**School9**

Teacher9: Okay so, the project went well, I felt that we were a little bit rushed because.. due to the timings of it. Student9 came with a set of ideas that were based on using the micro:bit as a rock-paper-scissors game. But you know, the students would press a button and it would beam, it would have radio signals and all that. But originally, we were going to do some sort of laser tag weren’t we?

Researcher: Yes.

Teacher9: I would have quite liked that to have gone ahead-

Researcher: Yeah…

Teacher9: and I did say to Student9 that if the BBC weren’t prepared to pay for it then I would pay for it, but he didn’t get back in touch with me about that so-

Researcher: Yeah so just as a bit of a background for that, I think he had looked it up but he’d never tried it on the microbit, so I went away and tried to find a kit that would work and I didn’t find one that would work straight away, so-

Teacher9: Because it’s pioneering, isn’t it! It’s new-

Researcher: Yeah-

Teacher9: People haven’t done it yet-

Researcher: There’s a break beam one, but it’s linked-

Teacher9: I’ve seen the break beam one, people use that for cars-

Researcher: -and I’ve not found one yet that would work as tag.

Teacher9: Yeah.

Researcher: But, I mean we could definitely keep… There’s things like ultrasonic rangers, but it’s just the difficulty of finding things that can be powered on 3v.

Teacher9: Yeah

Researcher: But I really liked his idea-

Teacher9: I think what we could have done, is we could have had a tube on the over the transmitter so that it send the signal only in one direction and, you know, we could have perhaps looked at that sort of technology. And then it could have only actually worked if you pointed it at a particular microbit. That- that would have been the way that I would have sort of probably went down, but again, you know, from an experience and time given we had to evolve what we were doing and how we were doing it. I guess when an experience goes to university and college they don’t always look back and think, you know, that school life can be a little bit disruptive. Year 7, 8 and 9 students aren’t sitting there all the time listening to the teacher, they are flicking each other and being annoying as-

Reseacher: Yeah

Teacher9: young children will do. Uh, when I came into both sessions, students were engaged, minor low level behaviour as you would expect in any classroom, and I think he [student9] really beat himself up over it. You know, which, you know, if I remember back to first year of teaching myself, you know, I planned so long and so hard for my lessons that it was- that I found it annoying that somebody wasn’t listening to me because I put so much darn effort into getting to that position-

Researcher: Yeah and that definitely came across when I was talking to Student9-

Teacher9: Yes, and you know, and I think he really did beat himself up a bit too much over that and perhaps he’s looked back with rosey tinted glasses as to how well he was when he was in- and, you know, as an assistant head teacher I can tell you now that there was absolutely nothing wrong in them lessons behaviour-wise, they were absolutely fine. And to tell you the truth, every student was engaged. When I looked around, I didn’t see off-task, you know, for extended periods of time. A kid might say “Did you watch that film at the weekend?” “Aye” and that in the background, it might be something like that but there was nothing that, you know- They were all interested, they were all engaged in what they were doing. I thought the fact that he went away and that he’d prepared a whole set of resources and code was a good idea. We did discuss that if he hadn’t done that he could have come a cropper, I guess, because he was trying to get through so much content and again that comes from experience. People train how to be teachers, to know what level of standard to set work at for students and I think the initial expectation that in three students that a student would do what a university student would do and it had to be really dumbed down, into ,into block of code that students could use. As long as they understood the general premise, they didn’t have to, they didn’t have to know exactly what that code would do. It didn’t need to know at that level, you know, how the infrared beam works, they just needed to know it was a signal that was being sent and received-

Researcher: Yeah-

Teacher9: When I went first session, they were learning about the microbit from a very basic point of view and there were lots of students there who hadn’t had access to the mcirobit previously, they hadn’t been taught in the groups for microbit, so it was new to them, so it was good to see that thye were engaged. And most of the students, and I would have said the most engaged were the females as well, and we were quite surprised because we didn’t expect that to be the case. And certainly in coding lessons, that isn’t the case we’ve seen demonstrated across the school and classes, but I’m sure it was interesting, and when Marcus offered the students to keep the microbit, there were more females than males who wanted to keep them for themselves. So hopefully they’ll go away and do something with them at home. Overall, I like the idea and I like the concept – we could develop one into a series perhaps of lessons for schools, I think it would be interesting, we could take Marcus lessons and other student teachers and, and- people, was he a PGCE student?

