Introduction

This document presents formal research findings and published articles on the lack of general skills among high school and college graduates as well as programs to improve skills. Formal title, APA citation and link where possible is provided along with a brief abstract. The documents are provided under the following five topics:

1) Existence of a Skills Gap (41)
2) Skills in Pre-College Education (13)
3) Skills in College Academic Programs (29)
4) Skills in College Non-Academic Programs (23)
5) Programs Supporting Skills Outside of Higher Education (18)
6) Articles by Professor Coplin (2)

Total: 126

Within the five categories, the documents are ordered by latest date of publication. These references will be updated periodically so check the date under the title to see when it was last updated. Readers who have suggestions for additional publications should email Bill Coplin at wdcoplin@maxwell.syr.edu.

Most of these articles are from newspapers and newsletters from specialized organizations. However, almost all of them report findings from published academic, government non-profit sources.

1. Existence of a Skills Gap

The articles in this section constitute a consensus that high school and college graduates lack the skills most employers are looking for. The lack of skills needed for career success has been a constant theme form more than a decade and has stimulated pressure for the United States government to do something about it.

1. Problem-Solving Skills Hard to Find

A report from the Committee on Economic Development found that 90% of business leaders found problem solving to be the most essential skill in a new hire. One of the other top skills was critical thought. However, the survey also revealed that both of these skills were among the hardest to find in applicants. It should be noted the response rate of the survey was low and thus, the findings cannot be generalized to the greater population.

2. Employers Dissatisfied with Employee Skills


70% of employees, in a recent survey, believe that they have the critical thinking skills to succeed in the workplace. However, only 33% of employers believe recent college graduates are ready for the real world. Additionally, these employers are starting to value these widely lacked skills over academic achievement, with only 2% of employers considering GPA the most important factor when hiring applicants.

3. Companies Want Employees With Social Skills


Research from Harvard University shows that companies consider social skills incredibly important in both landing a job and in keeping a job. According to the same data, employers are willing to pay people with appropriate social skills more money. They still value technical skills, but, they say that computers can perform most technical tasks and struggle with human interactions.

4. “Middle Skills” Career Gap


A study by Bureau of Labor Statistics Occupational Employment Statistics by the National Skills Coalition found that 54% of all U.S. jobs were considered “middle
skill” jobs, meaning that they only require a high school degree. The study also found that 8 in 10 of these jobs require “competency in using spreadsheets and word-processing software” however, not enough students have these “middle skills.”

5. The Erosion of The Skills Workforce


Middle-skill jobs, or rather the lack of, hurts U.S. competitiveness on the global economic market. Employers, across all disciplines and locations, have trouble finding workers with skills that are relevant. Workers do not know which skills are needed and lack the ability to access resources to better their skills in these areas.

6. Excel Skills Necessary for Workforce


According to a study by Burning Glass Technologies, 78% of middle-skilled jobs, or 6.3 million job openings, require “fluency with technology.” These jobs, which are also in the fields with the best pay and job creation (technology, health care, and operations), all require proficiency in spreadsheet software like Microsoft Excel. Jobs that require a digital proficiency also tend to pay 13% than middle-skilled jobs that do not call for such skills.

7. Higher Education Leaders Agree on Skills Gap


The Kettering Foundation, the National Issues Forums Institute, and Ausburg College held a panel to discuss the expectations of higher learning institutes. The entire panel agreed that students graduate without broad skills necessary for employment. Additionally, the panel agreed that they had much to improve on in preparing students skillfully for different jobs, as well as in broad education.

8. Students Feel Prepared, Employers Disagree
The American Association of Colleges and Universities found through a survey given to employers and college students that “students consistently rank themselves as prepared in areas where employers do not agree.” In fact, in the skills that employers ranked as most important such as “applying knowledge and skills in real-world settings, critical thinking skills, and written and oral communication skills” less than 30% of employers feel students are prepared.

9. U.S. Chamber of Commerce Acknowledges Skills Gap


A recent report by the U.S. Chamber of Commerce acknowledges that the “nation’s current approach to skills development is no longer capable of meeting the needs of a rapidly changing business environment.” It states education and training providers as a source of the problem.

10. Employees Agree, They Don’t Have the Right Skills


A survey of employees shows that they agree with employers that they do not have the skills they need for their work field – especially in regards to technology. 61% of employees polled, from a variety of fields, felt there is a skills gap. Even more unsettling, 54% reported that they personally do not know everything they need to know in order to do their current job.

11. Around the World, Skills Gap Growing


While the number of graduates around the world is growing, the ‘skills mismatch’ is also growing. The Youth Economic Participation Initiative is a program through the Talloires Network focused on combating youth unemployment and to accelerate graduates’ transition to the workforce. Reeta Roy, CEO of MasterCard
Foundation and one of the funders of YEPI noted, “formal education seldom speaks to the world of employment.”

12. STEM Majors Lacking Skills


A recent STEM graduate was unable to find a job after graduation as he did not have any experience that was applicable to the workforce – his college education had only taught him theory and outdated technology. He still had to learn technologies and skills to make himself hireable. A 2006 survey showed that 59.8% of STEM professors don’t have any job experience in their industry so this theoretical, instead of experience learning, is expected.


The Harvard Business Review took on the New York Times’ opinion that the skill’s gap is fiction by citing a number of studies that prove it’s reality. They cite evidence of the growth of salaries of highly skilled workers and well as research on the lack of knowledge on emerging technologies among those in the job pool.

14. 4 in 5 Grads Don’t Have Jobs Lined Up


In a poll by AfterCollege, a career networking website, 83% of the Class of 2014 did not have a job lined up a month before their graduation. Even in STEM fields, 81.6% did not yet have a job. Additionally, the study found that only 52% seniors believed that their schooling had prepared them for the workforce, down from 69% last year.

