**Primary Specialism**

**Summer Term 2013**

**Literacy from Scratch**

**Reflection on the project**

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**Title of Brunel Scratch Project: Living and non-living things**

**Others working in your group, if applicable: N/A**

**Subject matter of Scratch Project:** My project addresses part of the Sc2 primary **science** curriculum “Life Processes and Living things”. *Billy* seeks advice from his father about how to complete his homework about living and non-living things and they explore the various things they can observe around them.

**Age range of audience:** Early Key Stage 2 (7-9 years) Sophistication and speed of dialogue is probably too advanced for younger children, despite the subject matter being largely accessible.

**Description of the project:**

Michael Gove’s current plans to sweep away the traditional ICT lessons which children have received in recent decades, in favour of a move towards computer science and programming, are seen by many as contentious. Nevertheless, I believe there is a great deal of merit to them. Traditional ICT lessons have concentrated on teaching children how to use the basic software components that come pre-installed on most home computers. In practice, this has equated to getting to grips with Microsoft Office products. The sheer proliferation of computing and technology in our lives today, however, means that the next generation will need to know *how computers* *work* as well as how to *use* them. Training children to use technology without enabling them to *understand* it is doing them an enormous disservice, since it is apt to turn them into competent, yet ignorant, users of devices and systems understood only by a handful of programming *elites*, generally from oversees. In a world that is increasingly governed and administered by computers and the software they run, this is a trend that Michael Gove is quite right to address, in my view.

The starting point for this specialism pathway is that Scratch represents a potential teaching context for Gove’s vision in the primary classroom. I will admit to a degree of scepticism regarding the utility of Scratch in enriching the primary curriculum during the earliest stages of the specialism; however it became clear very quickly that the software has massive potential. In the first instance, children using Scratch are in a very real sense engaging with a relatively simple, user-friendly, point, click and drag format of computer programming. Since it is hardly realistic to expect children under the age of 11 to write and manipulate endless lines of programming language, Scratch with its colourful, logical interface which replicates many of the online programmes that children are already familiar with, provides a means for even very young children to begin their computer programming education; actually without even realising that is what they are doing.

Moreover, Scratch is a wonderful tool for teachers to use in the classroom. My own Scratch project has been designed to provide a fun, visual and engaging support to a regular primary science lesson. I envision it being used as a 10 minute plenary activity to consolidate the session’s learning, and also provide the teacher with the chance to watch the engagement and responses of specific children in their group, thus providing a valuable assessment opportunity.

I feel my project has been progressing well and at a good pace since the very first session. I was very quickly able to grasp the basics of what Scratch is capable of as a programming tool, and I picked up a host of other tricks and techniques from other group members during our shared discussion sessions. I have managed to create a tight presentation with lots of dialogue which is hopefully amusing for the viewer, but is still driving the scientific aspect behind the story, and thus assisting with learning. I have been able to use multiple backgrounds and embed music and sound effects into my story, which I feel makes it far more engaging as a teaching resource. Moreover, I have gained a great deal of personal enjoyment and satisfaction from creating this resource. The program is initially challenging to get to grips with but the difficulty curve is such that a little persistence and experimentation, as well as the sharing of ideas and discoveries with other people, means you are soon making excellent progress, and the on-screen result never fails to make you smile.

I encountered few serious problems; certainly nothing that stopped me in my tracks. Nevertheless, Scratch, whilst very user-friendly, can also be hard to get to grips with. I initially had problems with resetting my characters (sprites) to their correct positions after I had played the story. I was physically dragging them to approximately the correct positions, until I realised that you can tell Scratch to *hide* and *show* sprites and specific times and in specific locations on the screen.

Another on-going problem, or *complication,* is that if you wish to check the work you have just done at the end of your work, you are required to watch your entire story from the very beginning. In other words, there is currently no way of beginning the play-back from a given point in the story. Since my work has grown to over 7 minutes in length, this naturally meant I was spending a great deal of my time waiting to reach the part of my story I was interested in assessing and fine-tuning.

