Burnt Oak Primary School Sidcup Case Study

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Two groups of 32 children in year 6 spend an hour on games on Tues afternoon But we are not talking PE. Instead they are working in pairs in our computer room at Burnt Oak Junior School in Sidcup, using a program called Mission Maker to make 3D computer games.

Our school

I teach every single class in the school and we have really good facilities so we can really bring on their skills. I used to work in film and media and worked for some years in the EAZ at Kings Cross. I found that technology could provide a totally different way of learning but when I moved into primary teaching I realised that the curriculum was not going to excite our pupils. You have to remember that children have computers and games at home and have grown up in a world where they take technology for granted.

We have improved our computer room and each year they develop new skills: year 3 are filming on iPod nanos and can edit their videos.. In year 4 children use advanced techniques and are able to make videos using clips sourced from the internet and edit and add music and voiceover to incorporate them in their own presentations . In year 5 they move on to learn about 3D animation. Some pupils are using Google SketchUp to create buildings and next term they are moving on to learn Scratch, an open source programming language which will let them share interactive stories online. There are 50 iPod touches in the school which children can use to support their learning, for example research on weather systems by holding video footage from across the globe in the palm of their hand.

Mission Maker

Since the children are computer savvy I wanted to develop a really challenging project for those pupils in their last year. I met up with Donna Burton-Wilcock, a former English Secondary teacher who is now managing director of Immersive Education.

Now year 6 are making computer games for year 4. We are not talking 2 D games here but proper games with sets, characters, dialogue, narrative, special effects - the works. Although the classes are only for an hour once a fortnight they have so captured their imagination that the children are in the computer room at every spare moment, trying to add to what they have done. That doesn't happen often with other pieces of software!

I think this is because the program is so exciting. The graphics in Mission Maker are just beautiful and it looks such a professional product that they want to engage

with it and learn how it works. The software is so well designed that they learn the basics very quickly and do not get frustrated. One year 3 boy was intrigued and wanted to know more. Someone got him started one lunchtime and now he has started to make games too. As a result, a group of Y6 children decided to start a club for year 3 to teach them how to make games in Mission Maker. They are so enthusiastic.

Range of games

In the early lessons, working with Donna, pupils looked at games already made in Mission Maker. These are available on the Immersive website along with free lesson suggestions. They learnt about different game genres: quest games with instructions and pop ups where they have to find and collect things; magical games which need a 'back story' to set the context and competitive games which have a time element.

They learnt technical skills too

Creating a Game World Checklist

Names: .... and ....

We have:

1. created a world of five rooms/tiles (one in the middle and four connected to it)
2. rotated tiles
3. deleted tiles
4. added, moved and resized props
5. changed the start point
6. taken pictures of each location
7. saved the world.

They learnt how to create triggers to make things happen. For example, to open a door they might program the software so that the user has to find a key and use it or they might have to lever the door open or the door might open if they just click on it. They set the rules for the actions. They need to be logical and precise and this has a knock on effect on their thinking and writing skills. It is interesting that some of our pupils who are level 5 literacy find this hard whereas some pupils with lesser literacy skills take to it like a duck to water.

Sometimes, pupils would come in and show us things in class. Perhaps it was something they had developed at home. Something would happen on screen and they would start explaining what to do next. That's when they realised they needed a script. They also started to think about how to end a game. They were so wrapped up in the different processes that they had not thought about how to bring it to a conclusion.

Difficulties

- We only have one lesson once a fortnight. This is a very short time but in fact many of them spend extra time out of class in the computer room and at home
- We arranged that they could access the game at home if they wanted to but we have had problems. Some of them could not download the program. Perhaps they had slow broadband and things did not work as well as at school.
- We got round problems of installation with some children by giving them the program on a CD ROM but we did not appreciate that while pupils are well up on web 2 technologies, they are sometimes phased by screens which ask for name and company as so much software does.

But the children who have used it at home do learn the skills even more quickly and it is heartening to see how it has changed the roles in the classroom.

Games and the curriculum

We looked at the outcomes for literacy and ICT. Donna has assessed the children for literacy. In fact, games making involves lots of discussion, high level language skills and hypothesising. We have pupils who were working at level 3 who are now reaching level 5 in some areas.

