**Please comment on your experiences of being taught science? Please use the categories of: reproducing/transferring knowledge, processes of science and constructing personal understanding.**

I don’t have a lot of interesting memories about science when I went to school, except that it was more teacher-directed (or text book) learning, rather than student centred learning. I do remember watching re-runs and snippets on television of the “glass and a half” man-Julius Sumner Miller; and *The Curiosity Show* stars, Deane Hutton and Rob Morrison. The latter two in particular for me, were very motivational demonstrating many different science experiments and giving the viewer room to think. This was a great opportunity to also conduct ones’ own experiments following the show, and they did open avenues of being able to construct personal understanding by relating discoveries to existing knowledge.

Reproducing/transferring knowledge-This can be useful in a variety of ways, to either confirm or question findings; as well as enhancing further enquiries into science; however it may not necessarily represent real academic attainment. It does however; enable opportunities to take existing knowledge and extend it or rediscover new knowledge if further experimentation/exploration is enabled. Very little opportunity unfortunately, was available at school, as learning was mostly textbook/teacher focused – following guidelines according to given instructions-hence we were duplicating already produced knowledge.

Processes of science-Various processes of science were followed, inclusive across other subject areas such as biology, botany and geology such as when exploring plant, animal and blood cells, through observation, comparison, investigation, and predicting-such as experimentation with reaction times for catching a ruler dropped between outstretched fingers; anticipating the time and recording these times and distance. Investigations were conducted, generally with teacher guidance and prior instruction, with the teacher telling us what to do, and asking to predict what we might find. This was also included in chemistry experiments, where liquids and chemicals were used-with teacher direction.

Constructing personal understanding-When I read information on science; discoveries and experimentation, I feel like I’ve really missed out in my “generation”, from the wonderful things students and people can find out these days. Many resources today, encourage and prompt questioning from children, as well as many books on experimentations in many areas of the natural world, which can lead to confirmation of existing knowledge; the discovery of new knowledge; and the ability to challenge facts-such as Emily discovering seeds can germinate in the dark, even though the textbook says they need light (Chinn, 2009). Whether knowledge is reproduced or transferred, enabling children to discover personal understanding is essential.

**How do your experiences compare with what you have learnt from this first section of the course?**

My experiences are vastly different from what I have learnt from the first section of the course. The missing piece from the presenters daughters toy in the 2nd YouTube presentation, demonstrates the need to be open to other suggestions and enable opportunities for exploration, experimentation and discovery. I must admit I took it for granted, that the green toy was the piece missing. It is also being able/encouraged to think differently, such as the presenter sitting on a chair-and asking what is behind each theory-each element of being-how does that really work? I had not considered that sitting on a chair involved such a scientific process – to me it’s just sitting on a chair.

It was interesting reading the differences between the two children – Emily and Sharon, and how the various beliefs occur. Mine was generally “because the teacher said so”, or “because the textbook said so”. Enabling student’s permission to experiment, argue for and against existing knowledge and develop their own meanings and discoveries is essential in furthering their knowledge and skills in science. Being able to recognise and acknowledge that science is everywhere in the “natural world” and be able to question and explore those questions, is an important skill to encourage.