Filling the Skills Gap with Education

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Abstract

Much of this paper is prepared based on the arguments and observations made by Mike Rowe. The primary concern is a “widening skill gap” in which there are not sufficient numbers of skilled professionals to fulfill the everyday needs of society, such as roads for transportation, indoor plumbing, heating, and cooling. A change is necessary in the secondary and higher education systems to fill critical jobs in the work force and meet the needs of society. The first step in addressing this situation is better career assessment and development in the secondary education setting to better equip students to identify and pursue a career path. Second, a better integration and unification of vocational training and university education could transform both the educational system and the business world for the better. Recognizing and addressing these issues will not only keep the lights and air conditioning on, but have a huge economic impact as it would help fill millions of unfilled jobs and relieve trillions of dollars of student loan debts. It is time to get to work!

Keywords: secondary education, vocational education, skills gap, higher education
Filling the Skills Gap with Education

For the longest time a college degree was the distinguishing factor between white collar and blue collar jobs, the upper and lower classes, as well as a symbol of hard work, status, and intelligence. Unfortunately the education process in the United States has not kept pace with the rapidly changing workforce. According to the Washington Post, only 27% of college graduates have a job that relates to their degree (Plumer, 2013). This reflects a gap and serious problem in our current education system. To add to that quandary, Mike Rowe reported that not only are there currently 5.6 million unfilled, skilled job positions, but there is also an outstanding student loan debt of 1.3 trillion dollars (Rowe, 2016). The culmination of unfilled jobs, the lack of skilled professionals to fill those jobs, and immense debt is a recipe for disaster. In the recent aftermath of the Great Recession, a close evaluation and assessment of our current system is imperative.

That evaluation and assessment needs to begin within the secondary and high school education systems. Schools have become more focused on students passing standardized tests than preparing pupils for their future and the workforce. According to Mike Rowe, “vocational education has pretty much evaporated from high schools.” (Rowe, 2016, para. 10) In other countries, such as Germany, high school students’ education is tailored to their capabilities and their plans at pursuing a vocation or a university education. This places the emphasis on educating, preparing, and training students for the future, rather than training students to pass a test that reflects well on the school. Second, this career development approach needs to be carried on to the university level. One group that has already addressed this issue and
successfully implemented a solution is the nursing profession. In less than a century, nursing went from a vocation of changing sheets and bed pans, to a profession that is responsible for the majority of patient care and procedures performed in the medical world. Nurses have successfully developed and implemented an educational structure that spans basic certifications such as Certified Nurses Aid (CNA) and Licensed Vocational Nurse (LVN) all the way to a Ph.D. in Nursing. Emulating this evolution into other professions would revolutionize the education system and help address many problems such as student loans, unfilled skilled jobs, and people working in jobs that do not relate to their education.

**Secondary Education in the US**

Given the 5.6 million unfilled, skilled jobs that Rowe is so passionately working to address and fill, one has to ask why this situation coexists with unemployment. While there may be many complex reasons for this, the root of the problem is education and preparation. At the mature age of 18, most American students generally graduate high school and have to try to choose a career path, go to college, or find a job. The question begs to be asked, “What is being done to prepare these students for higher education or the workforce?” Essentially, students are thrown into the water to sink or swim upon graduating high school. With millions of unfilled jobs, trillions of dollars of student loan debt, and a low percentage of people working in areas of their college degree, it is apparent that the current system is not working.

