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Limiting Skills Gap Effect on Future College Graduates

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Abstract

Many graduates upon graduation from college or university find it difficult to get the job they planned to enter after they leave school. Employers are claiming that the new graduates are not equipped with the necessary skills required to work for them. Hence, they are not hireable. Obviously, it is easy to shift blame on academic for failing to prepare students with the necessary skills to be gainfully employed upon graduation. However, this is an issue that needs to be addressed jointly by all stakeholders involved in educating these potential college graduates while in school. This article addresses what skills gap is, some of its causes, and what to be done by students, educators and the industry to limit its effect on the future college graduates.

Keywords: *Computational thinking, technical skills, Skills gap, Soft skills*

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Introduction

Education is a wise investment anyone can make. This amounts to one of the many reasons why many people are getting college education. In addition, they want to be gainfully employed upon graduation. Unfortunately, that story has changed. Sadly, getting college education in today's world and economy does not guarantee any job offer because "employers are skeptical of recent graduates" (Yashchin, 2014). As a matter of fact, many college graduates upon graduation are just realizing that they are not qualified to be hired by their potential employers owing to the fact that they do not possess the required skills the employers are looking for in college graduates. Therefore, "an increasing number of disillusioned grads are taking jobs decidedly below their level of education" (Yashchin, 2014). While college grads have gone to school to be educated with degrees in their respective field of study, their preparation is still short of what the potential employer is looking for before they are employed. This situation is due to a "skills gap" effect (Schepp, 2013; Yashchin, 2014). This article will discuss what skills gap is, its causes and what to be done by students, educators and the industry to reduce or eliminate skills gap effect on the future college graduates.

What is skills gap?

Many authors have attempted to define skills gap from different perspectives. According to Kanter (2013) it is defined as a "mismatch between open jobs and skills." Spiegel (2013) asserted that skills gap is "a mismatch between the education and skills that many Americans have and what employers need." According to ASTD (2012) a skills gap is defined as: a significant gap between an organization's current capabilities and the skills it needs to achieve its goals. It is the point at which an organization can no longer grow or remain competitive because it cannot fill critical jobs with employees who have the right knowledge, skills, and abilities.

The context for skills gap and economic restructuring

Many organizations and companies often complain about the difficulty of getting recent college graduates with the required skills and adequate training for available jobs (Kanter, 2013). This struggle by American industry to fill the open positions is said to be a mismatch between the education and skills that many Americans have and what employers need (Spigel 2013). However, this shortage of qualified workforce that has continued to impact industry's productivity has the potential for negative impact on the nation's economy.

More importantly, this mismatch between open jobs and skills (Kanter, 2013) that is not unique to the U.S. businesses and industries but global is consequential. Notably, the price is stiff when communities, states, regions, and entire nations cannot find or equip workers with the right skills for critical jobs. However, other nations and their businesses have discovered ways of addressing the issue before it gets out of hands. Therefore it behooves all businesses and industries around the globe particularly in the U.S. to identify what constitute the biggest gaps in workplace readiness and find solutions to it. All hands must be on deck.

Some causes of skills gap and what should be done to limit its effect

"If an organization is to become successful it must operate efficiently and effectively by identifying the skill gaps that exist with employees (Richardson, n.d.). There is a skills gap and it is necessary to fix this problem. The knowledge of its causes is important so as to be able to diagnose the right solutions. Some of the causes are:

Poor preparation of students in elementary and high schools

Many reports have cited poor preparation of the students in high school before entering colleges as one of the main causes of the mismatch between open jobs and skills (Kanter, 2013). Erickson (2013) observed that this "problem starts with learning standards that are too often not aligned with college and career needs and the reality that many students are moving from grade to grade without meeting even those misaligned standards."

Definitely when the educational foundation is bad, whatever is built upon such foundation will not hold very well. More importantly, good teacher education should be fostered to enhance effective teaching and learning. Since high school students are the future workforce, it is essential that they get strong educational background. While in school, they should be prepared to successfully engage in an academic experience that will help prepare them for their future career.

Lack of STEM education and diversity in STEM industry

In some communities, STEM education and training are not offered in their schools. These minorities in underserved or struggling school districts are at risk of being left behind if care is not taken. “Unlike their more affluent counterparts, students who live in underserved communities typically lack access to what are now considered STEM basics: up-to-date laboratories, laptop or tablet computers and access to the Internet” (Williams 2014). There should be equal educational opportunities for all and no community should be marginalized.

