

Soft Skills: Needed for Entering the Middle Class.

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Abstract

Technology and trade are integrating the world's labor market. Because wage premiums based on geography are eroding, skills are becoming more important. Within countries, "middle class" wages are less commonly paid although world-wide more individuals are escaping abject poverty and live longer and healthier lives.

In response to the competition, individuals – and their parents and governments – have invested more money and time in acquiring education and skills. In the last 20 years many, especially in the US, have come to recognize that education and skills are not synonymous. There is a set of attitudes, behaviors, and competences, referred to as *soft skills* and often ignored in academic institutions, that are important for success.

After examining definitions and sources for soft skills this paper will describe three pilot programs designed to teach, assess, and certify soft skills. The first of the three took place in challenged high schools. Students were involved in projects: developing a marketing plan for a tourism agency, creating a business plan for a retail store, and delivering a presentation on a health problem in the community. In the second project, women on welfare learned relevant soft skills from their supervisors. In the third, high school students learning how to create media at CBOs around the country acquired the soft skills deemed necessary for that task. This project included a Verified Resume to certify skill acquisition and provide the youngster with a reference.

The Problem: Fewer "Middle Class" Jobs for Americans

Workers' Share of the Productivity Bonus Shrinks

The CEOs are getting richer and the workers, in general, are not. The ratio of CEO to average worker's pay in the "top" seven reporting firms is over 1000 to 1. [Bloomberg] CEOs were paid an average of \$15.2 million in 2013, almost 300 times as much as the typical worker. [EPI] American median wages were close to \$15 per hour in 1973 (in today's dollars); in 2014, they are only about \$13 per hour. [BLS]

The labor market has changed dramatically in the last 50 years or so, especially for men. In the 1960s, discrimination protected the wage premium of white American men from the competition of American women and minorities. American women began to compete with our men as employment in the service sector and offices continued to grow relative to working on a production line. In 1979 (the first year that wage data were collected by gender), women's median hourly earnings were 64 percent of men's wage rate; by 1992, that figure was over 80 percent and last year it was almost 87 percent. [BLS]

Non-employment and underemployment are increasing for men. In 1954, 96 percent of American men between 25 and 54 years old worked. Today, only 80 percent do; the remaining fifth of men in their prime working ages are out of the labor force. Many men were raised with a certain image of male dignity, which emphasized autonomy, reticence, ruggedness, invulnerability and the competitive virtues. Now, they find themselves in a world that values expressiveness, interpersonal ease, vulnerability and the cooperative virtues, says David Brooks. [NY Times, July 15, 2013]

The average worker's pay has failed to move in line with productivity in the past 40 years. [Economist, Jun 23rd 2012] Static or falling wages have become endemic. EPI has provided figure 1 below that compares some of the changes. While productivity has grown by 80 percent, average hourly compensation has grown by less than half as much. Looking at median compensation (thus, leaving out the CEOs), median male compensation is where it was in 1973.

Mobility Diminishes: Is Politics the Reason?

Being born poor is all too common; worse yet, the dream of getting rich is less frequently realized in the United States. Mobility, the ability to move up the income ladder has declined.