15. Business Leaders Cite Skills Gap:

A survey of 500 C-Suite executives and business leaders noted that 73% of business leaders say there is a “skills gap among today’s workforce.” 87% believe that “today’s college graduates lack the skills to succeed.” Joseph Aoun, the president of Northeastern, stated that these results call for “higher education to be more experiential.” 97% of respondents said that experiential education is “critical to an individual’s success.” The full survey can be found here.

16. How Lack of Social Skills Hurts Businesses


Management Research Group compiled data on 60,000 managers over 10 years asking employees if they would consider their manager among the top 33% in focusing on both work goals and employee needs. Less than 1% of leaders were judged as being strong in both areas. Since business problems can be often have social solutions, this shows a skill incompetency at the managerial level.

17. Maine Approves ‘Skills Gap’ Bill


Multiple job areas and even states as a whole have spoken out recently about the undeniable skills gap. While most states are obviously lacking in those with STEM skills, “soft-skills,” such as critical thought, ability to collaborate, solve problems and communicate effectively, are also very important in finding and retaining a job. Maine in particular is proposed a bill in 2013 to spend $11 million dollars to close the “skills gap.”

18. Skills Linked To Higher Employment


Nicholas Burnett, the managing direction of the Results for Development Institute in Washington, D.C. and former assistant director general for education at UNESCO recently said there is a “growing aware of the need to link education to
employment.” He said lack of the “right skills” is the cause of such unemployment.

19. Lack of Effective Writing Skills


A recent survey from the National Assessment of Educational Progress showed that only 24% of students in the 8th and 12th grade write at a proficient level with coherent language, and proper grammar and usage, and only 3% write at an advanced level. Sue Pimentel, leader of the team that created the new common core state standards for English language arts, theorized that this is because of schools’ recent pushes for reading.

20. Organization for Economic Country Development and Skills


The demand for skilled employees in OECD countries continued to grow in the past, despite the economic crisis. Thus proving that skills are helpful, even when other more traditional means seem to be failing.

21. College Should Better Students’ Deficient Skills


Current undergraduates are more disengaged campus life, politics, and face-to-face communication than ever before. They need to be forced into engagement, yet the highest levels of grade inflation ever, with over 41% having grades of an A- or higher and only 9% reporting grades of a C or lower, has made them happily complacent.

22. College is Too Easy


A study from the National Survey of Student Engagement showed that students are only spending 27 hours a week on all academic work, which is down from about 40
hours a week in the 1960’s. Vedder cites grade inflation, lax academic standards, and professors’ propensity to research over teaching as reasons for the drop.

23. Good Investment but Not Helpful


A Pew Research Survey found that while 86% of graduates think that “college has been a good investment for them personally” only 55% of graduates claimed that it was “very helpful in preparing them for a job or career.” Meanwhile, 74% of graduates felt that college was “very useful in helping them grow intellectually” showing the emphasis on intellectual growth instead of job preparation in higher education.

24. FYI Consulting Finds Students Unhireable


FYI Consulting surveyed over 1,000 employers in various industries about whether new hires and applicants had the skills to succeed in the workforce. Over half of employers said “finding qualified applicants is difficult” and just less than half said “students should receive specific workplace training rather than a broad-based education.” On all hiring criteria on the survey, employers rated applicants as performing “below expectations.”

25. Why Universities Are Failing


The Collegiate Learning Assessment, a standardized test administered the students their freshman and sophomore years of college, reveals that 45% of students in the sample had made no improvement in critical thinking, complex reasoning or writing. Additionally students reported spending an average 12 hours a week on studying down from the average 25 hours a week in 1961. The author cites this as an effect of students only going to college for “a diploma that signals employability” instead of “skills and knowledge.”

26. Lack of Manufacturing Workers

A survey conducted by ManpowerGroup found that 52% of U.S. employers have difficulty filling critical positions. Siemens, for example, has over 3,000 jobs open around the country. As baby boomers retire, there is no one to fill their place, as US universities are graduating less students every year who are skilled in trades, Internet technology, engineers, sales representatives and machine operators.

27. Majors Don’t Matter


No matter what the job, employers care more about employees have skills such as “knowledge, adaptability, practical work experience and the ability to analyze from a well-rounded perspective.” In fact, the transferability of skills from different normally unrelated majors can actually intrigue those who are hiring more as noted by the VP of Google Consumer Products Marissa Mayer.

28. Failure of American Higher Education


In an attempt to weed out unsuitable candidates for jobs in the Information Technology and Innovation Foundation, Robert Atkinson gave 40 of the best candidates, all recent graduates from exceptional universities, a basic skills test of either entering data into an excel spreadsheet or condensing words from a resume. Only 1 of the 40 candidates could successfully do these simple tasks, proving that higher education is too focused on content and not on simple, necessary skills.

29. Graduates and Presidents Disagree on Skills Importance


A Pew survey of recent 2-year and 4-year graduates of universities, when asked what it took to succeed in the workplace, ranked skills above a college degree. A
large share of college presidents, when asked the primary role of colleges to play, ranked “intellectual growth” over workplace skills or specific career-training.

30. Classes Don’t Teach Skills


The author James Altucher majored in Computer Science at Cornell, got a graduate degree in Computer Science from Carnegie Mellon and still needed to attend a 2-month training course in computer science for his first non-academic job. It took him 10 years to repay his loans and he did not have the skills he needed for his career from the education the loans paid for.

31. Minority & Debt-Accruing Students Learn Less


A study by Richard Anum and Josipa Roksa found that the black education gap that is present in K-12 education actually gets worse when students go to college. Additionally, students who take out loans tended to learn less than students who were paying for college with grants.

32. Students Not Learning Critical Skills


A study by Richard Anum and Josipa Roksa, published in their book Academically Adrift, found that of 2,300 undergraduates from 24 esteemed universities, 36% demonstrated no significant gains in critical thinking, complex reasoning and written communication in 4 years. After 2 years of attending university, 45% demonstrated no significant gains in those critical skills.