Williams (2014) observed that black and Latino students make up less than 20 percent of those studying in science- or math-based disciplines in colleges. In addition, the 2012 statistics from the U.S. Department of Labor, indicates that minorities make up less than 5 percent of the STEM-based workforce on the job. This population constitute the minority groups in our society. More importantly, there should be concerted effort to increase diversity in STEM industries to ensure that the underserved communities are reached. One way to do this could be through the provision of a rigorous Summer STEM education program and Saturday Academy for these unreached students in low-income areas.

Lack of employers' involvement in curriculum development

For education to lead to jobs, employers should be involved (Kanter, 2013). For companies to make an impact, partnerships with universities to help prepare graduates for the workplace should be established (Freeman, 2013). Employers' should be involved in curriculum development so that all necessary competencies are jointly identified and implemented in the curriculum. “Businesses can communicate their immediate and anticipated needs so that educational institutions can develop programs to train students for the necessary skills” (Spiegel 2013). In addition, case studies that are at the heart of many business schools syllabi must evolve to include real time "live" dialogue on real business issues both inside the classroom with company executives, and outside the classroom through consulting assignments, research projects, case competitions and internships (Freeman 2013).

Poor communication skills by college graduates

Poor communication skills by college graduate is said to be one of the biggest gaps in their workplace readiness. Definitely in the present day and time, it is a problem if you come out of school with great technical skills, but you can't write well or do a cogent presentation (Nolop, 2013). Many students upon graduation from the university lack effective writing skills because many schools are not placing sufficient emphasis on writing and grammar as it used to be in the past. As such students entering the workforce upon graduation with poor communication skills will not be able to write effective memos, letters, and technical reports (Nolop 2013). More importantly, the syllabus on business communication course should be revamped by increasing the learning methods in areas like writing essays and research papers (Nolop 2013). In addition, specialized courses in business communications should be offered.

Lack of learning how to learn skills by students

Learning how to learn on the job is an essential skill for a fresh college graduate. Unfortunately, not many schools teach students this skill. According to Freeman (2013) as technology develops rapidly, the life span of any body of "knowledge" reduces. In addition, as information technology automates more, many professions and traditional jobs are destroyed in the industries. This should be an eye opener for all stakeholders in the education business. Students should realize that in today's world, to be successful, they must be flexible and creative. “The new world rewards diversity, not uniformity. And being different, apart from possessing hard knowledge, requires "soft skills" and personality traits that are not taught in most of today's universities; such as social intelligence, passion, curiosity, optimism and, especially, common sense” (Freeman 2013).

No employer is willing to hire a college graduate with no potential of adding value to the success or productivity of that organization. Therefore, it is now a necessity for students to make effort to become a valuable employee to their potential employers. “Blaming institutions, faculty or political leaders for the failure of a student who simply doesn't make the effort necessary to be a valuable employee is not helping that student. Instead, it is better for the students to know “that there always has and always will be a direct correlation between effort and results” (Kerrey, 2013).

Poor marketing of available job

Poor marketability of the jobs available could be blamed for industry inability to fill critical jobs with employees who have the right qualifications and skills. When nobody speaks about a job that is available, there will be no perception of it. Definitely there will be no aspiration by the potential

employee. When there is marketing or perception problem, there will be scarcity of the qualified workforce. Therefore, this situation is attributable to a national or individual relationship with work and not necessarily due to a skills gap. On the other hand, an interest or a will gap could be the reasons if the jobs that are available are available primarily because people don't want them. If certain jobs are marginalized as jobs with no future or career possibility, potential employees may not want these jobs. When a better case is made for other vocations when it's about time to go to college, students may gravitate to this stigma or stereotype and in the end decline to pursue educational programs with potential for better careers. As such poor advertisement of job's availability could lead to lack of perception.

Companies don't want to invest in training new employees

The purpose of college education is to provide students with some skills set to navigate through life. However, upon graduation when gainfully employed, there is need for some training for a new hire straight out of school. Unfortunately, companies don't want to train people fresh from college any more. Instead, they prefer to hire trained or "certified" people for the jobs. This could be a trade school graduate that is narrowly trained in whatever they need – graduates without discernible skills. The problem here is twofold: On the one hand, employers do not want to take on the expense to invest in and train graduates who will leave right afterwards and on the other, they do not want to pay fair American wages for experienced hires.

