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Q So this is focusing on the case-study children, you've got two in your class, John and Jacqueline.

A Yes.

Q So let's start, we can do each question on both of them, but one at a time. So let's say John first, how does he use digital tools or technology when you offer them in the classroom? Have you noticed anything in terms of his play with that or his uses of that? I don't think you do that much with them anyway, from what you were telling me before, but perhaps you could adapt that question to thinking about how he might engage with a class like you've just taught.

A I think John, I wouldn't say he's overly keen, but I also wouldn't say he's not interested in using the interactive whiteboard. However, we have had bee bots in class a while ago, we need to bring them back in, and John does like to experiment with that.

So when the opportunity is there, and it is really presented and definitely when it is something out of the ordinary, he's very keen to get in there and to get hands-on. However, the interactive whiteboards, during choosing time we have games on there, and he's not one that will choose that.

I also think it maybe depends on what it is. I think if I would put iPads out, he would probably really want to get in there. We've got the golden time for iPads, he likes to choose that as well, but I don't know, maybe it's something he's done loads and the magic of the interactive whiteboard is a bit too familiar, maybe, in a way.

But when we do a whole-class game, he always wants to have a turn, when there is something like bee bots or iPads, he definitely wants to have a turn, so I would say he is quite interested; his level of interaction is high, I would say.

Q Could you just tell me what you do with the bee bots, exactly? Because they're not something I'm very familiar with.

A They're bees, basically, and on top of the bees you've got arrows, so you've got one forward-backwards, and one to the left and one to the right, and then, in the middle it says go. And you need to program your bee bot to follow a certain route.

A while ago we did walking around our local area, so we made a map that was a local area, and they could basically program the bee bot in a way that they could go from A to B, for example. And then, by using the arrows, they've got to figure that out.

However, if you always press the left arrow over and over again, the bee bot will just stay in its place and it will just go round and round and round, so they've got to learn that if you want to go forward, you press the forward button, and if you

then want to go right, you press the right button but then you also press it forward, because otherwise it just stays in its place.

And then, once they've programmed it, they can press go, and then the bee bot will go and do what you have programmed it to do. So there is always some sort of introduction there, and I would say that John is quite interested in having a go, really wants to have a go.

I wouldn't say the same for Jacqueline. I think Jacqueline is a little bit more held back. She's, at the moment, very interested in mark-making, so colouring, writing little notes, maybe the making area. Sometimes, she does role-play in the house, especially the doll's house we've got, but if I give her the opportunity to come to the board, she wouldn't take it.

She's not been very interested in the bee bots, and I also might wonder if it's because lots of other children have been interested and Jacqueline's not one of those children who will go up to a big group and try and join in; she's more one of those children that will just quietly play alongside others, with one or two friends. She's never alone, but she's not with the big crowds, basically, I would say.

And Jacqueline has chosen iPads for golden time, but it's not something she chooses over and over again, because we also, for example, have a golden time club that's called Hair and Beauty, and that is a lot more the things that she wants to do.

So I don't think that technology, right now, is a particular interest for Jacqueline. However, I would say that John is a lot more interested. Not most interested in my class, if that makes sense, but he's definitely up there. And I think Jacqueline is a lot more on the other side.

Q Thank you, that's really very interesting indeed. Thank you. And we may have talked about this a bit already, I just wondered, again, if they would use technology in creative ways in the class. I can't quite remember what you have on the iPads that you might use with them. Saying golden time, are those games or drawing-y type things? Are they creative apps or...?

A To be honest, I'm not entirely sure because they use the iPads from key stage two. I'm not entirely sure what apps... but I think it will be mostly apps. We've got a lot of phonics apps on our iPads. I do think there is something we call ink print, [?] where you can colour, basically. I think there are apps like that, but I need to check that for you [overtalking].

Q I might hear it from a Key Stage Two teacher.

A That would be great, but if you don't, let me know.

Q Thank you. We'd be interested in your perspective and observations on how this kind of play, and I guess this would apply more to John because he's more embracing of it, might affect things like physical skills, social, cognitive or creative, or is it too soon to say? Do you think it takes some time for these things to become apparent?