33. Transfer Students Not Gaining Same Skills

A student engagement survey from Indiana University Postsecondary Research that was distributed and taken by several hundred different colleges found that transfer students, whether from a community college or another 4-year institution, “participated in fewer high-impact activities, interacted less with faculty, and rated their campus relationships lower” than students who started at the university as a freshman.

34. Skills in the Workforce


According to the Society for Human Resource Management 58% of HR professionals reported that “some workers lack competencies needed to perform their jobs.” The survey’s conclusion recommends “increasing employee participation in skills training or professional development, and selecting skills training and professional development activities that are attuned to the needs and wants of the organization’s workforce.”

35. More Skills Courses in Work-Force Training Programs


A report from the Lumina Foundation of Education at University of Virginia found that most work-force training programs for adults trying to go back to school do not offer on-the-job skills courses to be taken for credit. Because of this, a lot of Americans are left taking courses for no credit, and end up without degrees and without skills.

36. Ph. D Students Lack Skills


A Ph.D advisor at University of Illinois at Urbana-Champaign recently admitted that the number one worry students come to her with is that they have a lack of skills. Most doctoral students say to her that they lack skills because of their heavily academic focus and lack of hands-on job experience in the fields they hope to be employed in.

37. Companies Fixing the Skills Gap

76% of last year’s Inc. 500 CEO’s said that they were experiencing huge problems recruiting qualified people and 53% of small business owners experienced the same, according to a survey from the U.S. Chamber of Commerce. Tyco, the world’s largest fire protection and security company combated this by creating their own university that emphasized 5 skills -- leadership and management, sales and sales management, growth and innovation, change management, and development of early career talent. Chevron and Lockheed Martin have invested in Project Lead The Way, hoping to ease growing shortages of skilled STEM workers. Additionally, the National Fund for Workforce Solutions has continued to fund and advance programs similar to these that aim to “close to skills gap.”

38. Importance of Soft Skills


This article highlights how college graduates are lacking soft skills. “Employers are finding that freshly minted graduates lack key interpersonal skills, so B-schools are changing to ensure that quantitative geniuses also learn how to hug it out.” Studies discussed in the article say employers value soft skills and even some new MBAs lack them.

39. Education and Adaptability in the Workplace


This article promotes the idea that learning is something that never ends because you can constantly learn new ways to increase efficiency. Essentially, “the role of business in education is growing. In part, that’s because of the need for lifelong learning—businesses need to keep their workers up to date with technological advances. Business also is finding and interest in educational investment in the developing world.”
40. Specific Skills Employers Value


This article discusses careers with corporations and the skills they value the most in their new-hires. The valuable skills include: being able to get your point across, strong writing skills, problem solving and flexibility.

41. America’s Skilled Worker Shortage


The article explains that the manufacturing sector is having trouble finding good employees because there is a “big disconnect” between academic studies and what actually happens in the industry. The article calls for more advanced training programs so potential employees can acquire the skills the employers are demanding.

2. Skills in Pre-College Education

Most of the articles in this section discuss how some high school programs are attempting to address the lack of skills of high school graduates.

42. Preparing Underprivileged High-Schoolers for the Corporate World


Genesys Works is a selective program that trains underprivileged high school students to work in the corporate world post-graduation by placing the students in internships as well as skills training courses.

43. Teaching Social Skills Saves Education
In the 1990’s, 50 kindergarten teachers were told to rate the social and communication skills of over 700 students. In 2015, researchers from Penn State and Duke published a study about what happened to these 700 students in the 13 to 19 years since they had first been evaluated. Overwhelmingly, the kindergarten teachers were able to predict, just by social skills, whether a student would graduate high school or college, be employed, or serve jail time. Children who had high social skills were four times more likely to graduate college.

44. Social and Emotional Learning Benefits Lives


The Yale Center for Emotional Intelligence has proven the necessity of social and emotional learning. Once children and teens were taught social and emotional learning (SEL) they had more effective leadership skills, better conflict management skills and greater academic achievement than children who did not receive the training.

45. SEL Benefits Diverse Student Body


A recent study from The Stanford Center for Opportunity Policy in Education and NoVo’s Foundation shows how social emotional learning can help students in diverse racial, ethnic, and socioeconomic situations that are routinely disadvantaged by typical education. Students who were more engaged socially and emotionally tended to be more active in the community and participated in community service.

46. Reversing Failures of Vocational Education

The International Baccalaureate organization is launching a program in certain parts of the country called the IB Career-related Certificate, in which students take only 2, rather than the regular 6, IB courses as well as 4 career-related courses, community service and a major project analyzing an ethical issue. Each class must also be certified by an experience organization independent of the district, such as Project Lead the Way, a nonprofit monitoring the new IBCC engineering courses.

47. Alternatives to NY Regents Exams


New York State education officials released statistics that state that only 23% of students are “college-ready” or “career-ready.” One solution that the Board of Regents discussed the ability to replace one Regents exam with a subject that the student may show interest in, including vocational skills. They also offered an alternative credit distribution method where credits are earned for competency on exams and online course-work instead of hours spent in a classroom.

48. Fieldwork Electives


The Harley School in Rochester, NY offers an elective course that meets daily with a minimum of eight hours a month of fieldwork outside the classroom. This course places high school students in the local hospice care center to provide care and support for people in the process of dying. A goal of the course is to get more students interested in being caregivers for the elderly, as it is an increasingly needed profession.

49. High School Student Workforce Readiness

A 2006 study based on surveys asking employers how competent high school, community college and college freshman are on the 10 skill sets (Oral and Written Communication, Professionalism/Work Ethic, and Critical Thinking/Problem Solving). The results show that employers are disappointed in the preparation of students for the workforce. The study was supported by a coalition of business and educational groups. It concludes with this statement, “All of us must do our part to ensure that our students are well prepared for the workforce demands of the 21st century. The education and business communities must agree that applied skills integrated with core academic subjects are the ‘design specs’ for creating an educational system that will prepare our high school and college graduates to succeed in the modern workplace and community life. These skills are in demand for all students, regardless of their future plans, and will have an enormous impact on our students’ ability to compete.”