**Standardized Testing**

High school students must pass some form of standardized test to graduate and get their diploma. While this is necessary and perhaps a good thing, schools seem to be more focused on
standardized test scores than career development. Many times these tests are used as a metric to judge teacher and school performance, and many times funding decisions can be made based on test scores. In theory this should be a good gauge of how schools are doing; however, in all reality this logic is counterproductive. In an article by Martin Wasserberg and Amy Rottman featured in the journal *American Secondary Education*, he states, “Test-centered curricula are often heralded as an effort to decrease achievement gaps, although analyses have demonstrated that the effort has largely failed and has led instead to academic disengagement.” (Wasserberg & Rottman, 2016, p.57) They go on to say, “seventy-seven percent of the teachers surveyed stated that standardized testing negatively influenced their teaching and student learning.” (Wasserberg & Rottman, 2016, p.57) The reasons found for the disengagement of students and negative influence on their learning included teachers underestimating students abilities based on test scores, an emphasis being placed on passing tests rather than graduating, and an importance placed on higher test scores rather than “a more engaged level of learning.” (Wasserberg & Rottman, 2016) His proposed solution is to create short term goals that will interest the student and will contribute to long term goals such as higher education or a career rather than solely focusing on a standardized test. When teachers are put into a position in which they have to focus on a student’s test scores instead of the actual student and his/her education and needs, everybody loses. Test scores have taken precedence over “more engaged levels of learning” such as vocational classes in high schools which can offer students skills and experiences for a trade or occupation after high school. The second part of the message told to high school students is “Pass the test…so you can go to college.”

“*Not everyone should go to college.*”—Mike Rowe
In a Fox Business article written by Matthew Wisner, Mike Rowe very plainly and bluntly states, “Not everyone should go to college.” (Wisner, 2017) Just as standardized testing has become the default, going to college has become the assumed follow up to “passing the test.” The problem with this structure is that it overlooks some very important details. When a student is told he or she needs to go to college, that may be true, but for what degree? What career does the student want to work towards, and does he or she realize and understand the steps to pursue to achieve that career? These are questions that go unasked and unanswered that lead to education without direction which results in 1.3 trillion dollars of outstanding student loans and 73% of college graduates working in areas outside their field of study. Is this all to say that education is not important? Quite the opposite! Mike Rowe stated in an article explaining his position on education, “To be clear—I strongly support education in all its forms. I have a college degree, and as I’ve said many times, it’s served me well. But I believe society is making a terrible mistake by promoting college at the expense of all other forms of education.” (Rowe, 2017, p.2-3) In the same way that standardized testing tries to uniformly assess all students without looking at the students as unique individuals, promoting college for everyone neglects to look at the many different career paths and forms of education that might better serve the student. “Rowe says putting an emphasis on college education sends many graduates into the work force saddled with high debt—and without skills that could have been acquired more affordably at vocational schools.” (Wisner, 2017, para. 4) The point here is very simple. Education is crucial, but it needs to be the right education, for the right student, for the right career path. So what are other countries doing to address this situation?

**The German and Dutch School Systems**
It is recognized that every system has its flaws, but looking at other educational models can shed some light and provide direction for improvements in the current secondary education system in the US. The following information is taken from an article “The German School System” featured in an online publication *The German Way & More* that discusses and describes culture and customs in Austria, Germany, and Switzerland. Not all of the five types of secondary education discussed are found in all parts of Germany; however, the basic structure and principles are commonly used throughout Europe. Specifically, in Germany students are placed in one of five schools based on their interests, capabilities, and academic performance by the age of 10. For the higher performing students, *Gymnasium* is the highest level of secondary education, and is specifically designed to prepare the student for a university education. *Gymnasium* starts in the 5th grade and the students graduate after the 12th grade and 13th grade in some states. The next level of education is *Realschule* which is intended for average students. This is the most popular secondary education level, which accounts for approximately 40% of students in Germany. Even though this is not as advanced as *Gymnasium*, it is considered a good education “with academic standards that usually exceed those of a typical high school in the US.” (The German Way & More, 2018, p.5) The least demanding type of secondary education is *Hauptschule*, which is intended for students who will enter a trade or apprenticeship. *Hauptschule* is designed to prepare students vocationally and part time apprentice work may be part of the education. Upon completion, students can graduate and transition into a technical or vocational school that is generally two years. The three previous mentioned levels of secondary education are the most common, but some states offer *Mittelschule* which is an intermediate school between *Hauptschule* and *Realschule*. Another uncommon form of school is
Gesamtschule which is considered to be a comprehensive school of the three major types and is comparable to American high school. (The German Way, 2018)