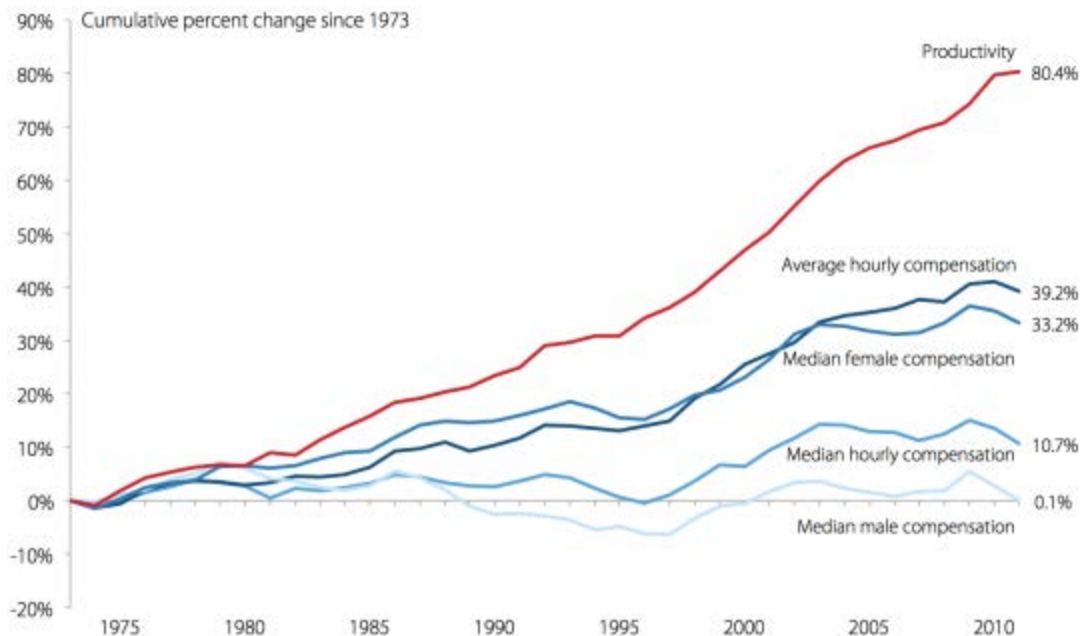
More than 2 of 5 (43 percent) of Americans raised in the bottom income quintile remain there. Americans raised in the bottom who do manage to surpass their parents' incomes do so by small amounts. True, their median income increased by 74 percent between the two generations; but that was only from \$8K to \$19K. The median income in the top quintile, meanwhile, grew by \$62K, to \$111K. (2008 dollars)

In other words, in the last generation the top quintile's income increased almost five times as much and is almost six times as great today as the income of the bottom quintile. Two-thirds of those raised in the bottom of the wealth ladder remain on the bottom two rungs. Median wealth for those in the lowest wealth quintile **decreased** from just under \$7,500 in the parents' generation to less than \$2,800. Men are especially hard hit. More than half of sons raised in the bottom do not make it to the middle; 31 percent remain in the bottom and another 26 percent move only to the second lowest quintile. Single women of color reportedly have a net worth of \$120 or less.

The phenomenon of increasing inequality within countries is universal. America, however, is less socially mobile than most other developed countries. It is far less common for Americans from the bottom 20 percent in childhood to move into the top 20 percent in adulthood than it is in Denmark or in Britain. Three-quarters of Danes born in the lowest-earning 20 percent of the population escape that plight in adulthood. Seven out of ten poor children in supposedly class-ridden Britain achieve the same feat. But fewer than six in ten Americans do. A child's prospects are more fluid in countries, like Canada, with unequal income distributions

Figure 1. Growth of hourly productivity, real average hourly compensation, and real

median hourly compensation (overall and by gender), 1973–2011



Note: Compensation is for production/nonsupervisory workers in the private sector, and productivity is for the total economy.

Source: EPI's analysis of unpublished total economy data from the Bureau of Labor Statistics, Labor Productivity and Costs program and Bureau of Economic Analysis, National Income and Product Accounts public data series

The situation varies within the US also. “Climbing the income ladder occurs less often in the Southeast and industrial Midwest, the data shows, with the odds notably low in Atlanta, Charlotte, Memphis, Raleigh, Indianapolis, Cincinnati and Columbus. By contrast, some of the highest mobility rates are in the Northeast, Great Plains and West, including in New York, Boston, Salt Lake City, Pittsburgh, Seattle and large swaths of California and Minnesota” [NY Times, 7/22/13.]

The Price of Inequality by Joseph E. Stiglitz is one of the better known books emphasizing the role politics play in distributing the fruits of economic growth. Our two-tier society, Stiglitz argues, is partly the consequence of the political power exercised by moneyed interests over legislative and regulatory processes. “While there may be underlying economic

forces at play,” he writes, “politics have shaped the market, and shaped it in ways that advantage the top at the expense of the rest.” Those with power win favorable tax and regulatory treatment and government-protected market share that exacerbates rather than ameliorates inequality. (See also Jacob S. Hacker and Paul Pierson and Thomas Piketty and Arthur Goldhammer.)

