struggled to come up with ideas and he was worried that he had to write everything down in the proposal, but the way I did it was that I had an idea for the unplugged lesson-

R: -yeah I really like that

E: -yeah I thought that was different and uhm, I had a structure for that, and the other two lessons would have worksheets and I hadn’t actually made them at the time but I knew I wanted to use them. I didn’t want to make a structured plan because I wanted to see how it went in the first lesson and structured the other two on how the first lesson went, so my proposal was probably quite brief for the other two lessons, and the first one was uh, structured.

R: So in regards to the actual guidelines for the proposal, the actual questions they asked, were they okay? Do you think we needed more structure, or less structure?

E: Uhm, well.. I think, probably, they told us everything we needed to write down so it was clear what they needed in the proposal, I think the only issue I had in telling them what equipment I needed was the fact they didn’t- if they had confirmed with me that I needed bit:bots enough for a class of 20 instead of just sending me three, or like… just sort of… communicating with me about the sort of equipment… when the equipment turned up there were a bunch of buzzers that were completely different from the ones that I’d asked for.

R: What type did you get? Piezo or the ones with the white-

E: Yeah, the white ones with the little wires that came out- the motion sensors too-

R: The motion sensors are really particular as to which ones work with the micro:bit. Everybody has said things about equipment, and thinking about the idea of equipment, have you got any thoughts on how we might redesign that-

E: Oh, so… I guess for mine there were diagrams online, and other lessons, that I used for inspiration. So maybe, having diagrams beforehand? So maybe they can see the equipment instead of me just saying “I need a buzzer”. Maybe something in the specification saying that we need to be more specific with the equipment we need, or at least, describe what we need it for. Like, the buzzers I got, I wanted them to make little melodies and sounds but it didn’t quite work and it could only play one tone, so that was-

R: Yeah they only vibrate, they do make tones because I have some, but I’m gonna admit they’re not great. But, yeah, I gave them model numbers and stuff and we didn’t get what we asked for, but I think it was a case of everything was ordered from one place, and we requested 200 hundred speakers, so I think it was a case of we got what they had… One of the things I was thinking was that everybody should get the same kits, with 30 LEDs, 60 crocodile clips, like 15 motion sensors or something… so everybody gets the same kit, and people can decide what they want to do with it.

E: Yeah, yeah

R: Some schools have got bit:bots, some have got LEDs, some of them have got nothing.

E: I think that’s a good idea, cause it would be nice for schools and then we could collaborate as well with each other, and help each other out.

R: Absolutely! So moving your proposal into lessons, did you feel things changed?

E: Uhm, yeah. Quite a few things changed actually. I think the first lesson was the best lesson actually. It was the timings that I got wrong, I didn’t really- I only practiced in front of one person, I didn’t really practice in front of a group of people.

R: Especially not a group of year 8s!

E: Exactly, exactly! Some of them were eager to ask questions and I didn’t factor that in, I was expecting that they were going to be quiet and not ask me anything. So I did have to improvise, but it went fine.

R: Awesome, awesome.

E: I hadn’t actually planned for them to look at the editor in the first lesson, but I thought they were itching to do something, so I got them to interact with that. For the second, the last two, I hadn’t prepared the worksheets so Id didn’t know how that was going to go, I just knew that they were going to follow a set of instructions and that I was going to present something on the board. So, uhm, that’s all I put down on the proposal. When it came down to making the worksheets, Teacher8 was very, very helpful and she advised me on different methods and said that some kids might not be able to follow instructions as well as other kids so make sure there’s something for everyone. So, that’s why I split it up into three parts, and I, I tried to be relaxed and said “you can just try to do as many parts as you can, and if you can’t do something that’s fine” and I let them work in groups, and help each other out… uhm, so that’s the idea that I went with when I went with the second lesson, but when I actually came to deliver it they were actually very, very fast. And they all- every single student in the class managed to finish all the tasks.

R: Awesome, would you give any advice to people if they found themselves in your positions?

E: Yeah… uhm, for other people who are doing it, maybe make more challenging tasks for students who do complete things quickly. They were some people in there who had experience, like proper experience with the micro:bits and they… finished, sort of in the first few minutes… yeah… So I only had the first lesson to go off for the second one, and I think, maybe…. An hour is very, very short and I didn’t manage to get around to talking to all the kids.