It is quite hard to assess ICT. With literacy you can see from the written work where understanding has broken down. With ICT it is not so easy. You need to keep walking around and asking questions and talking to the children, getting them to explain what they are doing so you can identify any problems or gaps in knowledge. We move on so fast that it is important to make sure that they are all up to speed. The ICT skills build year on year and this is a challenge to teachers. The younger they are the more they seem to know. I believe that our year 3s know more about ICT than our year 6s because they have been born into the world of iPods and Xboxes.

Effect on behaviour

Working on a games project changes relationships. The classroom becomes more egalitarian. Children are keen to see what others are doing so there is lots of peer learning. They email one another with ideas they are working on at home.

I am just part of the group a lot of the time. They know more than I do about some aspects of creating the game. I have been working with ICT for 20 years and I've learned never to underestimate the ICT skills of children. They still amaze me. I often find myself saying, "How did you do that?" and they explain. They are not surprised that I do not have the answers. We are all learning together. This is cutting edge technology and our pupils are right there at the front.

Quotations from Burnt Oak Year 6 students

To maintain their anonymity, pairs of students from 6T and 6MB made up their own pen names

Tom: I really like MissionMaker because you can make just about anything you want. You have to think hard to create worlds and program rules that open doors and make characters speak. You have to check that the rules work and change them if they don't! It's made me think about literacy and we have to work together. I like changing the characters heads and legs so I get a monkey with a backpack and alien legs.

Finn and Zoe: With MissionMaker you can do anything you like and make a Mission anywhere! It's fun, and educational, and it gives us an advantage in game-programming. To make a good game you need an adventurous, interesting story then you have to make the rules clear so your player gets the hang of the game. It's educational because you have to write lots in popups and clues and you have to think about game language. You use maths too to work out points for health and strength. It's good for thinking skills.

Kimberley and Nathalie: The best thing about MissionMaker is it allows us to use our imagination. You have to think hard about who the game is for and work out rules. We'd tell anyone who had the chance to use it 'Yes definitely, it's amazing.' We learnt to work together to decide what to put in our game for Year 4.

Nila: You have to think about who you're making it for, so no violence and ask them what they like and want in the game. You have to plan so you know what you're going to do. I think you learn about programming, a bit of literacy and some maths. It's definitely worth trying MissionMaker even if you don't like it, but we think most people will love MissionMaker. We think most children should try it by Year 9.

James: The best thing about MissionMaker is that it's really cool and is something I've never done before. It's sometimes hard to find out why rules don't work but it makes you think. I love MissionMaker. I have to say, I have loved this project and all the communication with my partner and year 4 and I'd like to do something like this again.

Alexandra and Lola-Rose: I like making the characters say funny things! You learn to follow instructions. I like solving mysteries and problems. It's fun.

Lizzie and Betty: We love MissionMaker because it is really fun and you can make your own games using cool backgrounds and characters and pick-ups. There is a lot of thought that goes into our games; you have to program certain things like levers to open doors.

Harriet: I liked learning to open doors using different rules. You need to know how to do everything first then you can choose what you want to put in. It's hard and educational because we're programming games. I'd recommend it because it's fun and educational at the same time.

Steve and Calvin: The best thing about MissionMaker is that it encourages you to use your brain. You write instructions and solve problems and make things

happen. We had to email year 4 and write a questionnaire to find out what sort of game they like. Now we're making it. It's fun.

Lee and Micky: The best thing about MissionMaker is that you can use all of your great ideas and imagination, and use it as work! I would recommend it to everyone; you never want to stop playing. This is one of the best projects I have ever done.

Rachel and Francesca: We like playing the games we've made and testing the rules. You need to create popups and speech so the player knows what to do. We like making silly voices for the characters. It's cool because it's fun. It's fun putting worlds together and adding characters – it's the best ICT lessons ever.

Harvey and Henry: You get to make the game how you like it but have to think hard to work out the new stuff.

Chris and John: The best bit about MissionMaker is all of it because it's fun and easy to use. It's good to ask people what they want in the game you make. You can make stuff active, write popups and add special effects. I could help someone else use it if they wanted it.

