

MCX



Member Communication Experience

Any views and opinions expressed in this article may or may not reflect the

cmaanet.org



Rethinking the Construction Education System

by Bob Prieto

This paper focuses on construction education as opposed to traditional education since I believe construction education presents some special challenges and opportunities. It begins by looking at the role of education in society and recognizing certain characteristics and objectives, including:

- The role in broadening the awareness of society and its current and emerging challenges.

- Improving the health and well-being (economic and otherwise) of society through a range of activities, including research, offering a platform for debate of a variety of views, and furthering education and training at multiple levels.

- Values development and reinforcement

Lifelong education can be thought of as occurring along four parallel vectors. The challenge each individual faces is to get not only enough of each vector, but a relevant balance consistent with their own needs. While each of the vectors below in traditional terms, I want to underscore that I do see the need for traditional roles and responsibilities to change in order to meet the future education needs of construction.

The four vectors for lifelong education can be thought of as encompassing:

1. **Education** but in a changed and evolving role.
2. **Industry** including its knowledge accumulation, curation, and dissemination roles as well as its role in lifelong education through licensure and continuing education requirements.
3. **Employers** both governmental and private that retain or utilize construction services of any kind. Each may utilize bespoke processes and practices, but these should be founded on recognized construction management and construction principles. The potential for multi-employer alliances of various kinds in the future needs to be recognized.
4. **Education Providers** lifelong education must recognize and capture the

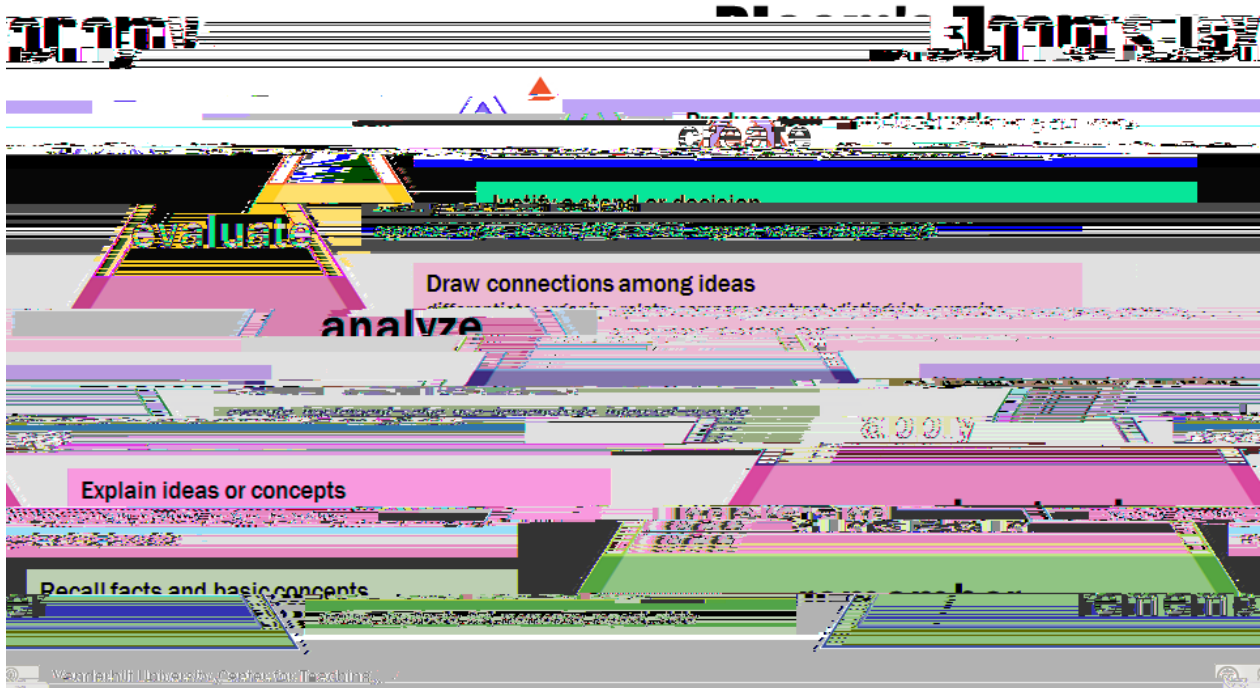
by the resultant capital asset, its cost, or schedule. It is also measured by the process to get to the end result, the value it creates as broadly viewed, and the level of unmet needs.

The holistic and systems approaches previously described will help create this outcomes awareness, and the construction opportunities inherent in outcomes-based contracts should be a subject of focus.

Continuously improving is a core concept in a revamped construction education system. It applies not only to construction enterprises and processes,

Similarly as they move through their careers, the construction source of training and knowledge will shift among the various participants in the broader educational system. It should be common for industry professionals to be at the apex of the taxonomy with respect to one knowledge area while at the same time moving up the taxonomy in a new skill or emergent area.

This concept of continuous learning/continuous improvement must be a core feature of the construction education system.