50. Apprenticeship During Secondary Education


This article suggests that apprenticeship should be a viable alternative to the current, underwhelming choices in secondary education. “Specifically, critics of contemporary U.S. schools have contended that the majority of academic subjects are sterile and useless, that much of vocational education is outdated and second rate, and that the general track is unfocused and unproductive (William T. Grant Foundation, 1988). The result of such schooling is that a significant percentage of high school graduates, labeled as the "neglected majority," lack academic excellence or job readiness (Parnell, 1985).”

51. Noncognitive Skills


The most valuable skills cannot be evaluated with standardized tests. “Much of the neglect of noncognitive skills in analyses of earnings, schooling, and other lifetime outcomes is due to the lack of any reliable measure for them.” The article suggests creating a system to evaluate noncognitive traits that are valued in the market.

52. Youth Development Programs

Describes the need for youth development programs such as 3C and Year Up. Specifically, the article focuses on strategies to engage at-risk young people in activities to help them develop skills and gain work experience. The goal of these programs is to improve their lives and give them qualities to be more competitive applicants within the workforce.

53. Training Youth for the Workplace


This article describes the organization Year Up, which focuses on workforce development. The program offers six-month training then six-month professional internships. “About 70 percent of its students complete the program and the organization reports that, within four months, 84 percent of graduates are either enrolled full-time or have secured a job. The average starting wage is $15 per hour—roughly $30,000 per year.”

54. Educational Program’s Impact


Year Up is an educational program that promotes young people’s career development. “The few programs that have had a positive impact on young people’s earnings had provided training in general and technical skills, close ties to the employer community, made strong efforts to place people in jobs or in job shadowing or work-based learning activities, and provided career-related guidance (Cave et. al. 1993; Kemple 2004).”
3. Skills in College Academic Programs

The articles in this section describes how some college programs are working include a skills focus in their course offerings.

55. Soft Skills Need to Be Focused On


Soft skills such as work ethic, punctuality and time management need to be more focused on in the classroom in order to solve the skills gap in the workplace. These skills are not worthwhile for businesses to spend money training new hires on, when they could easily just hire someone who already has these skills.

56. Hybrid Skills Majors


Stanford University is creating hybrid majors for students pursuing degrees in classics that allow the students to also pursue a joint degree in computer skills, which the students are likely to use in jobs post-graduation no matter what field they work in. These majors require courses that blend technology skills which majors such as music, literature, art and more.

57. Teaching Problem Solving Skills


The Franklin W. Olin College of Engineering attempts to teach students life skills as well as academic skills. Problem solving is focused on through the academic curriculum and it has proven incredibly successful in differentiating their engineers from other engineers post-graduation in terms of solving real world issues.

58. Academic Credit for Skills Boot Camp
Lynn University is offering students 15 academic credit for completing a skills boot camp. This boot camp is being offered as a “study abroad” from the technology start-up General Assembly, in an attempt to supplement the students’ liberal arts educations with “industry-specific skills.” Starting in January students can apply to attend General Assembly campuses in New York City, London, San Francisco, and Sydney to take these skills courses.

59. Building on a Technical Degree


Evergreen State College in Washington offers what could be called an “upside down” Bachelor’s degree, in which students take two years of technical education to learn skills followed by two years of a liberal arts education to learn the context of the world in which they work. Other community colleges in Washington offer a bachelor’s of applied science, which is a four-year degree specifically designed to streamline and enhance students’ skills who have already completed a two-year technical degree.

60. Measuring Success Skills


The University of New Mexico is requiring new students such as scholarship recipients, first-generation students, STEM students, and all Division 1 athletes to take a test before the semester begins to test their non-cognitive skills such as motivation, stress management, and organization. Counselors use these scores to recommend courses and tutors to improve these skills so these students may be successful.

61. Texas State Tech College Skills Translator

Texas State Tech College, with the help of an experienced labor-market consultant, has created a service for students called the SkillsEngine. This library compiles specific skills needed for 900 occupations. Colleges can upload their curricula and have them analyzed against the skills lexicon to see how relevant the courseload is for local employers’ needs. Students can also upload a résumé or LinkedIn profile and the system will generate suggested occupations, hard and soft skills required, salary estimates, and openings by state.

62. University of Georgia Mandates Experiential Learning


As early as fall of 2016, University of Georgia will require all incoming students to participate in a hands-on, experiential learning experience to graduate. University of Georgia decided to expand their experiential learning programs due to student demand.

63. Northeastern Creates Experiential Liberal Arts


Northeastern University requires students of all majors and disciplines to create a co-op, which is similar to an internship during an academic semester. This co-op must align with the students major and the student usually produces some kind of project for the co-op using skills they learned within their major. Examples from prior students include a financial report for a technology start-up from an English major and a report analyzing plans for U.S. commercial enterprises to expand to Vera Cruz from a History major.

64. Competency Map Tracks Skills


Capella University has developed “competency maps” for adult students’ career-related skills through each of their courses. It was designed so that these students could have a detailed way to show employers what skills they have mastered and how those skills relate to their desired profession.

65. Credit for Modules

The National College Credit Recommendation Service (NCCRS) recommended in 2012 that postsecondary institutions give college credit to individuals who have completed the Manufacturing Skill Standard Council (MSSC) modules and complete the MSSC assessment. Completing these modules for credit is meant to increasing students “core technical competencies.” NCCRS also recommends giving college credit for a variety of other skills, such as Dale Carnegie training. University partners with NCCRS include Drexel, Central Michigan University, Empire State College and more. Syracuse University has expressed a willingness to accept recommendations however they reserve the right to accept or deny the awarding of actual transfer credits based on its individual policies.