Laurence and William: I like playing the game and working with my partner. We had to put triggers in to open doors and write stuff for the player. We enjoyed it like mad.

Lucy and Bridget: The best thing about MissionMaker is that you can be as creative as you want. We liked using pickups to add to health. it made the game more exciting. We sent out questionnaires and they helped us a lot so we know what genre and what to put in our game. MissionMaker has a wide range of pickups and props to suit each genre. We learn lots of stuff like making rules and literacy and maths and working with people we don't normally work with. It's good for education at home as well as in the classroom. We'd strongly recommend it whatever your age as you'll enjoy it.

Robert and Jake: It's really cool: you can invent a whole world. We've learned to be more specific with our rules. We'd like to use it in secondary school too to make harder games with more rules.

Sid and Edward: Once you've finished making your game you made up you get to play and share the game with your friends and family to play and discover how amazing MissionMaker is! We've learnt to program rules and use shortcuts on the computer. You need to learn how it works first to make a good game. You have to investigate rules to make them work.

Samantha and Kim: The best thing about MissionMaker is, well, basically everything but the best thing for us was being able to record our voices. We had to think about a lot of things such as how to open doors and how to make our game stand out. It's really fun.

Beth and Jane: The best thing is that you can build your own world and put people in. Even if you put loads of rooms and doors in, it's quick to load and play.

Victor and Vincent: You can make characters speak and chase you; we think it's very good. We kept our game small and did popups to give players hints. We

learned to work as a team and not argue. We think it helped our computer skills and so you should do MissionMaker in school.

Mary and Ben: The great thing about MissionMaker is you get to make your own world and play our games. We have made worlds in many different ways and like our spaceship. We want you to enjoy our game. We've learned how to make rules on doors so they open.

Stan and Oscar: We love teleporting and the special effects are really creative. In our game we wrote a lot of popups explaining how to find the jewels. Also we thought a lot about how to do the teleporting. At the start we didn't know anything about how to make games, now we know a lot about it. We would definitely recommend this to a friend because it is fun and you learn a lot from doing it.

Lola and Toni: You get to make up your own individual game using items that are given. We enjoy using the special effects and working out different ways to open doors, eg spatial triggers, special keys and slide cards. To make a game for someone else to play was a little hard at first because we couldn't remember all the rules but after a little while, when we started planning, it got easier and we memorised the rules. We then made a fun, exciting game. It's extremely fun, educational and exciting, and so much more. We always enjoy coming to ICT and we will carry on making new games at home.

John and Ivan: You get to make your own games and you're in control; you can do what you want. You have to check the rules work and that everything fits to play your game. You have to put things in that your player will like. You get to express yourself! Give it a go, it's addictive.

Daisy and Rose: You can make your very own personal game and add in great people. We had to ask year 4 what they'd like in a game. We had to plan it and play it so that it was perfect. MissionMaker is great it's so much fun for young people.

Sammie and Tish: The best thing about MissionMaker is choosing funky characters and being able to record their voices. We had to think hard about what settings to include, what popups we'd have, what our characters would say, what props increase and decrease the health and what the game is about. You also have to make sure the game isn't too hard for the player. We sent emails to our players and sent them a questionnaire. We learnt to create good, complicated games. It was a great experience.

Jimmy and Josh: You get to make fun and exciting games. You have to think whether anyone would want to play your game. You then have to learn a bit of programming to help your ICT.

Jim and Bob: With MissionMaker you get to make your own game, it's easy to use and it's fun. You have to do lots of work including building a world, writing popups, adding doors, levers, characters etc It's easy when you get the hang of rules.

Carys and Gemma: The best thing about MissionMaker is it's not just a game, you make your own. We learned to use triggers to make things happen. We learned lots more about technology and planning a game.

Fred and John: It's fun and teaches you how to think about and program games. It's hard work and takes a lot of time and skill; and you need a good imagination. It's extremely brilliant and anyone can do it if they try.

Gary and Paul: It's fun how we were able to make our own game on a theme. We learned how to make characters and objects do cool things. It's brilliant.

Lou: The best thing about MissionMaker is like how you pick it up so quickly and you can actually make a game and play it. You think up a plot and add rules and write instructions and clues. I learnt how to be patient and take my time. It really is fun.