As mentioned earlier, every system will have its flaws. There are two important limitations of the German system one must observe. One is that even though it is possible to change tracks between different levels of schooling, this seldom happens. This could lead to students who were placed incorrectly, or did not perform well on an aptitude test, being placed in the wrong education level which could limit future educational and professional possibilities for the student. Another point the article makes is, “Citizens of the German-speaking countries seem to feel that the current system produces good results – despite a poor showing in recent PISA [Programme for International Student Assessment] rankings and other educational studies that indicate German schools don’t always produce the best educated students.” (The German Way, 2018, p.2) While this may shed a negative light on the German school system, it is important to note that PISA tests students on an academic level and not necessarily on vocational and technical abilities. In spite of these shortcomings, the concept of individually evaluating a young student and trying to place him or her into the proper type of education based on his or her abilities to offer the best possible education and maximize their potential is an advantageous concept.

In The Netherlands a program was instituted with the goal of creating an educational pathway that streamlined and improved the transitions between educational levels and focused on a specific area of study. The study conducted was featured in the article, “Students’ Learning Performance and Transitions in Different Learning Pathways to Higher Vocational Education” in
the journal *Vocations and Learning*. It focused on the Green Lycea (GL), an accelerated agricultural curriculum, compared to the standard secondary education of The Netherlands. The problem was identified that, “For many students, the various educational programmes corresponding with successive educational levels represent separate worlds, which makes it difficult for them to link and integrate the content of these programmes. (Biemans et al. 2013) As a consequence, transition periods may be stressful for many students (Wheelahan 2008; Catterall et al. 2014).” (Biemans et al., 2015, p.317) This accelerated program was designed to create continuity between educational levels, focus on knowledge, skill acquisition, and competence. The GL was also a year shorter than the standard curriculum. There were two major findings from the assessment of the GL in comparison to the standard curriculum. First, GL students performed just as well as traditional students on standardized tests; however, they were in school one year less than traditional students. Second, a higher percentage of GL students continued to higher vocational education than traditional students. (Biemans et all, 2015) The authors go on to identify two areas that need to be addressed. “One possible solution is to promote the quality and intensity of career orientation and guidance for students in schools” and “Career orientation and guidance as such, however, do not solve problems of disconnectivity with respect to the content of educational programmes of successive levels in the educational system…this seems to require a curriculum design solution, i.e., the design and implementation of new continuing learning pathways.” The findings of this article are clear. Students need guidance in choosing a career and their education needs to be a smooth pathway directly related to that career.

**Possibilities**

Realistically then what can be done? In the article “Student’s Preferred Characteristics of
Learning in Vocational Secondary Education” published in the *International Journal for Research in Vocational Education and Training*, many powerful observations and recommendations are made. The first point made is, “Internationally, schools are not meeting the needs of growing numbers of students in secondary education. Especially for those students whose backgrounds have placed them at ‘disadvantage’, the statistics are disturbing (Smyth & Fasoli, 2007 as cited in Plackle, 2014, p.109) It is easy to think that the US is the only country facing this difficulty, when in reality every country is facing a rapidly evolving workforce and therefore a need for an equally evolving education system. This article provides an educational model called the Inventory Powerful Learning Environment in Vocational Education (IPoEVE). In this model, the foundation is a positive and safe learning environment, in which the student is the center. Some of the highlights of this educational model include authentic learning tasks, key competency development, and adaptive learning support. While this specific educational model is not the impetus of this paper, the findings of the study are important. The results of the study show, “students prefer challenging and authentic learning tasks, self-regulated learning, collaborative problem solving, assessment for learning, and structure and trust.” (Plackle, 2014, p.117) This shows that education needs to be realistic and tailored to the student. While that may be difficult, a scheduled, cookie cutter approach cannot be taken. The findings of this study read like a well written résumé: “I am a person that enjoys challenging and authentic tasks, and I am a collaborative problem solver. I want to be fairly assessed for my growth and learning, and want to work and contribute to an environment of structure and trust.” While this would make for a great résumé, these are characteristics found in high school students that are not even looking for a job. They are looking for a quality education that meets their personal needs. The
authors of the study concluded, “Students themselves are asking for challenging learning pathways; they want to widen their horizons and take their learning into their own hands. They prefer to solve authentic problems with each other’s support.” (Plackle, 2014, p.118) The point is that there is not a need to reinvent the wheel, but rather nurture and cultivate the learning spirit that is already present in the majority of students.