66. Law Schools Teaching Practical Skills


More frequently esteemed law schools are relying on more simulations and clinical experiences in regards to training students to gain the skills they will need in their futures. This can be related to our project in regards to gaining “practical skills”. Although undergraduates may not know what kind of job they would like to pursue after graduation, most internships can provide students with transferable practical skills that can be translated to a field of their choice. Washington and Lee, for instance, requires students to complete a two-week crash course of law simulation, as well as 65 hours of law related service. Those who hire law students fresh out of these programs where there is a more hands-on approach notice a difference stating that associates act more like “second-year associates than brand new lawyers.”

67. Skills Degree


Southern New Hampshire University has a program in which students can earn a Bachelor of Arts in integrated studies in 3 years through completing a combination of internships and assignments, called College Unbound. College Unbound also partners with a few other schools in Rhode Island, which focus more on adult education. However, at SNHU the program is also open to students that are not just returning to school after a break but also students who matriculated immediately after high school.
68. Focus on Soft Skills


A 2009 study from the Business Roundtable found that the most serious skills gaps in the workplace seem to be in soft skills such as work ethic, accountability and motivation. George Washington and Harvard University are trying to reshape curriculum to teach students these skills by including more activities where students are accountable and not merely spoon-fed information.

69. High-Impact Internships


For students to gain the most out of their internship experience it is important that they actively pursue learning goals as well as work-related career goals. However, it neither has to be directly involved with the student’s major or tangentially related to the students major for it to be effective, it is merely crucial that “students enter a process where faculty, staff, and peers ask them to reflect, challenge their assumptions, test theories, and make connections across different sites of learning.” Work-related career goals include “clarification of work-related interests and values; exposure to several types of work settings within an industry; the development of contacts in a particular field; or the creation of work samples that can be shared with future employers.” Learning goals should include “ethical reasoning, taking seriously the perspectives of others, and striving for excellence.”

70. Ohio Seeks To Fix Skills Gap


The state of Ohio worked together with the Board of Regents and the Department of Education to create a system of academic and technical certificates that can be “stacked” to count towards a college degree. This is an attempt to increase the number of skilled workers in the Ohio job market, as well as increase the number of Ohio residents that have a college degree.

71. Miami Dade College 10 Key Skills

Miami Dade College believes that all graduates should have 10 key skills, including clear communication, creative thought, and the ability to analyze data. The college examined every one of their nearly 2,000 courses to make sure that each student does not go through their degree program without encountering each of the 10 skills.

72. Teaching Immigrants Tech Skills


Bellevue Community College collaborated with a local gaming company to create a software to teach immigrants basic computer literacy. Current students at the college helped to create the game.

73. Skills Transcript


Dalhousie University in Nova Scotia used to offer a skills transcript. The transcript was offered on a trial basis with 12 different courses in which the university would give students credits for obtaining a variety of transferable skills such as “teamwork, problem solving, and written and oral communication.”

74. Liberal Education and Getting Employed


Liberal Education & America’s Promise (LEAP) is a program through the Association of American Colleges and Universities that was founded in 2005 and aims to train students with a liberal arts education so that they can get jobs. In 2015, they are asking colleges and universities to engage students in more high impact learning and to do “Signature Work”—which is a project related to a problem that is important to the student and to society-- to “integrate and apply their learning to a significant project.”
75. Transferrable Skills are Valuable


Canon/235948/?key=FuEWeZl1_r1FPr8BhvzwaMQTjZcETE7Zp3kOpPeJfTZObnR6V1VHc3YzRktmYkNNOGZmcmZFeVJ3Q2lKMGhYRmctdUF5QVBUb0lj

The article explains that “transferrable skills are a desired product of college” but acknowledges that the curriculum of most courses is usually structured with a focus on content and discipline. Emory puts an emphasis on “evidence-based courses” in order to prepare the students for the “confounding factors of real life” through analytical assignments.

76. Structure of a Bachelor’s Degree Needs Rebuilding


The bachelor’s degree was created to provide more knowledge in fields of interest and be a guiding tool towards a first job, but not the sole training device for a job. The concept of a bachelor’s degree has since developed substantially, but has maintained its traditional structure of not allowing relevant learning experiences from outside of the classroom to contribute toward the credits for the degree.

77. Evolving Job Market’s Affect on College Education


The article explains how the job market has evolved, including the decrease in vocational jobs that has lead to more jobs requiring further education. It is commonplace to attend college whether or not the student is prepared for it. Further, jobs that used to have “high-school graduate” requirements now require a bachelor’s degree. The article calls for more paths to employment than a four-year degree.

78. Competency-Based Education
Competency-based education allows for a more personalized learning experience by giving students the opportunity to demonstrate mastery of material outside of the classroom. This also allows flexibility in the different ways students can earn academic credits. “A 2013 study by the Alliance for Excellent Education of two New Hampshire high schools found significant declines in the dropout rate, school failures, and disciplinary problems, and increases in student engagement and learning.”

79. Specific Skills Help Land Jobs

Blumenstyk, G. (2016, June 9). Liberal-arts majors have plenty of job prospects, if they have some specific skills, too. *The Chronicle of Higher Education.* Retrieved June 15, 2016 from http://chronicle.com/article/Liberal-Arts-Majors-Have/236749?cid=at&utm_source=at&utm_medium=en&elqTrackId=c00c70b2702545be9f7bcfba7b127234&elq=9cf7b6e3c7a44ec3abe80ffa5005f65d&elqaid=9382&elqat=1&elqCampaignId=3303

Liberal arts graduates can have a difficult time landing a first job but by acquiring a basic level of proficiency in one of eight specific skill sets they become a more desired applicant. Burning Glass Technologies has done studies that show having these skills can increase the salary and number of jobs available to applicants.

