



# Xientifica SOS

Article in teach PRIMARY (Issue 2.8) Daniel Phelps

It's science Jim, but not as we know it

(Submitted title)

Whenever I've taken one of my children to the latest Star Wars or a superhero film, I'm always astonished at what they take in and recall. They reel off the names of the planets, where the characters were born, how some superpower works, the speed and size and age of this, that and the other. It seems effortless. So too is their absorption of facts and figures from gaming with friends, or from playground chatter. So often their retention of such facts is encyclopaedic. I still, even now, underestimate what children are capable of learning – when they are 'not learning'!

I studied 'Experimental Psychology' at university and several simple concepts about learning have always stuck with me: *children are 'wired to learn'; children learn from each other; context is vital and enjoyment and interest are key*. Over the years I've realised that we can take advantage of all these ideas by using literature as a vehicle for learning.

Reflecting on my own learning, I have certainly learned most effectively at times when I was engaged, interested and enjoying myself. When I was young I loved reading the old Enid Blyton adventures. I also loved the Coral Island and Lord of the Flies. Those two books particularly, made a huge impression on me. We all recall vividly films we watched and stories we read as children. They have been locked in our memories where each story is a time capsule of mental images; characters, imaginary worlds, obscure details and emotions. However, do we take full advantage of this incredible power of narrative across the primary curriculum?

I first drafted Xientifica SOS, my first novel, in the early days of the national numeracy and literacy schemes. I'd taught only for a few years, but had become frustrated with the prescriptive and rigid nature of the lessons I was teaching. I wanted another, more creative vehicle, to add to my teaching repertoire. So I set out to develop a series of standalone chapters, or short stories - each focussing on a different science topic. I envisaged reading this last thing on a Friday afternoon as a fun activity. With a packed timetable, I thought, the luxury of *storytime* could be 'justified', as this would also *double up* as a science lesson!

I didn't stick to the plan. My series of individual stories developed into a full blown novel. Although I did read this early version to one of my year 6 classes, Xientifica SOS stayed resolutely hidden on my hard drive, not ready for the world. And that is where it remained, until last year.

## Literature vs the science text book

A child may not be a fan of science text books, but most children love learning amazing science facts and love a great story! Literature is therefore a wonderful vehicle for supporting learning. Firstly, when children are engaged and interested, they will learn best. So when they are engrossed in a story, a perfect learning environment already exists.



Secondly, narrative can create the perfect context which is so vital in helping children's understanding, especially of new concepts. The context created by a story creates a 'scaffold' or as I call it, a 'context web'. By carefully constructing the context, you are providing readers with a strong prop for their understanding. Not only that, a 'context web' will support the reader's retention of new information, since they have something to stick that new information to. A story will also reveal - through a context - how concepts are applied. This is important since the purpose for learning about them will be evident.

Lastly, the characters within a story can also play a significant role in supporting children's learning. The child characters in my story each have particular gifts (Luke Close has of course amazing powers of observation). The characters pass on their knowledge and skills to each other and so the reader is also being taught by other 'children'.

Xientifica SOS uses all these ideas to support the learning of science. As a children's poet, I've also included poems and riddles throughout the story as a further way of facilitating learning, after all, those nursery rhymes that we learned as children are still embedded within us! Different 'memory hooks' are also scattered throughout the book to help the reader remember facts. So the inclusion of the *phrase 'Run Or You'll Get Boiled In Veg'* should now be understood, if you think about 'rainbows'!

However, children are of course smart, so I must stress that the stories we offer must be authentic. Xientifica SOS is first and foremost an adventure story. It's *not* a science book. It has science in it, because science is all around us and we use it every day.

My hope is that Xientifica SOS will inspire children to look at the world differently, to see the science all around us and to notice its beauty. I hope it acts as a launchpad for children to ask questions about science, but primarily, I want children to simply enjoy it as an adventure story. You won't find any wizards or witches in my book, as I believe there is enough adventure and wonder for a lifetime in the real world!

**Daniel Phelps, October 2018**

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