While a complete overhaul and restructuring of the American secondary education system may not be realistic or feasible, one of the greatest services that can be offered to students is career assessment and counseling. The article “Career Assessment Practices for High School Students with Disabilities and Perceived Value Reported by Transition Personnel” featured in the Journal of Rehabilitation strongly supports this position. The article highlights the need for additional career counseling and coaching for students with disabilities, but the finding of the article are universally true for all students. It has already been shown that in the majority of high schools across the nation an overwhelming importance has been placed on standardized testing, “just pass the test,” and “go to college.” While these principles may be true or necessary in their proper place, a little time needs to be taken so that each of these mile stones are properly placed in a career path that will benefit the student. This can be accomplished by offering students individual career counseling, aptitude tests, job shadowing, on the job training such as an apprenticeship or work study program, and job seeking skills. (Herbert, Lorenz & Trusty, 2010) The main point of the study conducted in the article found, “For students receiving them in the first two years of high school, career assessment and related outcomes have a stronger chance for success as it allows students greater opportunities for career exploration.” (Herbert et al.,2010, p.23) This shows the importance of career assessment and coaching, especially early in
a student’s education. With proper guidance and planning for a long term goal and career, standardized tests, graduating, and going to college become milestones and check points rather than obstacles in the journey. The GL in The Netherlands was designed for this kind of streamlined approach to a smooth educational pathway.

In summary, many countries offer different approaches to secondary education and there are various structures, models, and programs, but the basic principles are the same. First it needs to be recognized that standardized testing is just one assessment tool; it is not the goal of education. The goal of education needs to be a long-term goal such as a career or field of study; therefore there is a need for career counseling and career education in addition to the traditional curriculum taught in schools. Each student is unique and there are millions of jobs and careers. While it is a challenge to meet each student’s needs and adequately prepare each of them for his or her future, this is the ultimate goal of education.

Higher Education in the Vocational Setting

Problems and Challenges Faced

One of the largest problems and challenges faced is the social stigma against people who do not go to college. As mentioned earlier, Mike Rowe states that he strongly supports all education, “But I believe society is making a terrible mistake by promoting college at the expense of all other forms of education.” (Rowe, 2017, p.3) It is important to not mistake what Rowe is saying to mean that he is against college. His whole premise is that he is against education without a purpose that is costly. To illustrate this point he compares two hypothetical people. One gets a
degree in Russian Literature and accrues $100,000 in debt, while another person goes into plumbing. The difference between the two Rowe says is,

   The kid who apprenticed to be a plumber or an electrician is looked at as something less. Even if he has no debt! Even if he makes six-figures a year! Even if he hangs out his own shingles and hires other plumbers! This year, American Standard donated $100,000 to my scholarship fund. It was a massive struggle to find anyone willing to learn the plumbing trade—even when the training was free! That’s because collectively, we still value that Russian Lit Degree more than a plumbing certification!” (2017, p.3)

   Even though this is in part a hypothetical scenario, the message is true. People who go to trade schools or complete on the job training are viewed as less in society than those who have initials after their name regardless of how successful or necessary a person might be. This stigma creates dangers that are much more severe than an attitude of affluence or arrogance.

