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A History Teacher Who Happened to Teach Manufacturing . . . and Loved It

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Chicago is a fascinating city, with enough history to fill several courses of study. Nine years ago I moved to this wonderful Midwest city, and have had the opportunity to teach Social Studies to high schoolers in the Chicago Public Schools during that time. I have led courses in US and World History, Global Issues, and Consumer Education.

Then, at the beginning of this year, a unique opportunity presented itself. The school at which I had taught for the past eight years was slowly (but steadily) losing enrollment, and my principal was searching for a way to rectify the issue. An idea was hit upon: to bring students into the engineering and manufacturing track within the school. This engineering and manufacturing track is coordinated by the non-profit Manufacturing Renaissance.[3]

In light of the student enrollment issue at my high school, my principal asked if I would be willing to teach an exploratory class at a local middle school. The idea was to introduce students to the basic concepts of manufacturing with the hope that their appetite would be whet and a passion ignited. Additionally, the thought was that if these students formed a relationship with their high school teachers early enough in their learning trajectory, they would be more inclined to attend our high school and pursue a diploma with a focus on engineering and manufacturing.

I was admittedly skeptical of the idea initially. As someone who has taught history his entire life, I was hesitant to teach a subject with which I had almost no experience.

In addition, there was my own history. Prior to beginning my teaching career, back when I was younger and preparing to graduate from high school, my parents helped me to consider all possible career options. But every one of those options included college. As the son of an educator, education was in my blood. Looking back, I learned a lot of information in college, but some of the biggest lessons were around discipline, self-reliance, and teamwork. Those are lessons that have served me well in life. I constantly reflect upon how I want my students to be able to graduate from college and have those same opportunities for growth, while also realizing that college is much more costly today than it was even ten years ago.

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So, after several discussions with my principal and the people from Manufacturing Renaissance, the determination was made that it was a good fit. We would pursue the project.

The key selling point that convinced me to pursue this relationship and teach at the middle school was the vision that the people from Manufacturing Renaissance had—both for the students and community they served. Their basic premise, with which I agree, is that every student is capable of attending college and should have the chance to do so. However, we

[3] See the article in this issue by Erica Swinney.

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should also equip these students with marketable skills in case they choose to go directly into the workforce.

The idea of closing doors to young people seems ludicrous, especially when so many of them have no idea what type of career they will pursue. However, it also seems counterintuitive to force students to take advanced course in subjects in which they have no interest. In my first few years of teaching, I often struggled to adequately answer students when they would ask a question such as, "I really want to go work in my dad's mechanic shop when I graduate. He took it over from his dad, and I'm gong to take it over eventually. Why do I need to go to college?"

Often I responded with the requisite, "it never hurts to keep your options open," or "you have to be able to manage the books as well, so you may want to consider a degree in accounting". The inherent problem with that response is that, many times, the student had no interest in accounting. I questioned why it was important to tell a student that they should absolutely pursue college. Especially in light of the ballooning costs of post-secondary education, I reflected on whether it made sense for a young man or woman to accumulate tens of thousand of dollars worth of debt and forego four years of on-the-job experience to get a degree that may or may not benefit them in their chosen career.

These were the things that would keep me up at night. As I contemplated these ideas I would consider the obvious counterpoint that, despite the high costs, college degrees can still open doors and, generally, those who go to college will have a higher earning potential over the course of their careers. Part of my job as an educator is to show students how they can achieve more than they ever thought possible, and in no way did I want to limit my students, or even validate their desire to limit their own pursuits. So when the people from Manufacturing Renaissance explained their vision, I was intrigued.

Essentially, Manufacturing Renaissance is a non-profit organization that operates within a Chicago Public School. Their goal is to teach students basic manufacturing and engineering skills that can prepare those students for a post-secondary career. Along with coursework, students visit manufacturing companies and work at internships to gain real-world experience. Whether the post-secondary goals of the student include going straight to the workforce or attending college, the plan is that they are prepared.

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Additionally, one of the stated goals of Manufacturing Renaissance is to see communities transformed. Their desire is to see students be gainfully employed and involved in job creation within their communities in order to spark a revitalization of commerce in underserved neighborhoods. The idea of serving the community through the education of youth, with a focus on both college and career, was right up my alley.

When I walked into the middle school on day one of the 2016 school year, I had no idea what to expect. It turned out, of course, that kids are kids, no matter where you teach. I was grateful to be able to team teach with a gentleman who had been teaching a shop class at our high school for several years. He brought expertise from the manufacturing world, whereas I had the background in social studies education. We complemented each other well and learned from one another.

We have able to teach students how to use instruments such as dial calipers and micrometers, which will be useful should they pursue a

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high school curriculum pertaining to manufacturing and engineering. Additionally, we showed the students how to build simple machines using pulleys, gears, and cranks. The idea was to create a foundation of knowledge that could be built upon in the future. Finally, we led the students through the process of using a Computer Numerical Control (CNC) machine.[4] Students designed a top on the computer, then watched as the CNC machine brought their design into the world. It was simple (but great) way to whet the students' appetites and show them how interesting a career in manufacturing and engineering could be.

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At the end of the day, I agreed to teach at the middle school out of hope. I have hope that the students I meet there will be able to pursue a career that they are passionate about—without drowning in college debt along the way. I hope that students who otherwise would have dropped out of school find a reason to keep attending and see a path to success through a career in manufacturing or engineering. Most of all, I hope that students can see that there are many paths to success and, whether this means college or straight to the workforce, there are teachers to help them along the way.

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[4] According to Wikipedia, "Numerical control (NC) is the automation of machine tools that are operated by precisely programmed commands encoded on a storage medium, as opposed to controlled manually by hand wheels or levers, or mechanically automated by cams alone. Most NC today is computer (or computerized) numerical control (CNC),in which computers play an integral part of the control."