

**It Is All About Training**

by Charles Robbins, July 10, 2011

A person can only fashion a new creation or procedure when they have experienced the individual elements that will make up the whole of their innovation. That individual, the product or process designer is like a chef who makes a garden salad that combines the proportioned ingredients of the shredded lettuce, diced tomatoes, red onion rings, cucumber slices and dressing into a perfect dish. Likewise, in an assembly or in a system, we can have a device that comprises of moving mechanical parts, electrical circuits, software programs and a static shell that holds the materials together. Only if we have the specific knowledge to bring these components together into a functioning assembly can we be successful. And when we do not have the experiences to achieve our goal, we will have to have the communication skills to acquire what we do not comprehend.

If we could download all of human understanding to date into our heads while we were resting, we could easily have the capability to add a factor here or a device there to make our invention function properly. Even though the access to information gets easier every day, our species lacks the ability for obtaining instant expertise; so our accomplishments depend on our ability to receive training in each new area.

So, what is the most efficient manner to obtain those new practices?

The first step is to try to identify the problem. Sounds easy. Maybe not. If we are designing an up-to-date computer program, we might only know what the computer monitor will display at the end of the process. We might even recognize what the user should type on the keyboard. However, we probably are missing the critical awareness concerning the important middle, where the input is analyzed, sorted and computed to present an answer. Although, at the beginning of a project, we are missing that know-how to process the input and create an output, whatever understanding we do have can be sufficient to start the journey as long as we can absorb the new knowledge along the way.

Our research to acquire the facts may begin by asking our associates, “who is the top performer we know that can do \_\_\_\_\_” (fill in the blank). With a little probing, we can quickly discover someone who has an experience we have never had. In short order, we can setup an appointment with the expert and begin the data transfer and gain the know-how. For those who wish, the library or Internet has textbooks or films that provide new skills to the reader or viewer. However this learning process comes to us in a single direction which is the specialist’s explanation and is without our ability to ask questions. So acquiring the material can be difficult.

We could make the learning occurrence more gratifying by following these steps.

1. Interview the World expert
2. Work with a local functionary
3. Watch a video of the process
4. Read a book on the subject

### 5. Communicate with a person on the Internet about the process

We should follow a research pattern that provides an efficient path to gaining understanding. Humans learn better from watching others and then doing the process themselves. We ought always to try to find a top expert who has the experiences we wish to acquire so we can at least understand where the global standard is. However, we can be economically limited, so we may have to settle for a local functionary that has good skills to show us. Between the local mentor and watching demonstrative videos and reading textbooks, we can soon become capable of performing the new process for ourselves. The present state of the information on the Internet for certain types of skills may be lacking, but we can use the World Wide Web's communication power to query the experts when questions arise.

Why are evaluations of our new skill set so important?

When we add a new capability to our being, we will need time to develop the expertise and like our initial salad recipe analogy we can add to this talent other skills to create something entirely new. This is where we need to observe outcomes and redefine the problem. Did we meet our goal? Or are we just operating at a fraction of the overall capability with our new experience? Most times in our assessment, we have to honestly submit that with some additional practice and even more work, we could go further in our learning. But, gaining new experiences involves courage, stamina, and positive motivation and our whole mental and physical state is being tested.

A perfect example of this scenario is in the professional areas of doctoring and engineering. Both careers require at least a decade of post secondary education and practice to gain the skills to treat humans or design and build a bridge for safe transportation. But how many individuals have what it takes to gain these new capacities to an industry acceptable level for that many years? In our world with its present challenges, we want a more experienced population that can manage energy, material and interactions, but when there are only a few experts or local functionaries, our system resorts to a supply and demand mode and for those who need the skill, they hear the phrase "the line is forming at the rear". In other words, we have to wait until we can get the training or purchase the skills of another who has the ability. So a lack of community skill set and expertise usually results in human suffering.

Therefore, training is job one in our society now and until we are able to download human know-how from one person to another. Without that capability, the efficiency in education is paramount to the process that presently has a high personal cost but also has extraordinary rewards to the individual. The entire system also has to be continually maintained since it is like a wheel with older human beings leaving our world with experiences and the younger people joining the collective where they are trying to gain new skills. In the ever changing arrangement, the combined human understanding will become more challenging to each successive generation since the additional experiences have to be passed along and therefore making the learning set larger.

A perfect question to ask to an individual or community each generation is:

## Principles of Design

- Can we build a pyramid?
- Can we design a temple or building?
- Can we build a ship or sailing vessel?
- Can we manufacture a car?
- Can we design a jet or a plane?
- Can we design a computer or circuit board?
- Can we write a computer application?
- Can we \_\_\_\_\_ (fill in a future capability)

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