

What is the impact of the PicoH Pilot?

I think by using the pictures as opposed to just using Scratch, it's given that real purpose so that when the children do code they can instantly see the impact it's having on the robot.

And then they're able to use those debugging skills immediately. Whereas I think sometimes when it's on Scratch, it doesn't always look the same.

And if it isn't moving or doing what they want and they know instantly they've got to go back and redo it.

And I think that's what's really enhanced this project and children's thinking.

We talk about conditionals in the past and we do Scratch in the same way. But actually having a physical device that was more human-like just gave it more meaning, more purpose.

And they seem to understand the concept better. What I found really interesting and I hope is a transferable skill that we can apply to other areas of the curriculum is that these children that weren't able really to express themselves verbally or perhaps on a wall display publicly, which which they would often do in the morning with their class teacher, we were able to do it with PicoH.

And yet this began to serve as an expressive outlook for children, which was fantastic.

And seeing that this object here with a face and, you know, it moves around is something that they can move around using programming. And I think that's really important. And I can see the excitement they get out of that is why this is an important thing to keep working on improving their skills in the future.

My students have managed to grasp some of the more abstract concepts that they struggled with in the past. And it's almost like covert learning. They don't even realise that they're taking in because they're having fun and they've got a purpose and they don't want to leave at the end of a computer lesson. They want to keep them working their code. And so it's just been a really rewarding experience.

Well, I'm incredibly pleased to say that we have some children now who are better able to express themselves than they were at the start of the project.

But that's certainly true. Children that have used it as an outlet for expression, where previously they were completely non-verbal in terms of saying how they felt.

We also found that as I tied it together with different scenario picture cards, that children were better able at the end of the project to recognise facial cues of people in different situations. Some of the students got

so motivated that they were writing really long code to create their times table quiz and that could have had its challenges and lots of the code was kind of duplicating.

So every time they got an answer right, the PicoH would nod its head and maybe go green and do 'happy eyes' and play a sound. But then that would happen for every question.

So some of them started learning about how to decompose the code and actually put it into different sections and lots of kind of higher order computing principles.

I wasn't planning on teaching with them, but suddenly it was relevant because they'd created more code and they understood it because it had a purpose.

I've been really impressed by what the children have achieved within one year on this project.

I think the project has allowed children to really push their application of computational thinking to a level that I don't see very often in other schools and the PicoH project has really allowed for that.

It's because it requires the use of conditionals and variables in a really defined way and with a really clear outcome. And some other projects you see around, they're not necessarily quite as defined as that, because for any question and answer system to work, it requires the use of those tools. And there's no other way of doing it. There's no way to sort of cheat the programme where there are other ways of doing things.

When you're doing game creation or animation, there are ways of cheating the programme to make it simpler, but there's no way of getting away from that by using those more advanced programming constructs and concepts.