Government policies to keep the rich in clover were not invented in the 21st Century. Theodore Roosevelt took on the trusts at the turn of the century in order to right the balance. In the 1920’s and 30’s, tariffs were high on manufactured goods while farmers faced a free market. Cousin Franklin fought against the moneyed interests. [Edmund Morris]

A Two-Class Society: Bifurcated Social Behavior

Decades ago, college-graduate parents and high-school-graduate parents invested similarly in their children. Today, affluent parents are investing more. Over the last 40 years upper-income parents have increased the amount they spend on their kids’ enrichment, like tutoring and extra-curricular activities, by \$5,300 a year. The lower classes are investing only \$480 more, adjusted for inflation.

And is not only money. Charles Murray, Timothy Noah, and Harvard political scientist Robert Putnam point to the growing cultural bifurcation of American society. In recent years, however, more affluent parents have invested much more. A generation ago, working-class parents spent slightly more time with their kids than college-educated parents. Now college-educated parents spend an hour more every day. This attention gap is largest in the important first three years of life. Richer kids are roughly twice as likely to play after-school sports and more than twice as likely to be the captains of their teams. They are much more likely to engage in activities like theater, yearbook and scouting and attend religious services.

More poor children are born out of wedlock. Their single parents spend less time and money to prepare them for the middle class. Affluent, intelligent people are now more likely to marry other energetic, intelligent people. They raise energetic, intelligent kids in self-segregated, cultural ghettos. [David Brooks, July 9, 2012 NY Times].

Single parenthood accounts for 15 to 40 percent of inequality's growth according to various estimates [Western, Burtless, Lerman]. Women with a high school degree or less were much more likely to have children from multiple men. Children of poor but two-parent families were more likely to move up as adults compared to those growing up with one parent (58 percent to 44 percent according to a study by Scott Winship). The situation is worsening; poorer families (bottom third) were much more likely to have married parents in 1968 (77 percent) than in 2010 (41 percent). [Two Classes, Divided by I Do, NY Times, 7/15/12]

Finding a marriageable man has become harder. Among all races, males are doing less well in school, from grade school to graduate school. About 21 percent of girls cannot read at a level deemed "proficient" in elementary schools compared with 28 percent of boys. Similar gaps were found in middle school and high school. Although only one in three girls score "proficient or better" in federal writing tests; only one in six boys do even that well. Boys are almost twice as likely to repeat a grade and twice as likely to get suspended as girls, and three times as likely to be expelled. White women obtain 57 percent of bachelor's degrees and 62 percent of master's degrees awarded to whites. African American girls are more likely to graduate high schools than their male counterparts. Among African Americans, women obtain about two of three bachelor's degrees and three of four master's degrees

The War on Drugs has disproportionately hurt men and slowed the formation of two-parent families. A one percentage point increase in the male incarceration rate was associated with a 2.4-point reduction in the proportion of women who ever marry. Between 1970 and 2007, the proportion of US-born African American women aged 30-44 who were married plunged from 62 percent to 33 percent. In 2007, only 11 percent of US-born African American women aged 30-44 without a high school diploma had a working spouse. Their children are more likely to drop out of school and they themselves spend some time on welfare. Their families' health care costs for diabetes and other illnesses and injuries, often paid by Medicaid, are likely to be higher.

Overall, Americans are pessimistic about what the future holds. A majority (54 percent) believes that hard work and determination do not guarantee success and a majority (52 percent) also believes their generation is better off financially than the next generation will be.

[Brookings 2013]

Demographics: increasing minorities who are under-represented in the Middle Class

Less than half of the public school population in the 2014-15 school year will be non-Hispanic white. Members of racial and ethnic minority groups—especially Hispanics—are growing much more rapidly than the non-Hispanic white population, fueled by both immigration and high birth rates. This trend has been taking place for decades. The Census Bureau's announced that non-Hispanic whites now account for a minority of births in the US Minorities—defined as anyone who is not a single-race non-Hispanic white—made up **50.4** percent of the nation's population younger than age 1 on July 1, 2011. Members of minority groups account for 49.7 percent of children younger than age 5, the bureau said, and for 36.6

percent of the total population. Hispanics are more than a quarter of the nation's youngest residents, 26.3 percent of the population younger than age 1. The share for non-Hispanic whites is 49.6 percent; for non-Hispanic blacks, 13.7 percent; and for Asians, 4.4 percent.

