DL5: Comprehensive Examination Questions

Question #7: Critical Analysis - Leadership

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Question 7

Critically discuss two research studies published in a refereed journal pertaining to one aspect of Career and Technical (Vocational) education.

Introduction

The two articles examined in this essay, *Improving Leadership in a Technical Environment* and *Leadership Skills Development for Engineers*, examines leadership training from two different viewpoints; the first is a case example and the second examines a leadership training framework. In both cases the authors make a point about their being a great demand for not only qualified leaders in the field of engineering, but leaders who can be successful. They also stress how important it is for universities and corporate leadership training centers to re-think how they are training leaders for the engineering field.

ConITS

*Improving Leadership in a Technical Environment* by Cahrles B. Daniels examines the development of the Consolidated Information Technology (ConITS) leadership training program as it was being developed in 2001 by the NASA Langley Research Center in Hampton, Virginia. “The goal [of the project] was to merge three disparate information technology (IT) services contracts” in order to “improve customer satisfaction, streamline Langley’s IT services contracting approach, and gain synergies by implementing common support paradigms” (NASA, 2001). The solution chosen was to combine three popular leadership development models, 1) promoting the best technical or sales performers and the most ambitious candidates, 2) deploying internal leadership academies, and 3) the role model approach. What the reader of this article will find most interesting is how the author organizes the development by purpose, process,
curriculum, and results, and then adds a section on lessons learned. Educators will find this article interesting for many reasons, first – engineering leadership is a huge need in industry today and engineering firms feel that universities need to change the methods of how they are training leadership candidates, two – educators will find the methods utilized by ConITS to be ground breaking and will be encouraged to follow the model put forth by ConITS. ConITS continues to exist today and is regarded as a state-of-the-art process. You can read more about ConITS at the ConITS Web site http://www.conits.com (Ratheon, 2008).

A Framework for Leadership Skills

Farr and Brazil take a framework approach for their leadership skills development article. The authors make the point that universities are being challenged to “broaden curricula beyond the intellectual endeavors of design and scientific inquiry to the greater domain of professional leadership and entrepreneurship” (2009). In their article, Farr and Brazil include a quote from the 2005 National Academy of Engineering report which states that “Technical excellence is the essential attribute of engineering graduates, but those graduates should also possess team communication, ethical reasoning, and societal and global contextual analysis skills as well as understanding work strategies” (National Academy of Engineering, 2005). Farr and Brazil also reiterate a point made in the Daniels article that engineers need to be trained to be “agile leaders and entrepreneurs” (2009). The Leadership Skills Development for Engineers article offers several highlights for its readers starting with these nine leadership attributes: big thinker, ethical and courageous, masters change, risk taker, mission that matters, decision maker, uses power wisely, team builder, and good communicator. The leadership development model offered by Farr and Brazil places a lot of focus on individual endeavor; in fact they include an interesting term, “life stream,” originally penned by leadership scholar Bruce Avolio, to describe how each
leader brings a unique combination of attributes to the learning environment – genetics, childhood upbringing, and adult experiences (Farr & Brazil, 2009). The framework the authors propose is quite simple and is based primarily on three components: assessment, challenge, and support.

**Assessment**

Farr and Brazil state that “[t]he first step of assessment is to become self-aware” (Farr & Brazil, 2009). They then go on to say that “[s]elf awareness is an individual assessment” and that it “involves developing a clear picture of oneself through self assessment, peer and superior feedback, and formal and informal 360-degree assessment tools. Personality inventories, critical thinking tests, and emotional intelligence quizzes are all examples of self-awareness tools” (Ibid) which can be found online in plentiful quantity. Assessment basically comes down to finding out where you are in comparison to where, ideally, you want to be as far as your desired self.

**Challenge**

Challenge is all about pushing yourself to operate outside of your comfort zone, “experiences from which [you] will grow” (Farr & Brazil, 2009). The analogy the authors use is that of a runner wanting to run faster, stating that a runner will never run faster if “they only run at a comfortable pace” (Ibid). In order to be a good leader an engineer needs to improve on interpersonal, communication, and managerial skills. In order to do this the must get involved in projects areas where they don’t normally operate, “[l]eaders develop by taking on stretch assignments” (Ibid).

**Support**

The authors stress that universities, corporations and the like must recognize the need for this area of development and allow students the time and resources required. “In academics this
may necessitate restructuring grade requirements in pre-existing courses or developing entirely new course goals and objectives” (Farr & Brazil, 2009). In corporations, the authors suggest, “this might involve formal mentoring, rotational training, professional coaching, and professional development activities” (Ibid). They also make a point of the fact that the leader in training needs to be surrounded by supportive people that they can go to get feedback in order to try and make sense of any new situations in which they may find themselves in, stressing that “without reflection no growth takes place” (Ibid).

**Conclusion**

There is a great demand for engineers to be trained as successful leaders in order to lead American firms out of the rut they are currently experiencing. This includes having universities and leader training centers recognize that their curricula need updating to meet the demands of struggling engineering firms. The proof is in the pudding and ConITS is a shimmering example of what can be done, when it’s done right.
Works Cited


