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Student1(2)

In the Foreword to Mindstorms, Papert talks about his childhood fascination with gears. Describe an object from your childhood, and explain why it was important to you (then and later).

As a young artist (before I realized how much better other artists were), I could spend hours on end drawing animated flipbooks. My grandmother would collect bundles of scratch paper and staple them together in the form of a booklet. I would then speed through these booklets (faster than she could make them), drawing animated sequences of stick figures / cartoon characters performing different active feats like running, jumping, diving and swimming, skateboarding, playing basketball, dancing, etc. Upon the completion of each booklet, I'd proudly share each animated scenario at the dinner table and have each member flip through the booklet.

This simple object and activity afforded me great freedom, creativity, and control over myself, my thoughts, and my expression from an early age. One of the key challenges with drawing flipbooks with non-erasable markers / crayons came with making a *mistake*. For instance, if I didn't draw a particular stick figure's position just right on one page, I had to somehow recover and make that *mistake* segue into another action on the following pages so that it looked intended and planned. This greatly helped in the development of my mental mapping and flexibility and ability to pause, step back, and calmly overcome initial challenges. Furthermore, this activity honed my attention to detail, the power of my memory for such details, and enhanced my awareness of the nuances of human movement and gesture. The skills from my flipbook experiences have transferred across all areas of life from child to adulthood and absolutely impact the way I see and do things in my everyday life.

What idea (or passage) in Mindstorms was most provocative, intriguing, or surprising for you?

One concept that I strongly personally related to was the notion that *"when a child learns to program, the process of learning is transformed ... the knowledge is acquired for a recognizable personal purpose ... child does something with it ... new knowledge is a source of power ..."*

Not only have I experienced these feelings first hand with my own exploration of Lego LOGO as a child, but I also feel that this is such an important overall life-lesson to teach people of all ages because this experience of empowerment can fuel motivation and desires to continually learn, challenge, and improve oneself.

Mindstorms was written nearly 25 years ago. Which ideas in the book stand the test of time? Which ones don't?

Most of Papert's predictions about the progress of computers and their pervasive impact on our society have been accurate. One comment in particular that struck me was his notion of how computers would, in the future, increase the impact and hold of a TV program through varied content and drawing the viewer into the action. Unlike other media, active engagement is a unique attribute of the Internet that so many educators / publishers / advertisers are currently trying to capitalize on to build active learning, brand awareness, and profitability. Clearly our modern society has welcomed and adopted these aspects of computing, or else these interactions wouldn't be so highly coveted and monetized upon. Unfortunately, the power of computing still lags in the actual classroom and these capabilities aren't being utilized to their fullest capacity as Papert had envisioned.

I think that Papert overshot on his predictions surrounding the cost of computers, specifically funding for individualized student computers (\$1000/student, just 5%) and that supercomputers would be equivalent in price to a typewriter and a TV set. On both accounts, he oversimplified the idea that cost would simply be a straight linear decline from 1980. He did not factor in additional costs prompted by continuous tech improvements - such as the addition of new hardware/software,

augmented power, smaller size, the whole concept of portability / wireless - and the higher pricetag to justify these premiums. Quality is not a constant; it is always improving and at a cost. In the case of the schools, I imagine that more than \$1000 would be spent over a student lifetime in order to keep machines and software current, coupled with the societal / political factors that impact school funding and the availability of the projected 5%. Compared to typewriters and TVs, "supercomputers" still generally outprice these products.