

## Assignment 10: "Learning: From Speculation to Science"

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1. Analyze and describe how you have learnt complex systems (e.g.: MS-Word, Photoshop, Java, Sketchup, using the Web effectively ...)?

Briefly speaking, when I learn a complex system, I need a "thin book", a "thick book", and working on my own project. A "thin book" usually contains overviews of the system plus easy and fun tutorials (pictures are preferred). "Thick book" means those heavy books, which look like bricks. For example, I followed tutorials with Maya to quickly build a hammer and several other models. The next step was to work out my own 3D model, which was the purpose why I wanted to learn Maya. Then I applied skills obtained from previous practice. Whenever I needed more advanced usages, I had to consult the "thick book". Finally, when I felt the "thick book" was not thick anymore, I picked some interesting or important parts to read.

2. Describe the most interesting / exciting learning episode of your life!

The most interesting learning episode is the 2<sup>nd</sup> and 3<sup>rd</sup> year when I was in college learning water color and gouache painting. For water color, what I learnt was how to observe and capture subtle colors. At beginning, I painted a black vase really with all my black color (probably borrowed some from others). I tried quite a bit to believe what others told me that "black is not really black" (which is called "global illumination" in computer graphics, which I know many years later). Then after a period of time that I always saw too many colors on everything, my water color skill finally improved. Our professor liked to apply innovative ways to paintings, such as to scratch paper with a small knife or scattering salt to wet colors – the dissolving of salt gives very beautiful patterns, which he used to express the texture of rocks. The same professor taught us how to use gouache for realistic paintings. We experimented with many ways to generate special effects. I ever tried to use a tooth brush with a screen to imitate an air brush. A girl's painting was sent somewhere for exhibition, while it is unbelievable how she got the amazing background – she dipped toilet paper into colors and rolled it on the paper. That was a crazy and fun semester – there were always some surprising tools or behaviors in our studio.

3. Write in one short paragraph (a) what the following concepts mean and (b) which role they have played in your personal learning

### 3.1. Learning by being told:

"Learning by being told" means that a new knowledge is directly taught or told by teacher or expert and mostly, people just need to remember the definition and

characteristics of the new knowledge. This learning is a traditional procedure for people to acquire new knowledge, especially when a person is in his/her childhood. For example, I was directly taught with arithmetic's when I was a kid.

### 3.2. Self-directed learning:

As mentioned in this paper, "self-directed learning" can be considered as active learning. People who use this kind of learning can control their own learning, know what information they require, and recognize the purpose of learning. I have ever read many biographies because I was curious about how those famous people think of lives or deal with difficulties.

### 3.3. Learning on demand:

"Learning on demand" is a kind of learning under certain learning goals and tasks. People can clearly understand what knowledge they need to learn and what knowledge is most important and useful. I think I use it all the time since I changed my focus from architectural design to computer science.

### 3.4. Discovery learning:

When a person is learning knowledge, a new knowledge is discovered. This kind of learning can be called "discovery learning". People shall prepare to find new knowledge when they are learning. In history, many scientific discoveries is discovered when scientists made other research.

### 3.5. Experiential learning:

Basing on the previous experience or known knowledge of others to learn knowledge can be called experiential learning. People used others' experience and knowledge to accumulate their own experience and knowledge. Most knowledge that people have is from this kind of learning.

### 3.6. Informal learning

Informal learning is the way you learn to speak a language, who you are or culture. It is not formal learning, which often provides curriculum that someone else defined for you at a certain time and a place with some people. It will be over with some recognition in the end. Informal learning is never over - it is going on all the time. It is more than a theory and is the way you learn your job (>80%). It is by watching someone really good, such as your coach. Social network are vital to informal learning, for example, people learn from conversations... (<http://www.youtube.com/watch?v=NIETGJ0mnno>)

### 3.7. Collaborative learning:

Collaborative learning is group work study. Generally, working in a small group can lead people more effective in study and work. For the project of DLC class, I am learning from my team members.