

## Chapter 1

### **CAPABILITY**

#### *A philosophical position*

#### ***Why you might find this chapter interesting***

*In this chapter we focus attention on what – for us – is the central goal of education. Whilst some might prioritise knowledge, understanding and scholarship as the cornerstones that mark out the ‘educated’ person, we hold a somewhat different view. We prefer a view of education that celebrates qualities that empower people to make a difference in the world. Developing learners’ **capability** therefore seems to us a more important goal.*

*We discuss the roots of this capability in humans and locate design & technology capability within a wider ‘capability’ debate in education. We challenge the argument that capability-based learning should be informed by extrinsic motives such as employability, since we see it rather as a fundamental entitlement for all learners. We use some of the differences between UK and USA priorities in technology education to highlight the core issues and conclude with a discussion of (a celebration of) the critical role of uncertainty to this view of education.*

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We began our research in the mid-1980s with a pre-existing mindset about capability. It was never explicitly stated, and certainly it was never written down, but it was present – tacitly – in every team discussion that took place in those early formative years struggling with the *APU Design & Technology* project. We were essentially a team of experienced teachers with implicitly held views about the nature of being human; of what it means to learn; and of what is uniquely offered to those two concerns by learning through design activity.

## 1. CREATIVE HUMANKIND

With the clear vision that hindsight enables, it would probably have been very helpful if we had attempted to write down exactly what we thought we meant by design & technology capability, but being by instinct designers, we attempted rather to draw and model it. Subsequently, we found our concrete thoughts were put neatly into words by Bronowski when he was describing the uniqueness of humankind.

Among the multitude of animals that scamper, fly, burrow and swim around us, man is the only one who is not locked into his environment. His imagination, his reason, his emotional subtlety and toughness make it possible for him not to accept the environment but to change it. (Bronowski, 1973, p. 19)

Man is not the most majestic of the creatures. But he has what no other animal possesses, a jigsaw of faculties, which alone, over three thousand million years of life, make him creative. (Ibid. p. 42)

And (this) derive(s) from ... the ability to visualise the future, to foresee what may happen and plan to anticipate it, and to represent it to ourselves as images that we project and move about inside our head. (Ibid. p. 56)

Bronowski's focus here on creativity, as a unique quality in humankind, has subsequently been expressed by others, including Csikszentmihalyi.

Creativity is a central source of meaning in our lives for several reasons. ... First, most of the things that are interesting, important and *human* are the results of creativity. We share 98% of our makeup with chimpanzees. What makes us different – our language, values, artistic expression, scientific understanding, and technology – is the result of individual ingenuity that was recognised, rewarded and transmitted through learning. Without creativity, it would be difficult indeed to distinguish humans from apes. (Csikszentmihalyi, 1996, p. 2)

This view is also supported by Nelson and Stolterman (2003) who view design as being an entirely natural part of human behaviour that is engaged in at some level by practically all humans everyday of their lives. The way we intentionally act on our world through design is at the heart of human progress. As they point out:

Humans did not discover fire – they designed it. The wheel was not something our ancestors merely stumbled over in a stroke of good luck; it, too, was designed. (Nelson & Stolterman, 2003, p. 9)