



Russell Richman Consulting Ltd.

Teaching Specialization

Dr. Richman specializes in the area of building science with a passionate focus on sustainable engineering systems. This includes:

- fundamental building science concepts
- energy efficiency
- passive heating/cooling techniques
- policy analysis
- durability
- sustainable performance

Since building science is a catch-all subject with implications across a broad professional spectrum, there exists great potential for interdisciplinary communication. Areas that interest Dr. Richman include:

- environmental engineering
- mechanical engineering
- environmental science
- sociology
- policy

Teaching Expertise

Building Science

Introductory Building Science
Advanced Building Science
Sustainable Engineering
Glazing Systems
Cladding and Roofing Design
Building/Assembly Simulation

Other Subjects

Environmental Engineering
Construction Management
Solar Engineering
Introductory Structures,
Materials and Design



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Teaching Philosophy and Assumptions

My primary assumption about learning is that everyone has the capacity to learn about any subject they desire. I believe the depth of learning depends on several factors.

- *Desire*

I use the word 'desire' in my primary assumption. Depending on its context, it can mean 'need' all the way to 'longing' – these are two opposite ends of the spectrum. No matter what the situation is, a student needs to feel some type of desire to learn the material s/he is studying. Whether it's the more practical reason of "just having to pass" or the romantic notion of "being passionate about the area of study", the teacher's role is to recognize the desire and harness it to facilitate the optimal learning experience between student and teacher.

- *Confidence*

People are fragile when first learning a topic. At this point, the potential exists to form a mental block on the subject or a life-long passion. Confidence is built in a nurturing environment where negative stress and illusory expectations do not exist. Confidence is based on positive experiences. An engineering analogy is the concept of strings in a cable. Like building a cable, at the start only a single string exists and the cable is weak. As you add more strings the cable gets stronger and can easily accommodate failed strings (negative experiences).



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- *The Subject*

I believe everything in life, even the most difficult subjects, comprise a number of simple steps. The role of the teacher is to recognize this and deconstruct the question into digestible fragments. Each student has their own level of understanding to which the complexity of the fragments must reflect. When cutting down a tree, its simple when you have the correct tools. But if all you have is your simple set of hands, then you may have to take down the tree one branch at a time. The teacher's role is to identify what level of understanding the student requires when deconstructing the problem.

- *Learning*

No two people learn in the same manner. We are a diverse population and each one of us is our own unique selves. In line with this thinking I believe that people learn differently from each other. For a teacher to follow a single teaching style is professionally irresponsible. It would be similar to an ice cream parlour only serving strawberry ice cream. Both ventures will fail. I see the teacher's role is to deliver the content in several different styles that will capture a broad spectrum of learning styles.