   Mike Rowe describes one of these dangers as a “wide skills gap” or the fact that there will not be enough skilled professionals to fill crucial jobs such as plumbers, electricians, welders, and machinists. Rowe describes the dilemma saying, “the unintended consequences are now self-evident—the vanishing of shop class in high schools, $1.3 trillion dollars of student loans, and 6 million vacant jobs that no one is trained to do. That’s the skills gap. It’s real, and it’s a massive problem for anyone who shares my addiction to smooth roads, cool air, and indoor plumbing.” (Rowe, 2017, p.4) In the name of pro-education, a situation has been created in which there is a significant shortage of skilled professionals. If society continues in this same pattern, there is going to come a point in which a person is going to have a backed up toilet, an
electrical outage, or no heat on a cold winter day, and no one to fix the situation. Due to supply and demand, once a professional is found who can fix the problem, they will be able to charge rates that would rival a medical procedure. No matter how inconvenient these personal problems may be, there is a much larger problem at hand.

The “skills gap” that Rowe describes has a much more profound impact than people realize. In an article in the *Australian Journal of Adult Learning* written by Harry Friebel, he summarizes, “In his study “Vocational Education in Upheaval”, Baethge wrote that ‘the central focus is on the category vocational mobility, which is vitally important for both one’s individual professional career as well as for the safeguarding of the human resources in a modern economy.’” (as cited in Friebel, 2014, p.123) Friebel discusses the two areas of impact of vocational training. Obviously it is important for an individual to receive the proper education and training for his or her career, but that importance does not stop there. The importance of having skilled professionals and technicians affects society as a whole, or as put earlier “safeguarding of the human resources in a modern economy.” This safeguarding refers not only to jobs and employment, but also is to ensure that there are people trained to keep the infrastructure of society working properly. Furthermore, the economic burden and impact of $1.3 trillion of student debt will eventually reach its breaking point. In the macro level, there is an unbalanced equation between overwhelming debt, millions of unfilled jobs, and society’s needs not being met. Not only is this a problem for those who share Rowe’s addiction to smooth roads, cool air, and indoor plumbing, but it poses a huge economical problem in the wake of The Great Recession.
So what can be done to address this situation? As previously mentioned, integrating career assessment and counseling as well as vocational education early in the secondary education system is critical. This will not only help prepare students for the workforce, but will help reduce the stigma of “not going to college.” In the previously mentioned article Friebel makes the recommendation, “The aim is to transform the singular “vocational education” into the plural “educational processes” as well as to bring the otherwise insular segments of vocational education closer together.” (2014, p.123) Rather than having “insular segments” or isolated training, there needs to be an approach that addresses general vocational skills and education that can be taught together. This unified approach to vocational education is very similar to the stream lined approach of the Green Lycea educational system in the Netherland and would be able to continue into a vocational program without the hurdles and insular segments.

**Opposition to Vocational Education**

In the article “Higher Education is More than Vocational Training” by John Brennan, a critical analysis is made of vocational education. In 2014 Universities Australia wanted to prepare graduates to be “work ready” through “vocational work place training.” Brennan proposed the practical questions stating, “This is to be welcomed but it is also to be questioned—about what it should mean in practice, how it should be applied, and what the respective roles of universities and employers should be in providing it.” (Brennan, 2014, p.1) Simply put, Brennan states that it is a noble concept to have graduates “work ready,” but asks how is that going to be made a reality? One problem addressed is that “job details will not be known at the time of study. Indeed, they may not be known until several years later.” (Brennan, 2014, p.3)
Furthermore, one employer interviewed stated that with jobs constantly evolving, not even he knew “what skills and competencies his workers would need in a few years’ time. The very point of hiring graduates was that you hoped to get people who would themselves be able to work out what was required and be capable of delivering it.” (Brennan, 2014, p.2) The idea that an employee will be challenged by the unknown and must be able to adapt is the same skill and characteristic that Plackle observed in his study of high school students when he stated that, “students prefer challenging and authentic learning tasks, self-regulated learning, collaborative problem solving, assessment for learning, and structure and trust.” (Plackle et al., 2014 p.117) While the argument stands that graduates need to be able to adapt, improvise, and overcome problems, Plackle argues that these characteristics are already present in high school students and those characteristics and attitudes should be fostered and encouraged by educators.