If today's trends persist, more kindergartners will come from families where the mother is unmarried, never went to college, and is not a native English speaker. More of the young will be from demographic groups who presently have relatively high rates of dropping out of high school or settling for a GED. According to Child Trends' analysis of births to women with less than a high school diploma, 88 percent of black children, 58 percent of Hispanic children, and 60 percent of white children will be born into a single family home. The high school dropout rates for these three groups increases the chances that they will become Disconnected Young Adults [Child Trends, 2014]

Disconnected Young Adults (DYA) refer to 16 to 24-year olds who are neither in school nor a "career" job. They are an estimated 6 million DYA. Without a dramatic improvement in the system's capacity to engage and retain minority youngsters in education our middle class will shrink further. The BLS projects 5.2 million Hispanic youngsters between 16 and 24 years old by 2018 and 2.6 million African Americans compared to 12 million Non-Hispanic white youngsters. [BLS, 2014] Two Hispanic or African American young adults will be in the labor force for every three white young adults.

The obstacles for African American children pose a challenge. Almost two-thirds (65 percent) of black children were raised at the bottom of the income ladder. Based on past trends, over half (53 percent) of them will remain stuck in the bottom as adults. The same goes for

family wealth: over one-half (57 percent) percent of blacks were raised in the bottom quintile, compared to only 14 percent of whites. [Pew: 2014]

Obstacles to Entering the Middle Class

Milestones

The Brookings *Social Genome Project's* “simulation model of social mobility and social policy over the life cycle” has produced unique data on “Pathways to the Middle Class.”ⁱ

Depending on a child’s family income, the simulations answer the following: What do different combinations of reaching five development milestones do to the probability of making into the middle class. Middle class is defined as 3 times the poverty level. (In 2013, the Census Bureau poverty threshold for family of 3 was 19,530) The milestones are:

1. **Family formation:** Born at normal birth weight to a non-poor, married mother with at least a high school diploma
2. **Early childhood:** Acceptable pre-reading and math skills AND Behavior generally school-appropriate
3. **Middle childhood:** Basic reading and math skills AND Social-emotional skills
4. **Adolescence:** Graduates from high school w/GPA ≥ 2.5 AND Has not been convicted of a crime nor become a parent
5. **Transition to adulthood:** Lives independently AND Receives a college degree or has a family income ≥ 250 percent of the poverty level
6. **Adulthood:** Reaches middle class (family income at least 300 percent of the poverty level).

Brookings takes a developmental view; something unfortunately rare in most economic studies. This is a Markov chain where conditional probabilities of reaching each stage depends on the previous stage. Table 1 looks at eight possible paths which constitute three out of four (76

percent) of the paths actually chosen in Brookings's sample (which excludes immigrants or the children of immigrants).

Success in all four stages before adulthood is the most common pathway between birth and age 29, although only 28 percent of children take that route. Four out of five (81 percent) of this group achieve middle class status. Those who fail in all four life stages constitute 8 percent of the sample; but only one in four (24 percent) of them become middle class by age 40.

The Brookings paper emphasizes the importance of cumulative success. School readiness affects the likelihood of becoming middle class, for example, is by directing students into more successful academic paths. Or, as economist James Heckman has noted, "Skills beget skills." The ability to acquire skills at one age depends on skills acquired at earlier ages. An individual who hits just one speed bump has a 67 percent chance of reaching the middle class. Chances drop to 54 percent if there are two unsuccessful outcomes; 41 percent with three unsuccessful outcomes, and, as noted previously, only 24 percent for those who are not successful at any of the four stages.

One ray of sunshine is that early failures can be overcome if the student gets back on track. A child who can get on track by age ten and stay on track can overcome the disadvantage of not being school ready. A majority of dropouts can expect to become middle class by 40 if they successfully reach the milestone for age 29; as do 59 percent of those who meet the adolescent criteria. The problem, of course, is getting them through adolescence if they have missed earlier success. Only 6 percent of those who do not succeed at the early and middle childhood stages succeed in meeting milestone #3 above.