A That's an interesting one because I would say that children in year one are still very much figuring out how relationships and friendships work. So what I see a lot in this class is that children who are a bit younger in age are usually the children that intend to be happy to play by themselves and are not necessarily looking for that contact yet.

However, John is, I think, the youngest child in our class, because he's born in August and I do see John interacting a lot with other children; he's not one of those children that will not interact with others.

And if and when we have things like bee bots and iPad, he is communicating still with other people, while I wouldn't necessarily say that for Jacqueline, because Jacqueline is still figuring out who she is and what she likes. And John is probably doing that too, he's just doing it in a different way.

So yes, it might actually be too soon to say anything about that. However, from previous experiences and seeing children with technology, I don't necessarily think that technology is, how would you say, limiting their creativity, because you need to be very creative to understand how a programme works.

Last year, I had a boy, who is now in Year 2, who knew a lot about computers and about how to work things and all of that, and he was also very creative. So I also kind of think it might depend on the child and more where their interests are. Because even within computing, you can be interested in the design parts of the computing, or you can be a lot more interested in the more coding and the numbers part of it.

And I think being interested in one doesn't necessarily mean you are interested in the other one too. But then, I also don't want to say that if you are really, really into design you're a very sociable person, and if you're really into the numbers you're not. So I think, at this stage and the amount of experience I have, I would say it depends on the child. But that might be wrong.

Q It's just interesting to have your observations. And I just want to pick up there, because when you have a child like that, you've got a child within the class, the lad you had last year, how does that impact on the class? Does it inspire them? Are they aware, or is it still quite individualised? Are you able to capitalise on it as a teacher in any way? Does it help, does it hinder your teaching? And does it have some sort of knock-on effect to have one of their peers saying, yes, wow, I know about this.

A I think overall I found the effect quite positive, because as lovely as it is that we are doing what we're doing and that they already know so much about our computing curriculum, I think this Key Stage One side is so much more powerful when someone their own age speaks to them about something they are passionate about, and they really want to try it if they see someone else do it.

So last year, it had a very positive effect and it did definitely spark something in other children. I, obviously, am not sure how long that will continue, because at some point, and especially in key stage two, children become aware of other children knowing a lot about something and being very vocal about it, and that doesn't always result in a positive appearance, if that makes sense.

Q Yes, I can perhaps be off-putting to others, you're saying. Yes.

A Yes. And I do see there are children in this class who see other children being very good at something, and then they think, I am not like that, so I'm not even going to try. So it can, in a way, be, for some, off-putting having someone who's dominating the knowledge and the subject.

However, with that particular class, it worked great because they were all very much I want to know, I want to know, and there was some healthy competition going on. I would say that, for example, John, would be someone who would be interested in healthy competition, because he wants to join in and he wants to know.

However, Jacqueline is put off by that. She doesn't enjoy that and, therefore, will then say, no, I don't want to do this, or I don't really want to have a go. So then, I, as a teacher, have to encourage her a lot more. But yes, depending on the child.

Q Of course. Of course, that's always the thing, isn't it? You light on one example but you know that that's just one and you can't always generalise. The dynamics must be different every year.

A Definitely, yes, for sure.

Q That's great, thank you. So do you ever play with them, as it were? So if we call using technology as being playful, even with the aeroplanes and stuff like that, do you play with them? Do you co-play with them as part of your role, or do you tend to model it and then they do their own thing with it?

A It depends, really, on how much time I have. So if I just really quickly show you [overtalking]. You can stay where you are. So, for example, we went to the airport a little while ago – there's Jacqueline, by the way – and there was a really big role play area in the East Midlands Airport, and I just joined in.

Because they had no clue to up-level their own play. Yes, they know home corner [?] with food and a till and that sort of stuff, but I had to show them, through play, that I take my suitcase with me when I'm walking at the airport, and that you have to show someone your passport, and when you sit down on an airplane that you put your seatbelt on, and how, basically, to talk, the vocab.

So there are a lot of times where we do really get involved in their play to help them up-level their own play, because children only play what they know, and if they don't know it, they can't play it.

So therefore, I felt, just now with the airplanes, they knew what they needed to do, so I could stand back and observe and see how it went, and then I could see that some children found it really hard and some children were having a really good time, and they really knew how to keep their airplane in their hands, and others didn't.

