



# What Makes a Good Construction Program?

By Yvan Beliveau

Today's construction practitioners, including labor, management, and leadership, are developed within varying training and educational models. Preparing for the trades comes from varying sources including union training programs, on-the-job training, technical schools and programs, and high schools. The sources of management and leadership comes from the trades programs listed above; however, over the past 50 years a larger percentage of these comes from associate degrees from community colleges and BS/MS degrees in construction from four year institutions.

So the question is how can each of these practitioner producing entities do a better job preparing individuals to succeed in the industry? The trades-oriented programs tend to be skills driven, focused on teaching how things are done. The most significant difference in associate degrees and degrees from four year institutions should be in the teaching of not only how, but also why it is done. An educational model that includes why broadens the learner's perspective. It allows the learner to be better prepared to cope with change and decision making; capabilities that are absolute criteria for personal growth and entry into management and leadership.

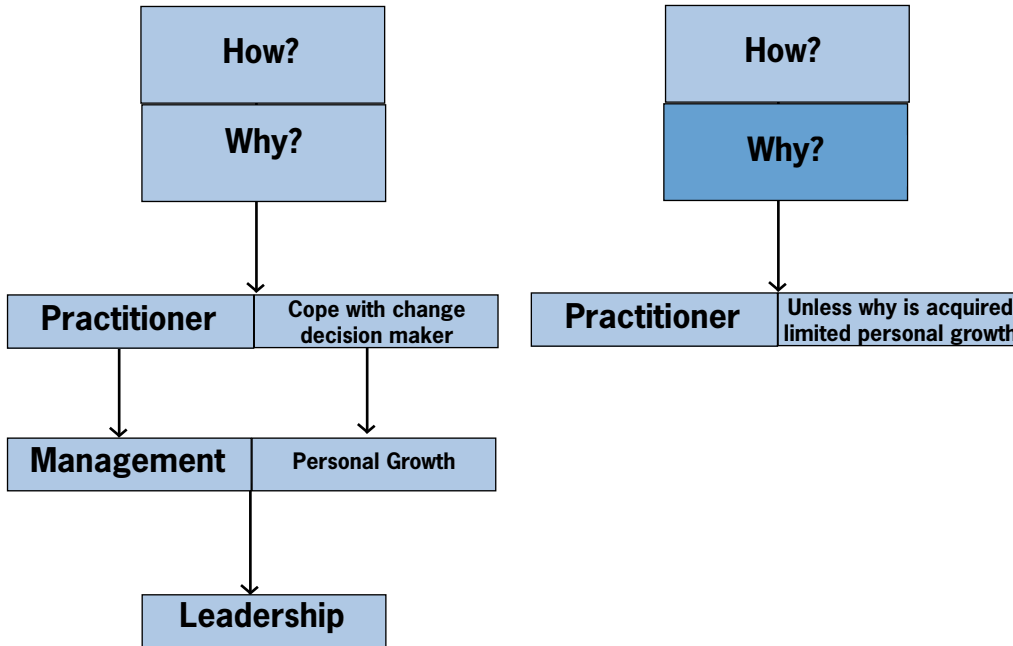
An academic program at any level must work to include the *how* and the *why* in the curriculum, from the trades to university. From an academic perspective this would be considered somewhat like a Socratic Learning Model. The problem is that it simply takes more effort by the educator.

Obviously the intent of individual programs varies greatly. Trades based training wants someone to do it correctly. Community colleges and universities should want the focus to be on management and leadership. The degree of long-term success of the participant/graduate depends fundamentally on that participant's ability to adapt to and grow into new roles. Without this ability, often it becomes a dead end career with limited potential for self-improvement.

First and foremost the process of training and education must include open-ended assignments; along with some exact answers for certain things, there must be some questions that are left open-ended. This allows a student to draw from their knowledge and ask questions to themselves or to teammates in search of building upon their current knowledge.

To accomplish this learning environment, there is a need to provide a different model from the classical lecture and test if they got it (show them how and let them try). The learning environment should include components that are team-based, case-based, project-based, problem-based in addition to the lecture and test model. These environments allow more engagement by the learner in the solution, and the question and answer process. The learner begins to be involved in actually questioning *why* and not just *how* to answer or do something. Only when someone is able to ask questions rather than simply respond, can the learner be

on the path to inquisitiveness, growth and self direction. From an academic model this would be considered a Constructivist Learning Model.



Often university graduates express that they leave the university needing another certification, another course, a little more understanding of how things are done, more Primavera, more specifics. What is important to recognize is that a little naivety goes a long way. Without inquisitiveness and naivety we would always do it the way it was done in the past. We would not be able to cope with change and decision-making. That is fundamentally what should separate training from education.

A trades program can include elements for long-term human development if the curriculum includes both *how* and *why*. This is best done in a mixture of classical teaching and team-based, case-based, project-based, problem-based learning environments. This important element should not be limited to degree-oriented programs.

The MLSoc at Virginia Tech in its Building Construction Degree and its Construction Engineering and Management Degree work to include elements of both *how* and *why*. This has been the hallmark of the success of its past graduates in Building Construction. As the university grows its newly formed Construction Engineering and Management Degree, it will continue to include these elements.

It takes extra effort and resources to teach in the learning environment described above. In the end the graduates are the proof of a process that has great merit.

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