R: Yeah.

E: I managed to do that in the last lesson and that was finally when I managed to gauge their abilities and what they wanted to do, and uhm-

R: Is there something we can maybe do beforehand then, where you can meet the students?

E: Yeah I think that would have helped, definitely with mine… just sort of… networking with them. They were very, very helpful in giving me feedback on the lessons as well.

R: Aw.

E: The girls in there, especially are- I wasn’t necessarily expecting the girls to be interested in it at all, simply because in the first lesson it was mainly the boys that were putting their hands up and saying “I know this, and I know that!” But when I walked around, there were little groups of people who said that they would have preferred a longer lesson or an extended lesson. And it didn’t help that I missed- that it wasn’t three consecutive weeks, when I went back some of them had forgotten who I was… So yeah, definitely some kind of networking session with them, just to sort of ask them what they want, what they would like to see, what they already know as well- I had no idea what they knew-

R: Yeah

E: So that, that was an issue in the second lesson. Uhm, but I think the surveys that Claire sent out to them before will definitely help, will definitely be useful, because I know a lot of them did write down exactly what they thought of the lessons, so-

R: Yeah that would be really cool to maybe see what they said. Is Claire going to send you what they said?

E: Probably-

R: Do you want to know?

E: I don’t, I don’t… well.. they were very honest… they were lovely kids, but they were very honest about exactly what they thought of the lessons. So in the micro:pets, in lesson two, where I wanted them to make little melodies with the buzzers, but they wouldn’t work so I came over to some of the groups and said “oh I think it’s just the buzzer, I’m sorry, but your code is right” and I tried to talk them through the code, but immediately they hopped online saying “what’s the name of that survey again, I’m going to write it down that it didn’t work”

R: Oh that doesn’t really matter though, it’s not reflecting on you, it’s just- I had one class, maybe two weeks ago and they attached them to headphones and they were so loud. Immediately they all started complaining about how loud they were and they were going to go deaf. “Well don’t put them on your ears then, hold them nearby” and they were like “oh this is shit.”. Well yanno, this is what you’re gonna get. Sometimes you have to listen to what they’ve got to say, and sometimes you just don’t. [laughs] that’s the trick!

E: Yeah! [laughs]

R: …So across the project, were there any other challenges you faced, anything else that stuck out for out?

E: Uhm… well.. with the worksheets Teacher8 did say they needed some guidance, that even though I’d given them worksheets to complete that I needed to get up and explain what they were doing, why they were doing it-

R: Yeah-

E: because in the first lesson, that was- that was mainly dedicated to building up their confidence with programming, so that was good but I didn’t really continue with that throughout the other two lessons, so I think, definitely, I don’t know… that was something I couldn’t do because I don’t have teaching experience so I didn’t to do that… uhm, but yeah, maybe… the workshops were really good in teaching us how to teach, but maybe a bit more guidance on how to get them to reflect on what they’re doing, a lot of them wanted to know why they were doing it, which is something I didn’t consider [laughs]

R: What about do you think about shadowing, like a lesson or day, so you can get more of a handle on how to teach?

E: yeah, I think that would have helped. Code club helped, so I was lucky to have done that before I did the lessons. Uhm, but for other people doing it I think it would be helpful because… you just don’t know what to do uhm, and when the lesson is down to you to control it, and it’s up to you… it’s kind of, it’s kind of scary.

R:Hmm… So, from- well… one of the things I’m really interested in, for like… doing a scheme like this in the future, it’s not really something you get to do much in computer science, uhm… but it does give you good experiences like… Do you feel like there are any experiences or skills you’ve gained as part of being part of this project that you feel have been particularly useful?

E: Uhm, sending emails a lot has definitely helped! I’ve communicated and networked with a lot of people along the way, and if it wasn’t for this I definitely wouldn’t have met the BBC, a bunch of people from the BBC. It was like… a ton of opportunities for me have arised, but, uhm, also it’s rewarding as well. It’s something that I’d never really thought of before, uhm, just teaching the kids about coding and seeing them, like, actually be interested in it was nice to see, and also like, I was in their position, like, before… the same position as the kids who were unsure of coding, so it was good to see, to go in and talk to them, and yeah-

R: yeah-

E: Just build up their confidence, in the same why that I built my own up, and that sort of thing. And, yeah, yeah. Interpersonal skills that’s been the most [laughs]

R: That’s great… So… Another question, especially for third years, is about the timeline. Did it get in the way of stuff? Could the project be moved to another time?