But I would say, for example, with the bee bots, if I would put that in class right now, and it's been a while since I've used it, I would have to join in in the play, because they wouldn't know, otherwise, how to work it. But once you have done

that a couple of times, you can step back and then you can observe and see.

Q And do you find that they take it on? Are they quick on the uptake?

A Definitely, because even here I was saying things about can you please take all your jewellery off and all of that [overtalking] security.

Q As you go through security, yes.

A Or do you have your passport ready? And they were really mimicking that play.

Q And do you think it's almost sort of reminding them what they perhaps do know? It's already there, they've probably seen it on films. Is there any sense of recognition, oh yes, that's right, you have to show your passport, we've seen that?

A Definitely.

Q But they haven't necessarily done that enough times or they're not ordering that knowledge in some way to apply to that play situation, and you're sort of pressing those triggers and making them recall what they are familiar with, somewhere in there?

A Yes, definitely, I would agree with that. And there also children who actually really go on holidays, who have travelled via an airplane, so they actually know what it is like. So having them in the mix really helps the others to think, this is what I do in a situation like this.

So, for example, that boy last year, if I gave him a bee bot, he knew how to work it, so if I would put him with the bee bots in a corner and say, these children, I want you to show them how to do it, he could do that. And it's really nice to give children the opportunity to shine in something that they know a lot about, because there are a few children in our class who have been on an airplane but who might not shine in any other areas, so it really gives them the opportunity to be the best at something.

And ideally, every child has that experience a lot in the classroom. So keeping the learning very interesting and also very creative and different allows them to then find their own strengths. So yes, I think in the ideal world, you always start the play off and you always join in and, from the moment you think, actually this is going really well, they don't need me anymore...

And that's usually the point when they start to ignore you, because they will be like, you're actually in my way now, I know what I'm doing here, while children who tend to not really know what to do in a situation want to talk to you and they want to ask questions, or they just want you there with them. So it's just all about following those signals and picking up on them and understanding that communication.

Q So that's interesting, it makes me think about the... Sorry, do you need to...? The curriculum that you're teaching, the IT curriculum here, does it allow opportunities for you to draw on knowledge of IT that they might have? The bee bot example is obviously one, but that seems quite confined really to the one example.

I just wonder if there was any difficulty there. Between where you need to start from in a pedagogical sense, or the curriculum on the one hand, and knowledge that the children might have from their own uses of technology, is it difficult to make a link across to find things that they might be bringing with them?

A I am not... basically, at the moment when it comes to the computing curriculum and what we've got to teach, I think a lot of the children, most of the children, will not know. That's almost where my starting point is. I'm always assuming they will not know this and they will probably not be able... they will be able to do it once I've taught it, but they can't do it without me teaching it first.

And if they can do more than I assume they could, then I obviously have to up-level it there and then, and there are a lot of really good resources out there already that could up-level...

So, for example, today, I'm doing this exact same session with year two as well, but instead of doing it in a group, trying to debug the algorithm, I will probably give them the sheet and you go and do it yourself, with a partner. So therefore, then you've already up-levelled it a little bit more.

And I think, especially what I have found when it comes to the online safety things, our children know hardly anything because it is not a widely spoken-about subject yet. So it has been really good...

So it has been really trying to find your feet. And I think what is nice about being earlier on in school is that you really are starting at the beginning, while when you're a bit more up in school, you've got to really figure out where they are. So you're probably going to end up teaching quite a few sessions that might not be at the beginning stage of where they are just yet, but you'll figure it out throughout, basically. I'm not sure if I'm answering your question, now.

Q No, it's fine. No, absolutely not, and I didn't mean to imply anything by the question really, I was just wondering whether there was some sort of bridge that was able to be built between what they bring and what is needing to be taught.

A So, for example, they have been wanting to do paper airplanes for weeks, they do it during choosing time, they make them, they can't do it and they're just like, I want to...

And I always tell them, I'm not helping you with that because that's not something that I really would want to encourage a lot in class, having paper airplanes and then throwing them about, but I thought if I take that interest and then transfer it, or make that link with something that I want them to learn about, they can make that connection and it will become a meaningful activity, rather than them just standing here and folding their paper airplane.