Table 1. Probability of Reaching the Middle Class by the Number of Successful Life Stages

Number of Successful Life Stages	Probability of Reaching Middle Class	Percent of Sample
4	81 percent	28
3	67	27
2	54	22
1	41	15
0	24	8
All	61	100

Source: Brookings

Unfortunately, more than one in three less advantaged children does not experience even two successful stages -- 23 percent reach only one milestone and 13 percent make none. Their chances of breaking into the middle class are only 36 percent and 21 percent respectively.

There are ways to reduce multi-generational poverty. As Brookings notes, 70 percent of pregnancies to women in their twenties are unplanned and more than half of births to women under 30 occur outside of wedlock. Childbearing outside of marriage is becoming the norm for women without a college degree. But, well-designed and successfully implemented programs can reduce births to unprepared mothers.

Income and racial gaps in academic and social competencies are evident as early as age 4 or 5, by which time outside support for their learning should have begun. Programs that compensate for what children do not learn at home have an impact not only on school readiness but also on later outcomes. Children that becomes school ready almost double their chances of acquiring core competencies by age 11, graduating from high school and reaching the middle class as adults. School-ready children go on to do better in the labor market even if it doesn't affect their test scores in later grades—perhaps because it increases their social skills and self-discipline. To quote from the Brookings report's recommendations:

It is not only academic skills that matter. Our data show that many children lack the behavioral skills that ... are important for later success. Interventions designed to improve children's social-emotional competencies in the elementary school years have produced promising results and need to be part of the solution. Social-emotional learning ... positively impacts children's behavior, reduces emotional distress, and can indirectly affect academic outcomes.

Why is the Relative Wage Advantage of Americans Eroding?

Why did Americans; doing so well in the immediate post-war period, begin to lose out in the 1970's. As mentioned earlier, the civil rights and feminist movements reduced the advantage of white men, previously protected by discrimination against women and minorities.

Globalization affected American workers of all races and genders. Forty years ago, these workers earned much more than their developing country counterparts because they had access to better machines, education, and infrastructure. Their product benefited from bigger markets and lower transportation costs. A local telephone call was a nickel but long distance was not.

In 1973, the US became price takers in the international oil market; previously the US was the price maker via the Texas Railroad Commission. In 1978, Deng Xiaoping put China on the road to "reform and opening up;" this upset in market power spread to manufacturing where the "China price" became common. Subsistence farmers in Chinese rural areas moved to cities. Asian workers – empowered by education and technology that lowered transportation and communication costs and increased the efficiency of their production machinery – began to compete. Globalization dramatically -- some say more than doubled – the supply of labor available to the world's market economy. American wages stagnated. Even when American jobs were not lost, the downward pressure diminished the increase in American wages.

The displacement of manufacturing to low-wage countries is only one force holding

down wages in the US. Technology, in fact, may be the more durable challenge to middle class incomes. Smart machines reduce employment opportunities for tasks that can be encapsulated in an algorithm. And machines are learning (or are programmed) to do increasingly complex tasks. There is little future in learning how to do algorithmic tasks. [Packer 19xx

According to some estimates (Levy and Murnane) a measure of routine work (manual and cognitive -- in the US fell by close to 20 percent between 1960 and 2002 while non-routine analytical and interactive work increased by a similar amount. (Although some argue that the cognitive requirement has dropped since 2002 and the end of the technology boom.) A recent article in the NY Times dramatizes the advances: [Markoff NY Times, 8/1/14]

One robot arm endlessly forms three perfect bends in two connector wires and slips them into holes almost too small for the eye to see. The arms work so fast that they must be enclosed in glass cages to prevent the people supervising them from being injured. And they do it all without a coffee break — three shifts a day, 365 days a year. Erik Brynjolfsson and Andrew McAfee, economists, in their book, “Race Against the Machine” state “The pace and scale of this encroachment into human skills is relatively recent and has profound economic implications.” In the distribution sector robots store, retrieve and pack goods for shipment. C & S Wholesale Grocers, the nation’s largest grocery distributor has already deployed robot technology. At Federal Express and United Parcel Service....