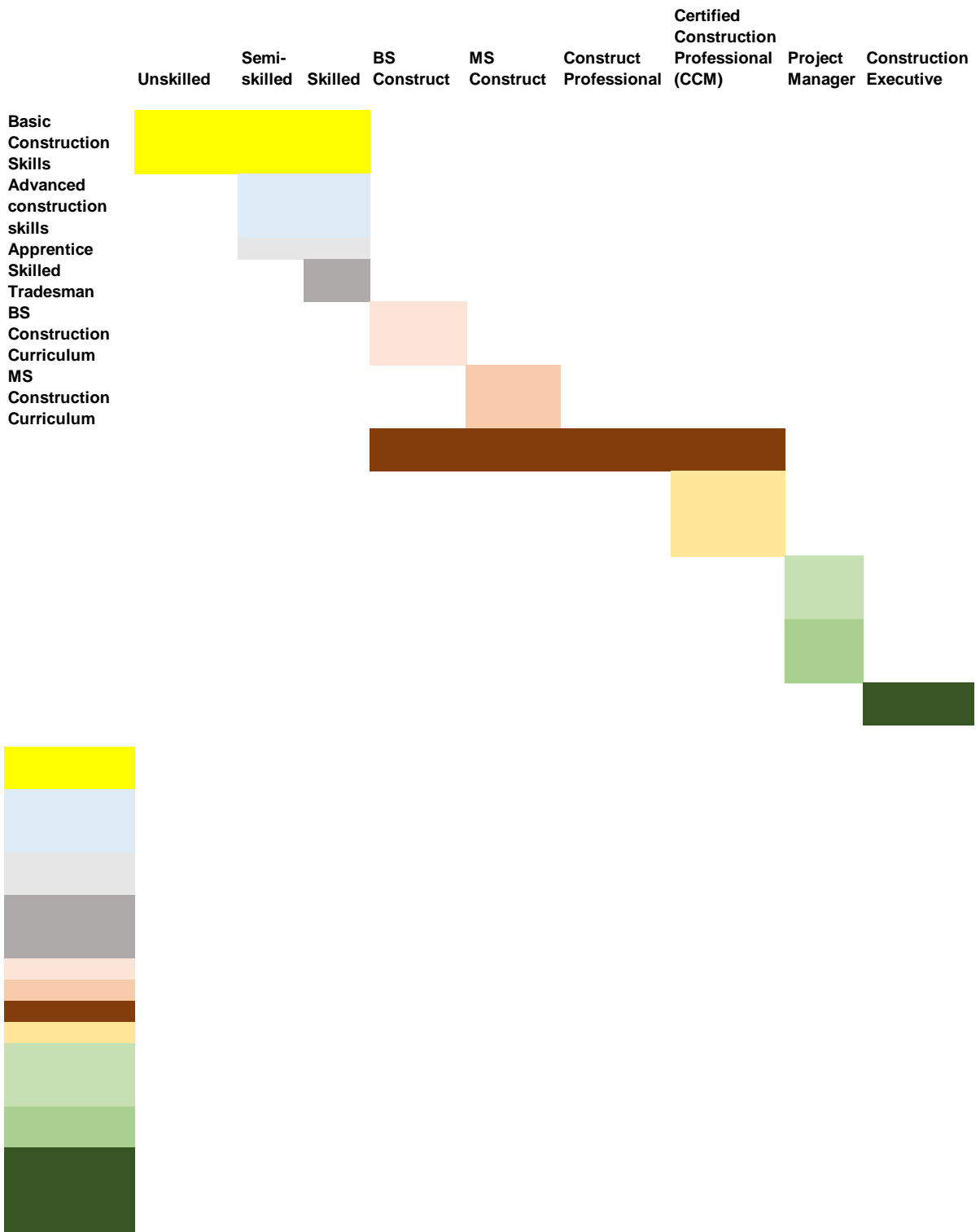


The career paths of construction professionals are reflected in the following figure, with the engineering career path included for completeness.

The construction education system must explicitly address each of the following education/career paths:

- Unskilled to semi-skilled craft labor
- Unskilled/semi-skilled to skilled craft labor
- Skilled craft labor to Certified Construction Manager (CCM)
- Bachelor in construction to Construction Management Professional
- Construction Management Professional to Certified Construction Manager (CCM)
- CCM to Project Manager





Education providers in a reconfigured construction education system are initially identified in the legend on the above matrix. Each role is described below:

On-the-job training is often informal, learn-by-doing training that is highly experiential. This is readily complemented by a series of YouTube® how-to videos, many of varying quality. A coordinated and consistent approach to such how-to videos would aid the profession and would be a reasonable adjunct to trade school curriculums. They represent an entry level form of distance learning as well as provide a ready refresher before undertaking a task. The industry would benefit by having equipment and tool suppliers provide

built on lifetime engagement with individuals, a value-added ecosystem, and more tightly integrated industry partners. Content will be more broadly used, but at lower unit costs.

Bob Prieto was elected to the National Academy of Construction in 2011. He is a senior executive who is effective in shaping and executing business strategy and a recognized leader within the infrastructure, engineering, and construction industries.