Today we've done a lot about it, so hopefully in the future, when they make paper airplanes, they will make that connection to computing. And I do think I am very free, at the moment, in what I am allowed to teach in computing and how I am allowed to get their interest in.

So the treasure hunt, last time you were here, they are very much into pirates and into magic and treasure and all those things, so I thought if I put those two things

together, we'll get something really exciting. And even today, when we were outside for play, there were kids who came to me and said, do you remember when we went on our treasure hunt and we went to follow the algorithm? And I said, yes, I do remember. So it's really nice to see.

Q That's what you were saying to me in the playground, when they were doing the paper aeroplanes, it's memorable knowledge, because it's built around this interest.

A Definitely. And I think if you know that something is not going to be memorable, then what's the point in teaching it? Because they are not going to enjoy it, you are then going to be disappointed with the results, it's going to be a negative experience for everybody. While if you turn that teaching into something meaningful for them, it will also become even more meaningful because you're on the same level, there. So that's making that bridge, almost.

Q So do you prefer to teach the thing about the algorithms and so on unplugged, or if you had the technology would you like them to start...? Presumably, there are little programs and things that you could use that would enable them to maybe discover how to do algorithms, actually interacting with it, or do you feel that this unplugged thing actually is beneficial? I can't remember exactly if it's because of a lack of resource that you do it this way or it's actually a good way to start off, in your opinion.

A I think it is a good way to start off, because I really want them to understand that an algorithm is not just something that has something to do with a computer. And I think a lot of assumptions in teaching computing is that it always has to involve a computer; and it really doesn't.

So having all those unplugged activities will really help them to make that connection to the computer but not having to do it straight away with the computer. I do think that, at this particular stage, with the children that we have, they are not ready to all have an iPad and for me to have them all at a table and walk around. I think they're still very young.

As you could see, even following the instructions on how to fold a piece of paper is really difficult, so having an iPad and me then telling them how to go through a certain app, I can imagine that will have quite a lot of complex... I can't find the word for it.

Q I know what you mean. Could be complicated for them, yes.

A Complicated for them. So practising these skills first and really understanding this is an algorithm will allow them, hopefully, to already have a starting point, once they do get that iPad. And then, the teaching with the iPad will automatically be easier because they will have already had those experiences unplugged.

So yes, I do purposefully do it this way, and I also really purposefully am trying to teach them that you don't always need a computer to do computing. And it will just build up, and I hope, in summer term, we can really get on with an iPad, but then they will also be quite a bit older and, especially at this young age, being at the beginning of year one and being at the end of year one is a massive difference in even understanding and following the spoken instructions.

Because just me telling them, I want you to get me a blue pen is difficult for them because it is asking them to get me something and then they've got to think about what it is and what colour it is. So it's actually already three things in one instruction that they've got to go and find, and that is difficult for these children. So building it up this way, hopefully, will set them up, and especially for Key Stage Two, for really getting on with the actual tech.

Q I wondered if it's difficult for you, as a teacher, to gain any sense of, on an individual child's level, what they do at home in terms of the amount of contact that they might have had with an iPad or other form of technology, because they don't come with grade two iPads to your class. So in terms of gathering that knowledge, or becoming aware of it, it must be difficult to know what they bring.

A Yes, definitely.

Q They do, and what they can do, and so on, you don't have that insight into...

A No, that's why I think I also almost always assume that the beginning is really the beginning and we don't have any... we've not heard about this. Because none of the children that I have taught in Key Stage One knew what an algorithm was, not even the exceeding, really, really computing-focused children.

So I think ideally you would do assessments or you would ask parents, and we can, and we try, however we do find, especially when it comes to – which you will have found as well – even getting permission slips with certain things, it's already a big struggle.

So asking parents to fill in a questionnaire is already really hard. And then, we've got to remember that a lot... not a lot but there is a quite a big group of parents in our school who can't read. So for them, filling something in like that will be really difficult.

And then, you also have parents with an everyday life, work, pick up the children, got to cook, got to organise my household, so I can imagine that a lot of people are not necessarily waiting for a questionnaire to come to the house about their learning. So a lot of the knowledge that I have about their backgrounds comes from the children and talking to them.

