

While reading "The Education of Engineers in America before the Morrill Act of 1862," I was struck by how unstructured this early engineer-making processes seemed. There were some four year schools (but not all requiring *four years*, like Norwich University), some lyceums, some schools changing program lengths as they saw fit. Of course, this makes historical sense, since America was just figuring out the kinds and quantities of engineers it needed, and it was taking inspiration from England and France.

It reminded me of the current (post-2010 or so) method of making technology workers. Many are coming from four year schools, but a lot of programmers are coming out of bootcamps and/or are learning programming through lyceum-style schools like General Assembly in New York. This parallel sparked a number of related questions for me: Do we have haphazard programmer production because America is still figuring out the kinds and quantities of software engineers it needs? Is it a similar response to "criticism [of colleges] for being elitist and irrelevant to American conditions" (p.462), like Reynolds describes in the 1800s?

Is it because - as part of America figuring out the kinds of programmers that it needs - we don't yet have a good, collective understanding of what a successful, working programmer actually does? According to Trevelyan (in Schmidt, 2014) engineers spend 60% of their time talking directly with other people yet don't see that talking as part of their engineering work. This is echoed in the Inside Higher Ed article - schools are cutting some of the classes that best prepare engineers for the 60% of their job.

This leads to the *one question* that my reflection paper is supposed to produce: if we have a skewed perception of what makes successful programmers/software engineers, how can we expect institutions to produce effective workers?

Reynolds, T. S. (1992). The Education of Engineers in America before the Morrill Act of 1862. *History of Education Quarterly*, 32(4), 459. <https://doi.org/10.2307/368959>

Schmidt, J. A. (2014). Changing the Paradigm for Engineering Ethics. *Science and Engineering Ethics*, 20(4), 985-1010. <https://doi.org/10.1007/s11948-013-9491-y>

Watered-Down Gen Ed for Engineers? (n.d.). Retrieved September 5, 2017, from <https://www.insidehighered.com/news/2015/06/26/faculty-members-criticize-proposed-changes-gen-ed-accreditation-standards-engineers>

interesting connection

I am not quite following how you get to this question... especially because you introduce words explaining them where the metrics come from for a better try them...
taking space away from your thoughts