Related to this is the fact that Scratch does not display a running clock or timer to show you exactly how many seconds into your story you currently are. This would have been a huge time saving device, since timings are so crucial with your characters’ speech and actions. I was having to use a stopwatch to calculate at what time I needed, for example, to switch backgrounds, or start playing an audio file.

I have played my Scratch presentation for the year 4 class at my placement school. The subject matter did not fit in with their current science topic, but the class teacher was more than happy for me to show them anyway for the purposes of my project. The results were extremely impressive. A typically rowdy and talkative group were rendered silent by the presentation, save for regular bursts of laughter, sharp intakes of breath and the occasional *“wow”!* The whole group engaged with the science at the heart of the story, particularly during the final phase of the presentation where the children are required to group pictures into ‘living’ or ‘non-living’. This created excellent partner talk and cheers of delight when the answers were revealed on screen. More significantly in my opinion however, was the fact that the children could not believe it when I told them that I had created the show from start to finish. Having only had experience of basic software packages like MS Office, they couldn’t conceive how I could have put such a thing together, and were full of questions about how I had managed it. Such was their enthusiasm that the class teacher (who is also the school’s ICT co-ordinator) and myself have planned a “Scratch workshop” for pupils to attend with their fathers – we chose fathers since it will be held on the last school day before Father’s Day, Friday 14th June; my final day of the placement in fact. The workshop will be called “Fathers do IT” (see attached invitation document) and will be led jointly by myself and the class teacher, whom I will be familiarising with Scratch over the next two weeks, and we shall set pupils and their father simple challenges in Scratch such as character movement and speech.

The sheer range of projects produced by the trainee teachers on this specialism attests to the fact that the only limitations to the use of Scratch as a teaching tool are those imposed by one’s own imagination. Given that children are rarely found wanting in this field, I would therefore say that the future potential of this programme is extremely exciting, and I fully expect the quality of both pupil and teacher output to consistently improve, provided that the developers are proactive in working with the users to address and smooth out the various little ‘niggles’ of the type I have alluded to above.

If possible, and if my new head teacher agrees, I would very much like to get my own class working with Scratch when I begin work in September. In the context of an ICT lesson its benefits are obvious, yet it can also be used in the context of almost any other subject in the primary curriculum. Indeed this cross-curricular potentiality is one of its biggest draws. I must, however, confess to some anxiety related to using Scratch in a whole class ICT session. After a relatively short amount of time we, as adults, began to get a feel for what the programme could do and we found it increasingly enjoyable to use rather than daunting and frustrating. I do fear that for young children, despite the user-friendly nature of the interface, the complexity of Scratch could be overwhelming, and a lack of instant results could lead to disillusionment with the software. It is therefore crucial, I think, that teachers plan for a very deliberate and gradual *drip-feed* of techniques designed to familiarise children bit by bit with Scratch’s functionality. Children should be set simple, achievable goals initially, building up to more complex challenges, before allowing them more autonomy about the content of their own projects. This is the basic path I plan to follow when teaching my own pupils.

My advice to the next group of Scratch users would be as follows: Decide if you prefer to work alone or in a partnership or small group. Personally, I enjoyed taking sole ownership of my project and am extremely proud of my personal achievements. Nevertheless, I can see benefits in sharing the workload with a colleague, and if you are initially daunted by the functionality of Scratch then it might be useful to pool your resources. Above all, make sure you pay close attention during plenary and feedback talk sessions, because this is when you get answers to so many questions and problems that you previously may have been struggling with. In my opinion these plenary sessions could be extended in length next year for the next group of trainees. The time is more usefully spent discussing obstacles and solutions as a group, and I was personally happy to do the large amount of physical *work* on my project at home in my free time, since Scratch is freely available to download on any computer. Be ambitious with what you intend to do with your project – Scratch is capable of a great deal; but at the same time do recognise its limitations and don’t over-reach. Much of the most effective work is also the simplest.