80. Developing Curriculum in Higher Education


Michigan State has changed its core requirements so that students can take quantitative literacy courses to help students obtain skills needed in their lives and professions instead of traditional subjects like Algebra. Other schools are starting to do the same thing.
81. The Evolving Job Market is Always Looking for Skills


New things are happening in the job market that are difficult to adapt to. For example, there is currently the lowest level of prime-working-age people in the workforce since the mid-1980s. Further, the unemployment of men between 25 and 54 has increased significantly in the last three decades. But, “two recent reports from Burning Glass, a company that mines and analyzes online job ads, provide a few clues as to what the future job market holds for new graduates: 1. General liberal-arts degrees are useful so long as they are combined with a skill and 2. Soft skills are just as important as technical skill.”

82. Writing Skills in College Courses


The article highlights the importance of the “write well” skill by focusing on the increasing popularity of slang. “Parents such as Sharp—and many educators—are becoming increasingly alarmed by the effect of Internet communication on the writing skills of U.S. teens, who spend an average of 12 hours a week online, according to an America Online survey.” It causes concerning situations such as, “My students were trying to communicate fairly academic, scholarly thoughts, but some of them didn’t seem to know it’s ‘y-o-u,’ not ‘u,’” [English instructor Cindy] Glover says.”

83. Reforming Grading System to Highlight Skills


This article discusses what students are actually learning in college versus what they should be learning—skills. There is an attempt to phase out assessments, homework, problem sets, and papers students regularly create and instead evaluate students based on how well they demonstrate components of critical-thinking, writing, and quantitative-reasoning skills. The skills being evaluated
here have already proven to help students more than the standard tests or papers assigned.

4. Skills in College Non-Academic Programs

The articles in this section identify attempts by some institutions of higher education to incorporate skills into their programs, including in a few cases providing academic credit of these activities.

84. College is More Worthwhile With Skills


An ongoing Gallup-Purdue University study of college graduates recently polled 30,000 college alumni about whether or not they thought their education from whichever university they attended was worth the cost. Graduates who had either “an internship related to their studies, active involvement in extracurricular activities or a project that took a semester or more to complete” were 1.5 times more likely to strongly agree that their education was worth the cost. These graduates were also twice as likely to be engaged in their work now.

85. Experiential Learning in Malawi


University of Dayton students in the Human Rights program demanded a way to get experiential learning in their field. As a result, the University created a program in the Sangilo Village in the African country Malawi. The program aims to give students hands-on experience that is qualitative, quantitative, related to their field of study and making a positive difference.

86. Colleges Teaching Hands-On Mechanical Skills

Though work-colleges have long connected learning manual skills with liberal arts, few liberal arts colleges have done the same. Some noteworthy liberal arts colleges that are meshing practical manual skills with their liberal arts curriculum include University of Vermont, whose students teach other students “green” skills like sewing, canning, and composting. Another school of note is Hampshire College where students learn the hands on mechanical skills of engineering in courses such as blacksmithing and bike-frame building. One success story of such programs comes from Oberlin where a former student, with skills he learned from his environmental studies classes and from tinkering with bikes in his co-op, developed engines for cars that run entirely off of vegetable oil.

87. Sports Major for College Athletes


The skills gained from participating in college athletics can be equated with skills traditional students learn throughout internships and high-impact learning, as shown by talk of the creation of a Sports Performance major for college athletes. Such a major would be heavily focused on skills and how these skills could help athletes get jobs, even outside of professional sports down the line.

88. Iowa GROW Making Student Employment Meaningful


The University of Iowa GROW, for Guided Reflection on Work, is an attempt for students to link their usually mundane student employment with their future career goals. The program has an emphasis on skills, reflection, and is proven to work, as a study of 500 students, both those who participate in GROW and those who do not, showed that participating students are more likely to report that their jobs helped them improve “writing, speaking, and time-management skills and developing an ability to interact with people from different cultural and socioeconomic backgrounds.”

89. Mentors and Internships Important

A recent Gallup survey revealed that graduates who either had a professor who “cared about them as a person – or had a mentor who encouraged their goals and dreams and/or had an internship where they applied what they learned” were twice as likely to “be engaged with their work.” It did not matter whether these graduates were from public, private, selective, or less selective colleges. Only 22% of college graduates said they had such a mentor and only 29% said they had such an internship.

90. Work Experience Most Important in Hiring


A recent study by *The Chronicle of Higher Education* found that experiences outside of academics, like internships, jobs, volunteering and extracurriculars, are the most important to employers while college reputation, GPA and courses are the least important.

91. Seminar Credit for Greek Leadership


Cornell University offers a one-credit seminar called the Greek Leadership Academy. It is considered a Special Topic in Agricultural and Life Sciences. This program is currently entirely funded by different Greek chapters on campus and alumni. It is a five-week course that meets once a week, for three hours. The entirety of the program consists of using an outdoor ropes course, and writing a reflection paper on the skills that they learned throughout the course.

92. Students Teaching Students Skills


University of Vermont has learning communities, called GreenHouse Guilds, in which returning students lead first-year students in a variety of activities specific to the topic of the guild. Each guild has events and presentations where they showcase the skills they are learning.

93. Alumni Views on Student Skills

In a 164 page study on alumni views, cooperative learning was found to be significantly more beneficial to student achievement. According to the study “open or for-credit internships and business/service group projects working with outside community partners through semester-long in-class internships are at the top of the cooperative learning list in terms of importance, level of engagement, and incorporation of the five critical aspects of cooperative learning.” These five critical aspects, or skills, are positive interdependence, individual accountability, face-to-face interaction, collaboration skills, and group processing. Alumni who actively pursued cooperative learning and skills tend to have a higher regard for their university.

94. Penn State RA Course


Penn State requires all potential RAs to take a 3 credit class on RA training, CSA 397. This class meets twice a week, for an hour and fifteen minutes each session. The course requires textbooks and has a number of projects and quizzes. The course must be completed before a student is recommended for an RA position. One of the desired learning outcomes of the course is “Develop skills to address community standards, respond to crisis situations, and mediate conflict within the residence hall community.”