Q Yes, that was what I was thinking about, about how you would gather knowledge, not that you would do some research, because that was clearly beyond...

A Unless there would be a very specific concern or a very specific question, then I could always approach parents... You've obviously got to remember that if you have 30 children, you've got to approach 30 parents.

Q So finally, do you think Jacqueline or John use their experiences from home, with regard to technology and media content, in their play, in their free play in the playground or with their friends, in choosing time in the classroom or anything like that? Can you think of...? I know it would be dependent on you having seen them at playtime or something like that.

A When Jacqueline plays in the house, she does, with her friends, imitate, mimic, a lot of her life, so there will be, oh, let's pick up the phone, ring, ring. So things

like that or... And we also actually have a phone and a computer here in class so they can [overtalking] for role play.

Q Oh yes, it's a desk phone, isn't it, and a little laptop screen there and stuff. Yes.

A Yes, so they do – all children actually – know that the keyboard is for this.

Q Like you're in an office or something like that.

A Yes. And then, I can hear them pick up a phone, like, hello, and like, oh, it's your mummy, and oh, it's this, oh, it's that. So there is that. They do familiarise themselves with what the function is of that specific piece of technology.

Q How about content? How about things like superheroes, the LEGO movies, the... I can't think what they're called but the Batman, Spiderman type thing?

A Marvel.

Q Yes, that's right.

A I'm not too sure if I know the actual individual interests of these children, but Frozen at the moment is very big in our class, because that's new.

Q It's just come out, yes, Frozen 2.

A They're big fans of Transformers in here, so, for example, when it's wet play, so when it's raining really badly during dinner time, we will have the children inside of class, and then they're allowed to choose colouring in sheets that I get off a website, and Transformers and Spiderman are always ones that they're always asking for. The children love to play with the LEGO, we've got LEGO in class which they play and they build houses with and things like that, so...

Q Have you noticed John, at all, with the Transformers colouring [overtalking]?

A Yes, loves it. He loves the colouring in sheets. John loves a lot of superheroes stuff. I am not too sure if he is familiar with the films or familiar with LEGO movies. It might be a question for John, the only way to find out.

And Jacqueline's very princessy-focused. Especially Elsa and Rapunzel from Tangled and Beauty and Cinderella. She was dressed up as Cinderella on a dress-up day that we had a couple of weeks ago.

Q So she came in... I was going to say, was there dress-up in your classroom, but that came in from home that day?

A Yes. So yes, there are definitely interests there that are coming. And we really, actually, want... because Frozen is so big in our class right now, we want to take them to the cinema to watch Frozen. We'd love to do that after Christmas, so that will be a nice experience for them.

Q And does that go across boys and girls?

A Yes, for sure. Frozen is for everybody. I think because in Frozen you've got Olaf, don't you? Olaf and Sven and, what's his name, Kristoff. I think Frozen, even though the two main characters are girls, I don't think they necessarily just represent girls. I think that's what's really nice about the newer Disney stories,

that it is becoming a lot more gender-neutral than it used to be. But, for example, nail and hair and beauty, golden time on a Friday, we've got boys who choose that. They love it. So it's just... Yes.

Q Is there any TV content, would you say, coming in, or Netflix or anything like that, that you're aware of? I suppose you don't really know where it's coming from.

A They all know what Netflix is. They all know CBeebies. They always ask for that. They all know YouTube.

Q Do they get to watch anything like that here? Is that part of your [overtalking] or golden time or something?

A Sometimes. Yes, golden time we've got film club, so they can go... and Netflix is on, they'll choose something they want to watch. Or again, when it is wet play during dinner time, they've got the opportunity to play in one room and watch a programme in the other, depending on what they want to do.

And on the last day of the half-term, we watch a film together, usually based on a book that we've read. So this half-term, I don't know if you know The Star, that's a new animation film made by DreamWorks, I think, it's really funny, it's really good, so I've ordered a DVD, I want to watch that. It's basically the Christmas story told by animals, so [overtalking] going to watch that at the end.

Q Fantastic.

A Yes, it'll be good.

Q That's great. Thank you so much.