There is little reason to think these forces are self-correcting. African, Latin, and Asian workers will continue to leave their farms and join the modern production system in expanding cities and will continue to compete with higher-wage American workers. Our international advantage in education is eroding and our other comparative advantages are doing no better. Why should an African/American, Latin/American, Asian/American, or European/American earn more than their counterparts in their country of origin? Or, why shouldn’t anyone of equal skills and behaviors earn an equal wage?

The US cannot, and should not, hold back globalization or technological advance. Poverty is falling and health increasing globally. Nearly three-quarters of the countries in the developing world are catching up with the developed world in income. Since the late 1990s, the catch up has been at an pace of over three per cent per capita annually.

So what can we do? The generally accepted answer is improve the skills of American workers via education and training (perhaps coupled with increases in the EITC and the safety net). So far, the improvement has been defined as raising standards in English and math and increasing accountability via standardized tests. The latest version is the Common Core. The remainder of this paper will be about a different approach.

Definitions of Soft Skills

Measure for Measure

“Some numbers beat no numbers every time,” was a lesson that Sam Cohen, the most powerful bureaucrat in OMB (then Bureau of the Budget), taught to me a long time ago. Since then, as economists became ever more powerful in policy circles, the significance of Sam’s lesson has increased. This has been especially so in the education field where scores on standardized tests have become the go-to metric for evaluating students, teachers, schools, and the nation. (A recent article blames the economist Eric Hanushek [NY Times, Aug. 22])

Reliance on tests ignores Nobel Prize winner Herbert Simon’s warning that sub-optimization is likely when incentives or sanctions are too narrowly drawn. This phenomena can be observed when stock brokers engage in insider trading, or administrators fudge on waiting times in VA hospitals. It is evident when students and teachers cheat on school tests as in Atlanta and administrators manipulate cut scores as in Washington, DC and elsewhere.

“Everything that can be counted does not necessarily count; everything that counts cannot necessarily be counted, ⁱ“is among Einstein’s dozen or so aphorisms relevant to education. (For example: “The only thing that interferes with my learning is my education” and “The true sign of intelligence is not knowledge but imagination.”)

This truism is forgotten by those obsessed with accountability (for all but their own bad advice). Some numbers may win the policy argument, but they may also lead organizations astray when not aligned with the organization’s underlying goals. In particular, schools may lose their way to educating 21st Century citizens and producers as they chase test scores.

In today's schools, skills that are hard-to-measure-with-standardized-tests (therefore, "soft") skills are ignored in favor of tests of English and math in education and the GED in training programs. James Heckman's work on "non-cognitive" skills has exposed the mistake of relying solely on standardized tests in education and training. [Heckman, 2007] Heckman's interest was piqued by the labor market experiences of those who had received a GED instead of the traditional high school diploma. How could relatively few hours of GED-prep accomplish what took years in the regular high schools, he asked.

He found that GED recipients do about as well as regular high school grads on academic tests. To that extent, the program works. But GED recipients do no better than dropouts in the labor market. He concluded that the cause of this failure is meager "non-cognitive" abilities. His study of young workers as they age from 14 through 30 found that, "except for college graduates, non-cognitive skills (as measured by indices of locus of control and self-esteem) exert at least as high and probably a higher impact on job market outcomes than do cognitive skills (word knowledge, paragraph comprehension, arithmetic reasoning, mathematical knowledge, and coding speed, as measured by the Armed Forces Vocational Aptitude Battery).

A few economists, have looked beyond test scores. Belle Sawhill and her colleagues at Brookings recognize the importance of behavior and socio-economic skills as steps on the way to middle class earnings. [Sawhill 2012] Levy and Murnane, ask if schools can adapt to the computer revolution. [Levy 2005] "For the foreseeable future," they write, "the challenge of 'cybernation' is not mass unemployment but the need to educate many more young people for the jobs computers cannot do." For example, while high school math is mainly about learning algorithms, like long division or factoring polynomials, good jobs in this century will require

solving unstructured problems. Schools aren't any worse than in earlier decades, they argue, but the skills required for raising American living standards have changed.