Researcher: No, no, he was just a Computer Science undergraduate student.

Teacher9: well we could take their ideas a mould it into some sort of curriculum-

Researcher: Yeah, yeah-

Teacher9: What we do at the moment, we cover what the government says is the basics but with a lot of our students they haven’t had access to coding before. We have started to introduce it into our own primary schools, since we’re a through school, but we can’t control the other primary schools that come to us. We are trying to work with them, we are trying to get them involved but eventually it comes down to teacher experience and confidence with using, you know, code. And of course, beyond that it comes down to having the equipment, you know, it’s no good saying we’re going to do this and then not having the equipment to go along with that. So that’s rpetty handy. Uhm, with regards to what we do do with the microbit we do a series of standalone lessons based on different segments of code. And the bbc have beginner, intermediate and a few higher project. We tend to do them as the standalone lessons for the microbit, so we’ve picked out the best ones of them. We’ve printed out sheets based on them and dotted them around the ict rooms. So you’ll have seenon the background room, so we’re showing some micorbit stuff up there. The only problem is that they’ve been done before, they’re not cutting edge, they’re jstu things you can do with that, I’d have liked to have used it as a, a magnetometer or a compass, but that’s not part of the microbit resources that are out there. So it was good to have contact with yourself and listen to a wide range of ideas that had came through, that we’ve settled on that one, I did like it even when it evolve.ed who doesn’t like the idea of rock paper scissor being beamed over infrared from one student to another. So overall iw as happy with that, I would have liked, I guess, to have run it a little bit longer and had a range of different activities in there, that were exciting and cutting edge.

Researcher: One of the thing, we have 9 students that have gone out to schools, with 3 lessons each. We’re gathering the resources together to make them available to everybody, so you won’t just be able to see what Student9 has done, but what everybody has done, in a big bank of resources.

Teacher9: and that would be great-

Researcher: and then, kind of, looking at maybe making a platform where we can share these resources. I know other schools are interested in taking part in sharing, what they’ve been doing for their lessons-

Teacher9: Yes

Researcher: So that would be the next step, it would fit quite well into what you were saying there.

Teacher9: We would definitely use them in lessons, definitely make them available

Researcher: if we did this again next year, one of the ideas I was playing around with after talking with the students, it was 3 lessons, just one two three done, one of the issues was knowing what lesvel to pitch at, one of the ideas I was thinking about was the chance for them to shadow or observe a few lessons. Maybe deliver one or two lessons? Do you think that would fit okay?

Teacher9: The trouble is, where outside agencies fall down in schools, is they want to be helpful and participate, and have their own ideas of what they want to happen, but school life can’t change too much. For example a company wanted with our sixth form to give them a wonderful opportunity to do some marketing and make a product and put it out there, but these kids, they’re doing a-levels, some of them are doing 4! These kids can’t afford to do vast amount of time not doing their curriculum content, if you know about a-levels or degree, you know you get your lesson and you get the bones and you go away and have to put the meat on those bones and you know these student have loads of work outside and it was just extra things to take on. They were great extracurricular activities and CV activities things like that but we have to make sure that whatever we do is drilled down or where possible fits in with the natural curriculum. Now there was plenty of opportunity, I used that company because we run media and they should have talked to the media teacher and whatever the media teacher has to produce as part of the coursework, they should have fit in with that and they should have fit in with that rather than get the students to accommodate along that. Now the idea we’ve got is we have a set of standalone lessons, they are standalone and we can chop and change them so there’s loads of scope for us to move on there I think, so that’s good isn’t it.