E: I was lucky, because my dissertation was on the micro:bit, so that didn’t really affect me too much, but uhm… it came down to me doing a lot of modules in the second half and it was quite tight, but it was enjoyable at the same time. I think, maybe if this had started earlier on in the year-

R: The academic or-

E: Yeah the academic, it’s just the last two lessons were, yeah they were right in the final two or three weeks were I had all the final deadlines for my assignments due…. But for, for third years maybe that would affect the most.

R: Cool, because you think about where this could go, and definitely one of the points I’m interested in looking at how this can fit in and what can be done to help students. So, what about support? Like, from the BBC, from me, from Teacher8. Is there anywhere we could have given you more support? Was there anything missing that you feel other people could have done to help you?

E: Uhm… No, I think you’ve been extremely helpful-

R: Hurray! [laughs]

E: [Laughs] -in organising things, from little things like getting there on time to communicating with Teacher8 and prompting them to respond to emails, that was really, really good. In terms of help, I got the guidance from Teacher8 in terms of teaching, because she was in the room and she got to see what was going on, and I asked her questions about what had happened, and so.. uhm, no, not really. Beforehand I was really nervous about the teaching part, but it turned out to be the least of my problems once I’d started. I’m not sure about other people, maybe they felt like they needed more teaching support before, maybe like the worksheets and reflecting on what you’d done, that sort of thing, maybe that could help in the future?

R: What about the BBC, is there anything they could have done or given you?

E: Apart from the equipment, and uhm, yeah, being able to plan ahead of time if I knew they were going to give me three bit:bots. I didn’t know they were going to give me three, I’d already told the school they’d get enough for a class, not twenty, but more than three. If I’d have known that beforehand then I could have told them, and I could have, uhm, planned around that so…

R: So, I can’t remember if I’d told you this, but those didn’t come from the BBC, they came from us, because the BBC wouldn’t get them, and I chased them up three times and they kept saying “oh you’re going to get them” and then when I checked they still hadn’t been ordered, so we just ended up getting them. So yes, I do think, at very minimum there should have been about ten to be remotely useful-

E: Yeah

R: But, three is a good step up, and we’re looking to build an equipment pool here for schools to borrow them, maybe like ten buggies here or something, so schools don’t have to purchase and maintain them. They can borrow stuff, and do lessons! Uhm, so in the future, if we were in an ideal world, what would you propose would need to be changed, apart from the equipment, to have everything you need?

E: Uhm… probably, a bit more info on what the initiative actually is. I mean, I was just told by you and my supervisor what it actually was, but apparently, I probably read it, there were emails sent out to everyone at uni?

R: Yeah-

E: I didn’t see that and I usually check my emails, maybe it was just the time of year?

R: Yeah, I think it was sent out around exams so-

E: Yeah, well if it was sent out before exams I think a lot more people would have been interested in it. Probably… I knew a lot about the micro:bit, but a lot of my friends who also do computer science read the email and they said they didn’t know what it was, so obviously they didn’t want to, they didn’t want to do it.

R: Hmm

E: Uhm, maybe a bit more info on what the microbit is, why this initiative is important, that would be very helpful in getting more students getting involved next year.

R: Maybe something like workshops I late semester one? Maybe not too late- not in deadlines, some time in mid semester one?

E: Before dea- yeah

R: Maybe some Wednesday afternoon sessions… yeah. Maybe advertise end of semester one, beginning of semester two?

E: Yeah, that was about the time I attended one of the workshops with the guy from BBC, that was very, very useful-

R: Just not quite enough time for the micro:bits [laughs], it was more like “last 15 minutes, look microbits, look at them!”.

E: Yeah [laughs], definitely some mention of the initiative would be great too.

R: Awesome, definitely all the things I’ll be feeding back to the BBC anonymously. I think that’s the main questions from me, just get in touch by email if there’s anything else you want to feedback… or even WhatsApp- did the WhatsApp group work better than emails?

E: Yeah, definitely!

R: I was like “oh well nobody really reads emails”, you only really read emails if you normally read emails so I thought of WhatsApp.

E: Yeah, yeah. It works better.