Furthermore, Brennan goes on to present the idea that it is the employer’s responsibility to provide job specific training. He concludes his article, “Thus, the relevance of higher education to later working life for many graduates will lie in the realm of generic and transferable skills rather than specific competencies needed for a first job after graduation. The latter competences are not unimportant but the graduate’s employer is generally much better equipped than a university to ensure that the graduate acquires them.” (Brennan, 2014, p.3) In all reality it is impossible for a university to be able to teach a student every aspect of every job; therefore they can only teach the fundamentals or “generic and transferable skills” and the ability to adapt to change. In addition to these necessary skills, he points out the need for vocational education and the university to create an academic credibility for education. (Brennan, 2014)
It is undeniable that the university is very important and crucial in higher education and equipping people for jobs and careers. The university creates a standard and holds people to those standards to ensure and guarantee a high level of education, credibility, ability, and accuracy. So what would it look like if the vocational world and university world were more integrated? In all reality this is not a hypothetical “what if” question. Although this merger between educational worlds may not be the norm, the Nursing profession is an example of a profession in which the vocational and university educations are two in one.

The Evolution of Nursing from a Vocation to a Profession

The Unification of Education

In a paper by Mark Keitges titled “Dewey on Educating Vocation: Bringing Adult Learning to the University” published by the Ohio Valley Philosophy of Education Society, the point is argued that university education and vocational education should not be an “either, or” situation, but rather need to be united and integrated.

Thus, colleges and universities must not attempt to impose a political or ideological separation between liberal education and professional education, but rather a fluid, interrelated partnership. One consequence of the “separation” thesis is that colleges and universities make the assumption that students will develop understanding of the social roles and responsibilities of the profession somewhere else, later on down the road—when they become teachers, doctors, lawyers, or engineers. (Keitges, p.78, 2016)
The first point made here is that there should not be a separation between the types of education, because education should be a preparation for a student’s future. It is understood that a liberal education is a well-rounded education that should teach one to think and learn for one’s self and therefore be able to learn and adapt in a wide variety of situations. At the same time, there needs to be a level of realistic application which could be referred to as professional or vocational education. The relationship between liberal and vocational education is very similar to the relationship between wisdom and knowledge and the relationship between philosophy and practice. Each is dependent on the other, and at the same time, each enhances and improves the other. The second point made by Keitges is that a separation of liberal and professional education essentially is a negligence of the duties of the liberal education. If it is the job of the liberal education is to prepare the student and it is assumed they will learn critical skills needed “later on down the road,” then the duties of preparation are being left to someone else. As previously mentioned in the article by Brennan, it is impossible for the university to completely train a student for every job, but there is a certain level of generic skills and competencies that should be achieved.

The end result of the combination of a philosophical and practical education is an amazing design that produces free thinking, highly functioning graduates that transform the professional world. Keitges goes on to say, “John Dewey all too clearly recognized this problem when he wrote that educational institutions should seek to transform industrial society rather than slavishly follow its lead—and this depends, most of all, on how we approach the pedagogy of vocational education.” (2016, p.79) When a new graduate who has a proper balance of philosophical and practical education enters the work force, he or she is more likely to recognize
problems or find better ways of doing things, which will lead to a transformation of that job.