Researcher: Yeah, like I said before, if there’s anything you can think of that we can help with or, where you can see students fitting into help-

Teacher9: One thing I would have liked, more sort of extra peripheral things to do with the microbit like attaching motors and making them into cars. Students will look at the microbit, see the battery pack in it, it needs to be in a car that moves itself that’s interesting, or use microbit to control motors on another microbit-

Researcher: Yes, that’s definitely a road I’m interested in going down-

Teacher9: I tell you what that’s a winner that like, once you start doing that in schools. “Turn the motor on this one”, “stop the motors on this one”, you know, you can program it, you can get tape and put it on the floor to follow, I just think it’s a no brianer. The trouble with the likes of the raspberry pi and the microbit stuff that I’ve seen, the people who are in the know, who are skilled, who can turn them into cars and things like that, they do it as a one off thing and it’s something for us to aspire to, buy some motors and learn how to fix it into a car. Quite often we have to talk to our dt department and get them to develop a chassis for us and so we can put it on the microbit and hook it all up. There’s learning that takes place there, there’s time and all resource and all the extra equipment. It would be handy to have in kits “this is what it needs to do to make it into a car”.

Researcher: Would that be something you could see, rather than just being a one off, maybe like a scheme of work, working towards building-

Teacher9: That’s what the ultimate aim should be, building up knowledge so that we can get from A to B, and the kid has a car they can control-

ResearcherB: We could use templates, so they will build it bu they won’t build it from scratch. We have templates for much simpler things, we cut cardboard and then you just-

Teacher9: Well we could still use cardboard couldn’t we-

ResearcherB: Yeah, exactly. So design the templates, print them on paper and put them on cardboard.

Teacher9: Use something like CAD to get something-

ResearcherB: We did something much simpler

Researcher: We had little skittles, with a skittle template. You put the microbit in and it stands up, and you would use acceleration to know when it had fallen over and it would tally up your points to know how many skittles had fallen over. It was a bit of a cut, and stick and design-

Teacher9: These things are, aren’t they. We’re trying to fit a suare peg in a round hole sometimes. I have 200 microbits that I only used at the time the course is on-

Researcher: And they’re so good for curriculum as well-

Teacher9: they are, and they should be used all the time, and we would use them all the time if there were more things to do with them. You see people online with LEDs and light cubes controlled with a raspberry pi and that’s great if you’re a linux-y person, you’re into linux and your systems are linux, you can go ahead and do all of that, but we’re not. We’re a Microsoft365 academy, none of the staff, none of the kids have used linux before, we haven’t go a clue, why am I going to go and learn that when I can easily do something else? But, having been said, the nice LED lights that are doing all that to the music, and it’s in tune, fantastic! We’ve got the microbit, we play music on there, it’s one of the bits we do, we learn to play music for certain lengths of time and so on. But overall, there’s not something like a car out there to build up almost like a kit. That’s what I loved to do as a child, get a box of bits and I would have to problem solve to put it all together. My reward was the finish product, which was a working car or something along those lines. It is a reward, I’m more than happy- I’ve got banks of money- I’m more than happy to contribute something to getting something out there- like, this is a great kit to go out to schools. You want to do the car one? Here’s the car kit! Here’s the other kit! It gets it out there, it’s pioneering. People don’t just want a mini computing, they want something that’s interesting. “Look at the computer, I can control that!”.

ResearcherB: You are looking for more innovative-

Teacher9: We are! and next- Now I’m an IT guy who’s gone into computer science, I’m a hobbyist. I can code but I wouldn’t say I’m the world’s best coding teacher, because I- I lack the experience of being a computer scientist. However, I am in an interview on Thursday where we’ve got three applicants, four- but we shortlisted it down to three for computer science. One is a newly qualified member of staff, and two are two experienced females. One of them was an a assistant head somewhere down south. So, we’re hoping we can appoint someone there who would lead the way for us, and obviously I’m enthusiastic about it and hopefully cause it’s their subject area they’ll be extremely enthusiastic about it, and when you come back next year you’ll be dealing with one of them hopefully. Uhm, but you know, again, some sort of project based technology would be ideal-

Researcher: That would be really interesting!