The recognition of skills outside of academics is not new. Researchers in child development have long understood that socio-economic skills are essential. So did teachers and parents. In kindergartens of long ago, teachers awarded grades like "excellent" or "needs improvement" to behaviors such as "plays well with others" and "finishes tasks." Sometimes this was referred to as deportment or character education. But generally the focus on character was abandoned as kids entered the higher grades; academic concerns became the sole focus.

More recently, cognitive scientists and psychologists have added new insights. Daniel Kahneman, is a psychologist who won a Nobel in economics for showing the irrationality of much of human decision-making and the inapplicability of the economic model to much of human behavior. Many, including the Brazilian youngsters who sell coconuts and MIT physics students, have trouble applying school learning to the outside world – or even in believing that one has relevance to the other.

What does count then? Paul Tough's popular books and articles in the NY Times, have turned public and policy attention to characteristics such as emotional competence and "grit." In his book, "How Children Succeed," Tough sets out the notion that character traits like persistence, self-control, curiosity, conscientiousness, and self-confidence, are more crucial than sheer brainpower to achieving success in school or work.

Psychologists like Angela Duckworth found that these traits are crucial from the lower grades through college. Measures of self-control are a more reliable predictor of students' grade-point averages than their I.Q.'s. People who accomplished greatly combine a passion for a single

mission with an unswerving dedication to achieve that mission. They persevere whatever the obstacles and however long it might take. She name this quality “grit.”

Duckworth developed a Grit Scale test that requires answers to just 12 questions, from “I finish whatever I begin” to “I often set a goal but later choose to pursue a different one.” It takes about three minutes to complete, and it relies entirely on self-report — and yet it was a good predictor of success. Students at Penn with relatively low college-board scores but high grit ratings had high G.P.A.’s.

The military uses its own complex evaluation, Whole Candidate Score, to judge incoming cadets and predict which of them will survive the demands of West Point. The score includes academic grades, a gauge of physical fitness and a Leadership Potential Score. More than 1,200 freshman cadets took Duckworth’s their grit test as they entered West Point and faced the grueling summer training course known as Beast Barracks. Scores on the 12-item grit questionnaire was a more accurate predictor than the WCS of which cadets dropped out of the Beast Barracks.

It seems as if a new book, article, or study describing another aspect of mind science is published every month. Scientists and popular science writers have filled the nation’s bookshelves over the last years with tomes on cognitive science and brain research. The NY Times Book Review of August 24, 2014 reviewedThey all support the idea that IQ is malleable and that character (AKA personality) traits are crucial to success and can be taught. David Shenk argues that that discipline, not giftedness, is vital to success. Carol Dweck, in her “The New Psychology of Success” (2006) emphasizes “mindset.”

Fixed mindset students believe they have a certain amount of talent and that's that. Growth mindset students believe everyone can get smarter if they work at it. The latter persist even if they find the subject difficult. A British study found that teacher-assessed levels of social adjustment at the age of 11 correlated just as strongly as cognitive abilities with an individual's likelihood of employment at 42.

The Skills Employers Want.

Employers also have a point of view about the importance of soft (aka workplace or professional) skills. Educators should take note. The Secretary of Labor's Commission on Achieving Necessary Skills was an early contributor to the discussion. SCANS published "What Work Requires of Schools" in 1991. The Commission found that responsible behavior, the ability to plan and manage time and money, to work productively with others to solve problems, and to communicate, made for success. The Partnership for 21st Skills, reiterated a decade later, calling for Creativity and Innovation, Critical Thinking and Problem Solving, Communication and Collaboration, and Information and Technology, along with the traditional 3 Rs.

The Conference Board, Corporate Voices for Working Families, the Partnership for 21st Century Skills, and the Society for Human Resource Management surveyed employers in 2006. The consortium found employers most frequently rated four skills "very important": professionalism/work ethic, teamwork/collaboration, oral communications, and ethics/social responsibility. Other than writing and reading English, no academic courses (including mathematics) made their top ten. In 2012, an American Management Association survey showed that, what they titled the "C" skills (Communication, Collaboration, Creativity, and Critical Thinking), were needed not only to get a job but to move up in many organizations.