Spiegel (2013) attributed the problem that led to mismatch between open jobs and skills to be a training gap and not skills gap. Therefore, employers should offer the opportunity for student training through apprenticeship, internship and cooperative educational experiences. This will reduce the effect of students gaining worthless certificates through dodgy courses that lack training as basic as handling tools. More importantly, apprenticeships will benefit both the employee and the employers. While it can offer an opportunity for workers to get the exact skills they need, it can as well offer a precise match between the skills employers want and the training workers receive (Weber, 2014).

Poor estimation of STEM worker demand

It has been observed that inaccurate estimation of the STEM worker demand is a challenge (Kim, 2014). According to the Government Accountability Office (GAO) report, the author partly blamed the demand for STEM workers on the economic conditions that fluctuates. As a result, it has been difficult to tell whether the nation has enough workers in science, technology, engineering and mathematics and related careers. In the same report, statistics on students seeking STEM degrees do not translate to STEM workforce numbers because many graduates take jobs outside their majors." As an example from the GAO report, only 38 percent of people in 2012 with STEM bachelor's degrees worked in a STEM job while sixty-two percent worked in non-STEM jobs. Due to these reasons, it may be difficult to conclude that skills gap has resulted from poor preparation of the college students upon graduation but due to poor estimation error.

Lack of clarity on the skills employers need

Despite many discussions about skills gap and possible solutions, it still remain unclear which skills Americans are lacking. However, Schepp (2013) sums up employers claim that "today's workforce lacks a combination of skills." While each company looks for a different mix of skills and experience based on the nature of the business (Lorenz, 2014), potential college graduate looking for job in today's economy should be well prepared in both technical and interpersonal (soft skills). More importantly, it is a fact that hiring managers are also looking for soft skills. This is "a cluster of personal qualities, habits, attitudes and social graces that make someone a good employee and compatible to work with" (Lorenz, 2014; Schepp, 2013).

Lack of on the job training by professors.

Technology develops rapidly (Freeman, 2013), thus the life span of any body of "knowledge" has become shorter than ever before. More importantly, information technology automates more. Educators should be aware of this impact and the need to strive hard to catch up as quickly as possible. Skills gap has caught educators off guard. Students should realize that in today's world, to be successful, they must be flexible and creative. For educators to keep up, it would be necessary for professors to alternate between instruction and their own 'OJT' in private industry - one year working, one year teaching (Newman 2013). In addition, three to five years industrial and hands-on experience should be required of a potential college professor before he or she is hired to teach in technology or engineering field. Influx of fresh college graduates with doctorate degrees in disciplines that requires

hands-on experience without industrial experience will constitute a disservice to the students that will become the future workforce.

Implication for students, educators and the industry

There is sense of urgency in creating the workforce needed to increase economic growth by the United States so as to be able to produce large quantity of the world's global output. Simply put, while the onus should be on those that train and not on those who need to be trained, it is imperative that all stakeholders (students, educators, and the industry) in the matter should brace up.

Students

“Gone are the days when one could graduate college, knowing that rewarding work was available in one's field of study” (Yashchin, 2014). The fact is that you need to learn more skills after spending four years in college to secure a well-paid position in the workforce. Maintaining the status quo will not help because your higher education return on investment will be far lower than you might have been led to believe while entering the college. However, there is still hope for better things to come and it starts with you. According to Kerrey (2013) in his article titled “Students: Closing the skills gap has to begin with you,” the author suggested the following three things that need to happen to get companies the skilled graduates they need. They are:

- The first is to recognize that this problem of employers not finding graduates with the right skills is more likely to solve itself from the bottom up rather than yielding to new demands from the top. The college choices of millions of students are going to be affected by the availability of new information about which degrees and institutions are most successful in preparing graduates for employment. Faculty and university administrators who want their students to succeed, as well as businesses that are making it increasingly clear what they need, are already responding to this challenge.
- Second, we must insist that community colleges, which are on the front lines of workforce development, use available research to ensure that their remedial education efforts are directed at helping students become workforce ready. Regional and state regulators must make it easier for new entrants—especially those institutions that are using research to make clear what cognitive skills employers need and what technologies will make it easier for students to gain access to those skills.
- Third, individual students should understand that they bear a significant responsibility for understanding what employers want. The best way to get that understanding is on-the-job training. Any student who does not work while they are going to school, or who waits until their last semester to begin to plan for life after college, is in for a rude awakening.