This unique approach to problems and challenges is frequently referred to as thinking outside of the box or creative thinking. Creative solutions must be derived with an understanding of the practical parameters of the issue, but must also utilize the philosophical or “out of the box” way of thinking to create the real and utilizable solution that no one has thought of yet. When education accomplishes this, they are following the advice of Dewey and “transforming industrial society.” When an educational system only teaches the practical without the philosophy, they fall in the trap of “slavishly following” the lead of the industry which produces no new results or improvement over the old way of doing things. An example of an industry that has been revolutionized by this balance of practice and philosophy is the nursing industry and profession.

**The Historic Evolution of the Nursing Profession**

The nursing profession was born out of a need during war time and was basically an extension of the natural talents that many women already possessed. Doris Weatherford states in her article “The Evolution of Nursing” that, “As caretakers of children, family and community, it was natural that women were the nurses, the caregivers, as human society evolved.” (2010, p.1) In 1861 when the Civil War began, nursing was not a profession in the United States. Several remarkable women became key figures in the history of nursing when they saw a need to care for wounded soldiers and had the courage to rise to the occasion in spite of social restrictions and stigmas. One example was Mary Ann Bickerdyke who was a middle-aged widow from Illinois. While delivering money raised by charities to Union hospitals, she saw there was no one to care
for the wounded soldiers. Even though patient care may have been rudimentary, she began caring for soldiers and became the only woman allowed to travel with General William T. Sherman’s army. She also went on to serve in Tennessee at the Battle of Lookout Mountain as the only nurse for approximately 2,000 soldiers. Another extraordinary woman was Clara Barton who served in the US Sanitary Commission which later became the Red Cross. Barton only served as a nurse for about six months, “but her genius was in supply distribution and in development of systems for the missing and the dead.” (Weatherford, 2010, p.2) This is hard to imagine and required true genius in a time before mass transit, computers, and internet.

In the Confederacy, Captain Sally Tompkins was a nurse who was commissioned as an officer so that she could commandeer supplies. In addition to caring for wounded soldiers, she converted her home into Roberton Hospital, which had the lowest death rate in the North and South. “Her staff of six—four of whom were black women still in slavery—treated more than 1,600 patients and lost only 73, an uncommonly low number in an era before germ theory was understood.” (Weatherford, 2010, p.2) The statistics and accomplishments of these women are unbelievable given the circumstances and the time in which they worked, and it is important to note that all of these women were not formally trained nurses.

“The Civil War gave enormous impetus to the building of hospitals and to the development of nursing as a credentialed profession.” (Weatherford, 2010, p.1) Because of the need for the care they offered the wounded soldiers, nurses began to gain respect from society. In 1892 Congress passed a bill that provided pensions to Civil War nurses. This was the
beginning of the transformation of nursing into a profession, and nursing schools began to be established in the late 1800s. (Weatherford, 2010)

In 1862 Dr. Marie Zakrewska established a medical school for women in the New England Hospital for Women and Children. In 1872 she began the nation’s first official nursing school that was affiliated with the hospital and produced America’s first professional nurse Linda Richards. Richard’s distinguished career included accolades such as becoming the superintendent of nursing at New York’s Bellevue Hospital and at Massachusetts General Hospital, and setting up Japan’s first nursing school. The nursing school established by Zakrewska also produced the first black nurse, Mary Mahoney, in 1879, only seven years after it opened. (Weatherford, 2010)

Considering that slavery was not abolished until 1865, and women’s right to vote was not recognized until 1920, the accomplishments made by these women are nothing short of amazing. Weatherford goes on to state, “During the four decades between the Civil War and the beginning of the twentieth century, the image of nurses moved from being viewed as somewhat less than honorable to a respected profession.” (2010, p.5) In a time that was strongly influenced by social standards and decorum, these women defied society, took care of the sick and dying, and created a much needed and respected profession, along with schools, education, and credentials to make it all official. What is even more amazing is that the story does not stop there.