95. Virginia Tech RA Course


Virginia Tech requires all RA’s to take a 3 credit course on the Introduction to Residential Communities & Leadership during their first semester of being a resident advisor. According to the course selection summary, “this course provides theories, basic principles, and skill development that serve as a knowledge base and framework for the peer helping, para-professional Resident Advisor position.”

96. Partnership Programs and Skills
Project Muse funded a study on student involvement in partnership programs, such as pre-orientation programs, learning communities, or other programs. The study found correlation between involvement in partnership programs and skills such as critical thought, civic engagement and professional and personal social interactions. Students are quoted as saying that being involved in these programs helped them to understand materials and skills taught in class on a deeper and more personal level.

97. Emerging Leadership through Greek Life


Florida State University offers a three-credit Emerging Leaders Course for new members to Greek Life. Students must apply and go through interviews to take the course within a year of joining a Greek organization. Members of one of the four Greek Councils, or governing boards for all Greek organizations, may apply to be peer leaders for the course. The course uses “academic and co-curricular context” to “develop relationship skills through interactive dialogue and presentations“. The course is considered a Special Top in Adult and Community.

98. Loyola Marymount RA Course


Loyola Marymount University requires Resident Advisors to take a one credit course through the school's leadership institute where "you participate in an out of class activity designed by you, in consultation with Student Leadership & Development or your instructor, then write a reflection paper on the experience." This course must be taken during the first semester of their employment.

99. Purdue RA Course


Purdue requires its Resident Advisors to take a one credit Resident Advisor Leadership course. The course works on skill-building such as "giving students
the ability to develop a team", "communicat[ing] effectively", "and recognizing successful steps in building community." The course meets once a week, for the first eight weeks of the semester, for an hour and forty minutes each session. This course has to be taken by everyone applying to be a resident advisor, before they are actually hired.

**100. Emory RA Course**


Emory University requires a two credit RA course. The class meets twice a week. The course delves into “personal development, leadership, [and] diversity issues” and states that “other skill-based activities will be presented during the course of the seminar." The class is taken during a student’s first semester as an RA.

**101. Greek seminar based on collaboration & values**


Loyola Marymount offers a one-credit seminar through their Leadership Institute for Emerging Greek Leaders, as well as offering three other one-credit seminars individual Greek organizations. There are specific seminars for Pi Beta Phi, Delta Sigma Phi and Sigma Phi Epsilon. Pi Beta Phi is a social sorority, and both Delta Sigma Phi and Sigma Phi Epsilon are social fraternities. All of these seminars aim to teach skills in collaborating and maintaining personal and group values.

**102. Elective Credits for Greek Leadership**

Courses for credit. (n.d.) *University of Arizona Fraternity and Sorority Programs*. Retrieved February 2, 2015 from http://greek.arizona.edu/current/courses-credit

Arizona State University offers two courses for Greek Leaders; Topics In Leadership: Critical Issues in Greek Life (3 credits) and ANGLE: Advocates for National Greek Leadership Education (1 credit). Both offer elective credit through the College of Education. Critical Issues is a research and presentation based class that focuses on the legal problems and social implications of Greek Life. ANGLE is a course for Greek peer educators to learn the skills necessary to present to and facilitate groups effectively.

**103. Application-based Greek Leadership Credit**

Iowa State University offers a Greek Leadership Class that is a three-credit course offered to all current or emerging Greek leaders. The course is a Liberal Arts and Science course. All students must apply during the fall semester for the spring semester only course. The course meets twice a week for an hour and twenty minutes and seeks to give students the skills and resources to “reach their full potential as leaders”.

104. University of Washington Experiential Learning Center


University of Washington has an Experiential Learning and Diversity Center in order to connect students who would like to complete some form of experiential learning with the skills to do so. The Center houses 9 different programs to help connect students to internships and volunteer opportunities that best suit them.

105. Farming for Skills


Dickinson College has a farm run by student employees, graduates apprentices and volunteers where students can learn skills from the farm to help them in a variety of different fields and interests. Additionally, the farm sells some of the crop to the school’s dining halls while also donating thousands of pounds of produce to the local food bank.

106. Value of Peer Teaching


Peer teaching can help students internalize material and become better students themselves. Florida International University has a peer-teaching program, with 300 learning assistants. The Learning Assistants are “required to complete a one-credit seminar that gives them some teaching basics, and they do other continuous training throughout their teaching assignments,” as well as getting paid about $10 per hour.
107. Necessary Skills for Career Readiness


The article advocates for an increase in “career education and workforce readiness programs in schools so that students see the connection between their school coursework and careers after graduation. To ensure that students have the skills they need for those careers, integrate 21st century skills into the curriculum and provide all students with access to 21st-century technology.” The article also describes the details of how these programs work.

5. Programs Supporting Skills Outside of Higher Education

These articles describe the attempt of businesses to reduce the skills gaps that our high schools and colleges have not been able to reduce.

108. Federal Aid for Skill Training


The US Education Department announced that they are starting a pilot program that will give federal grants and loans to educational-technology companies that partner with colleges to offer coding boot camps, MOOCs, short-term certificates and other credentials.
109. Wal-Mart Attempts to “Upskill” Workers


One Wal-Mart location is attempting to train its entry-level workers so that they can be groomed for management later. These workers, all but newest hires, would then earn at least $10/hour. If the training proves to be helpful, the program will be rolled out to other locations.

110. Job Fair Seeks to Prepare Unemployed for Careers


A career fair based in Chicago, spearheaded by Starbucks CEO Howard Schultz aimed to give 100,000 people who are not employed or in school with internships, skills training and part-time or full-time jobs. The fair aimed to improve participant’s resume skills, interview skills and on-the-job skills.