Educators

As observed by Erickson (2013) “elementary- and secondary-school learning standards are not well aligned with college expectations, neither are college curricula fully aligned with workforce needs.” The problem of the learning standards that are too often not aligned with college and career needs to be addressed. It is a disservice to the students and the nation as a whole when many students are allowed to move from grade to the other grade without meeting even those misaligned standards. “Our high schools must produce graduates who can meet the demands of the global economy” (Murray, 2011). This means ensuring that all students are graduating with the college-level academic preparation and the real-world skills demanded by our colleges, universities, and employers.

In addition, colleges and universities should partner with local community colleges and high schools to help develop a pipeline of qualified, enthusiastic college ready technology and engineering students. Industrial and engineering departments should work with high school teachers to help develop curriculums that will prepare students to study industrial technology and engineering at the college level. This way, we can balance the need for direct contact with students and working together with teachers to ensure they have the tools necessary to prepare students.

More importantly, educators, administrators and policy makers should understand that STEM education should be allowed to find students and not vice versa. It should be allowed to happen and not forced. When the kids are reached and encouraged to do the activities they want to do, and you don't force it, they will be willing to take interest. Simply put, give students the opportunities to fall in love with STEM in K-12.

There should be partnership between higher institutions of learning and the industry on curriculum development, syllabi review, training of potential workforce products and the determination of the required competency. "Competency" consists of the skills and knowledge required by employees

to effectively perform their jobs or specific tasks that you assign to them from time to time. It can include talent or natural skill (Strategic-Human-Resources.com). This collaboration is necessary to share information on how to better prepare college or university student upon graduation so as to become a productive workforce. Industry personnel should be co-opted into the program's advisory board membership. Meetings should be held on curriculum development and course syllabus review and laboratory set up. Employers should have a say in the type of equipment to be procured more so that it is the same that the potential employee will use upon graduation when employed.

Industry

Companies often complain they are not getting graduates with the skills they need (Kerrey, 2013). More importantly, "If an organization is to become successful it must operate efficiently and effectively by identifying the skill gaps that exist with employees (Richardson, n.d.). Limiting the skills gap effects on the future college graduates is a shared responsibility among students, educators and the industry. While there are many proffered solutions to this problem, the fact still remains of the need to identify and close the skills gap. There are several techniques and different types of skill gap analysis materials that are available to help identify these gaps depending on the needs of the individual company or organization (Richardson, n.d; Parker, n.d.). However, for skill gap analysis to be effective, it must be performed regularly (O'Farrell, n.d.).

More importantly, determining employees' competency gap to facilitate training and talent management is essential. The awareness of "the disparity or difference between the existing abilities and skills of your employees and what are expected of them in achieving the objectives that you want them to achieve" (Strategic-Human-Resources.com) will be the basis of the information passed on to the educators through partnership for efficient curriculum development. This will help in finding solutions to the skills and knowledge gap problems. Since it is necessary to determine the skills and knowledge gaps of employees, it is necessary to determine the following:

- the types of competencies required to perform the job well,
- the required competencies level required of the employee
- industry competency standard for each of the position in the organization (Strategic-Human-Resources.com).

Conclusion

Employers, Students, educators, employers, and government should continue in their efforts to close the skills gap. There is need for paradigm shift across the board. Students should cultivate the habit of getting prepared to become a valuable employee to their employers. Point blank, no employer will hire a college graduate with no guarantee of adding value to the productivity of the organization they work. Simply put, it is a waste. As a self starter on a job if fortunate to be hired, the employee should hit the ground with the ability of learning to learn while on the job.

More importantly, students should be well prepared with both the technical and interpersonal skills. Preparation in one of it alone is not what the employers are after. More importantly, students should remember always that "whether you are applying for a service position or a technical job, it's your combination of core and soft skills that will set you apart from the crowd" (Lorenz, 2014). In addition, learn to sell your potentials very well when job hunting. It is imperative to focus on the skills most likely to interest the prospective employer and learn to demonstrate these skills through your resume, during an interview or during career fairs.

Companies value soft skills because research suggests and experience shows that they can be just as important an indicator of job performance as hard skills" (Lorenz, 2014). The implication for educators is to revise their curriculum to include information on strong work ethics path to success on the job. More importantly, each course objective should be written in measurable terms so as to verify if their students have mastered each skill set.

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