Modern Examples of Nursing

Even though it has been close to 150 years since nursing became an official profession, the roles and practices of nurses has never stopped growing during this time. The article
“Historical Perspectives on an Expanded Role for Nursing,” published in *The Online Journal of Issues in Nursing*, gives a brief history of the beginning of nursing, but goes on to explain how the singular profession of nursing has actually expanded into multiple levels of certification and practice within the nursing realm. “In 1965, assistant professor of nursing Loretta Ford and pediatrician Henry Silver envisioned a nursing role that could “bridge the gap between health care needs of children and families’ ability to access and afford primary health care.” (Ford as cited in Keeling, 2015, p.5) During this time, the rural parts of the country were unable to have an adequate number of doctors to provide primary health care to the public. Once again there was a need for people to receive medical care, and nurses adapted to the situation, expanded their role in health care, and met the needs of the public.

The nurse practitioner certification project was designed to prepare professional nurses to provide comprehensive well-child care and to manage common childhood health problems…As such, it was not that it was so new but that it was being redeveloped into a more formal, “certified” role for advanced nurse practice. The NP role would have specialized educational preparations, a new title, and the recognition it deserved. (Keeling, 2015, p.5-6)

Not only did nurses rise to the occasion once again, but they were wise enough to make their new positions official. This was done through the creation of a curriculum and an academic education that allowed them to create a “more formal” and “certified” advanced level within their profession.
In the example of the nursing profession, one can see the process of transforming a disrespected job into a profession that continued to grow with the needs of society. This example displays the critical balance between philosophical and practical education. Nurses did not begin their profession and only pass their knowledge along to a few apprentices. They utilized the university setting and resources to create official schools, with standards and credentials which demanded respect and ensured a certain level of professionalism. This is the exact goal Dewey envisioned when he stated that “educational institutes should seek to transform industrial society rather than slavishly follow its lead—and this depends, most of all, on how we approach the pedagogy of vocational education.” (as cited in Keitges, 2016, p.79) Whether it was intentional or coincidence, nurses followed this advice precisely and transformed the medical profession forever.

One should not describe the current university system as broken; however, the cliché, “what we have here is a failure to communicate,” applies. The university setting has long set the standard and maintained a level of quality when it comes to education, training, and accreditation. These standards and processes are crucial to have in place when taking an occupation and transforming it into a profession. What is needed is better communication between the workforce, the vocational work, and the universities to create better career paths rather than degree plans. In one of Mike Rowe’s examples, a plumber can become very successful, create a business, and hire people who work for him, yet he is still looked at something less than someone who holds a degree. (Rowe, 2017) What if a system was in place that allowed said plumber to continue his profession, obtain the necessary credentials such as journeyman plumber or master plumber, but at the same time take vocational business classes
that focused on small business taxes, accounting, pay roll, and legalities? Such a person may not have time for “upper level electives,” but providing an educational infrastructure that taught the ins and outs of business to an already successful business person could be what it takes for that small business to grow into a large successful business. In such a scenario, the initial plumber is not the only beneficiary, but his employees as well as the customers who rely on their services. Having such a collaboration and integration between the blue collared world and the university world could help solve the “skills gap” and fill the needs of our society. This may sound farfetched or like a dream, but it is essentially what the nursing profession did in the 20th century.

**Conclusion**

The old cartoon School House Rock stated in its opening song, “Knowledge is power!” and Mike Rowe stated, “I strongly support education in all its forms” (2017, p.2). Knowledge is in fact power, and education is vital in the transition from adolescence into mature adulthood. The problems faced by this nation are not the result of a broken system, lack of funding, or inability to teach the youth. The problem we face is a disconnect between the education system and the professional world. Students need to be placed at the center of educational systems rather than standardized testing. Educators must provide coaching, guiding, and mentoring so that young students can be prepared to pursue the proper education which will enable them to pursue their goals and dreams. Creating a higher educational infrastructure that spans the skills gap is not only possible, but is crucial and beneficial for the whole of society. If these challenges are addressed now and changes are
made, not only can a crisis of shortage of skilled workers be avoided, but the nation could see a major improvement in the economy and productivity of its workforce.
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