111. AT&T Aims to Improve Skills


AdelanTECH Leadership, financially backed by AT&T, aims to teach kids in the town of Salinas (one hour outside of Silicon Valley) up-to-date leadership and technology skills. The population of the rural community is approximately 75% Hispanic. Those running the program sought out students already involved in 2 or 4 year colleges for additional virtual training, to be used as a pipeline for Silicon Valley based corporations.

112. Japan Redesigning Curricula for Skills


Japanese Prime Minister Shinzo Abe aims to restructure higher education throughout Japan so that there is more of a focus on skills professions – either
through vocational training or scientific research. Every public university in the country had to submit plans for their redesign. From there, government funds will be distributed to those who best “embrace” the new vision of the Prime Minister.

113. Tech Skills Boot Camps


General Assembly, Hack Reactor, and Viking Code School are all boasting incredibly success rates for their students. General Assembly and Hack Reactor will drastically improve students’ chances for landing competitive tech jobs, for approximately $15,000. Hack Reactor has stated they have a 98% job placement rate within 90 days of graduation from the project. Viking Code School does not require students to pay until they are employed with an annual salary of at least $30,000.

114. Employers Care About Skills, Not Major


When talking to company representatives, it was found that almost all company representatives cared more about a student’s skills than his or her major. They acknowledged the necessity of skills in writing, communication, assessment, numeracy and creative application of knowledge.

115. Capital One Starts Initiative to Increase Skills


Capital One is focusing $150 million on community grants to empower more Americans to gain the skills they need for a digital workforce. This is being done through a partnership through General Assembly’s Opportunity Fund which “aims to facilitate a more diverse community of talent in the tech industry by providing fellowships to low-to-moderate income individuals seeking advanced digital skills.” Capital One is also partnering with Grovo to create a free computer
literacy program aimed towards individuals in low to moderate income communities to close the income-based digital skills gap.

116. Government Mandated Experiential Learning


Governor Cuomo of New York wants all SUNY schools to mandate experiential learning in the form of internships or part-time jobs as a graduation requirement. This is coming under fire from critics who say that there are too many SUNY students to make such a requirement. Cuomo is also withholding 10% of the schools’ fundings until they submit performance plans.

117. Skills-based Hiring in Equity Firm


Vista Equity Partners, a firm who has boasted a 31% average annual rate of return since its founding in 2000 hires its employees through relying heavily on a skills-based test. Most people they hire have previously come from unrelated jobs, such as roofing and pizza delivery. Yet, the firm is clearly doing something right as they have acquired more than 110 companies and never lost money on any of the investments.

118. Skilled Jobs Available in Tech Industries


HR&A Advisors recently released a study supported by Association for a Better New York, Citi, Google, and the NY Tech Meetup that found that there are 291,000 jobs that enable, produce or facilitate technology. 30% on non-tech jobs in the tech industry, while 50% were tech jobs in non-tech industries. 44% of these jobs do not require a bachelor’s degree, but rely heavily on skills such as sales or web developing. The report recommended the city focus more on skills education.
119. Online Training Altering Fortune 500 Workforce


Launch Code, a non-profit based out of St. Louis, partnered with 100 companies (including Enterprise, BJC Healthcare and Panera Bread) to hire “apprentices,” or people who have computer science experience but are still motivated enough to do the work the tech-heavy positions entail. Within the year 140 people were offered apprenticeships and 90% of those were then employed afterwards for full-time positions.

120. JP Morgan Wants to Fix Skills Gap


JP Morgan Chase & Co. recently released a new initiative that they will launch in cities that were hit hard by the skills gap (Chicago, Dallas, Miami and New York, among others). The company will work with local government, as well as local educators and businesses, to develop regional gap reports that analyze the skills gap in the largest metropolitan areas in the US and Europe.

121. Paying Students to Drop Out


Peter Thiel, the venture capitalist who cofounded PayPal, started a nonprofit called “20 under 20,” and gave $100,000 grants to 20 entrepreneurial students. They received access to the money and an “extensive network of technology mentors” under the condition that they dropped out of university to pursue their entrepreneurial idea for two years.

122. Business and Educator Skills Efforts

Johnson, Lowe’s and KOBALT Tools have partnered with Skills USA which is a non-profit that aims to decrease the professional skills divide. The non-profit hosts events and classes aimed at workers.

123. Skills-based Veteran Employment Program


Get Skills to Work is GE’s new collaborative program with a coalition of companies who came together to help veterans use their transferrable skills from the military to get jobs in the manufacturing industry and close the manufacturing skills gap.

124. Workshops Teach Skills Increasing Job Options for Students


For most jobs a four-year degree is necessary to be considered, but to be a competitive applicant you must demonstrate skills beyond that degree. Short-term supplemental programs, or “boot camps,” provide training on skills increase the desirability of an applicant. “In a recent analysis, for example, Burning Glass found about a million job openings for students with general liberal arts degrees. Add one of eight skills, such a basic statistics or graphic design, to that liberal arts degree, and an additional 900,000 jobs become available.”

125. Employers Value Basic Skills


Through interviewing 51 diverse employees the conclusion is that non-academic skills are often more important to employers than academic ones. “A manager for a suburban manufacturer observed that ‘today’s high school graduates don’t comprehend as much. It takes them longer to catch on to instructions, and they can’t read manuals for instructions as well as they used to, which are written at the 12th grade level.’ Another manager noted the need to find workers who can ‘put together two or three sentences in a complete thought.’” These are valuable skills that employers are clearly seeking while recruiting new employees.
6. Articles by Professor Coplin

These articles written or co-written by Professor Coplin further examine the skills gap.


The lack of skills in recent college graduates has prompted employers to be disappointed in the workforce and has forced a lot of potential employee to give up trying to get jobs in what they deem their field to be. This article calls for a greater emphasis on skills within the hiring process and less of a focus on a candidate holding a degree.


In successful high schools, there is a greater push to emphasize skills needed for success in college and in the workplace. Even many activities outside of the classroom are focusing on these skills. Additionally, there is a less traditional role for a classroom as technology alters the standards.