One of the advantages that the disadvantaged lack is the soft skills; the more fortunate learn them at home and at many venues that form part of their growing up. Schools that offer extra-curricular activities have been teaching the soft skills for decades. So have clubs, youth programs, public and private training organizations, mentoring organizations and individual mentors, religious organizations and employers. The AMA has courses galore; Toastmasters and Dale Carnegie and a host of others have been in this business. Many in the flying public have come across the advertisement saying “You don’t get what you deserve, you get what you negotiate.” Leadership, teamwork, public speaking and other soft skills are evident in corporate training programs. Few of these entities, however, have assessed the soft skills and collected statistics and, even if they do, they are not comparable.

The following three sections of this paper describe three demonstrations or experiments that this author has been involved with over the last 15 years. The goal was to see if soft skills, as defined by SCANS, could be systematically taught and assessed in three different venues: school, work, and in community-based organizations (CBOs). The third demonstration also experimented with a document – the Verified Resume – as a way of certifying acquisition of soft skills in a manner that would be meaningful to colleges and employers.

Three Experiments

The impetus for the following experiments was to demonstrate that soft skills can be taught, assessed, and certified.

Experiment #1. Project-based Learning for High School Students.

The “*Baltimore Learning Communities*” (BLC) experiment, took place in the 2000-2001 school year with funding from a five-year U.S. Department of Education Challenge Grant. Three eight-week “projects” were tried out in multiple high schools. Teachers were trained and technology purchased. A CD-ROM-based scenario (the technology of the time) was created for each project.

The scenarios “placed” students in virtual career positions that typically pay a middle class wage. Encounters with the soft (SCANS) skills were inevitable. In all three, students worked in collaborative teams and reasoned their way to decisions. Students used technology to prepare spreadsheets for budgets and schedules. They acquired, organized, and interpreted information. They communicated by writing documents, such as business plans and travel brochures, and making presentations. In all three scenarios, competence in academic curricula was called upon to carry out the assigned tasks.

Ninth grade English and Math students acted as junior executives in a Tourism agency tasked with developing a *Marketing Plan*. They published sales materials and developed travel brochures for a tour package in English and art classes. Determining the cost of a weekend tour and deciding on the number of pages in the brochure required math. They had to obtain and evaluate information regarding the cost of accommodations and transportation in Baltimore.

Tenth grade Algebra II students “became” entrepreneurs seeking financing for a retail store in a shopping mall. Student teams’ *Business Plans* forecast revenues and expenses, aiming for breakeven in less than five years. Students decided on price/quality and inventory strategies after examining equations describing mall traffic, sales and the chances of being out of stock. They calculated the rental cost and sales advantages of alternative store sizes and configurations

(rent was a function of square feet and feet of mall frontage). Students evaluated applicants' resumes instead of preparing their own resume. They set wages and calculated labor costs. This exercise gave the students a sense of the employer's perspective. Finally, they made a presentation to a "banker" to secure a loan.

Biology students "became" Information Technology Associates working for an HMO. Their assignment: Deliver a *Technical Presentation* on a health problem in the community. Lung cancer was the model because the cell is part of the biology curriculum. Students created information aids that describe causes, preventative measures, diagnoses, and treatments about a disease they chose (sexually transmitted disease was a favorite).

Subjective results of the projects were positive. Students preferred performing authentic tasks to the traditional lecture because they saw their course's relevance to the world of work. They thought that the projects helped their writing and presentation skills and that they learned how to use math to solve real-world problems. Students also felt strongly that their teachers cared about them and how they did in school.

Teachers indicated that students were almost always prepared for and engaged in class. Thelma Nogriff, a 10th grade English teacher at Northern High School who has implemented the BLC in her classroom over three years remarked, "I can see changes in the children that I began with in the ninth grade. Students have made substantial growth in attendance and academics."

Parents were enthusiastic about the progress their children made as a result of their participation in the BLC project. Several parents noted that their children "never liked coming to school" and had displayed a "poor attitude in the home." After participating in the project, these

children became more positive about attending school and proud of what they were doing in class.

Quantitative measures of academic performance and attendance showed remarkable results. Because class assignments at the experimental schools were random other classes served as a reasonable comparison group. Comparing the BLC students to students in other classes, dropouts were reduced from well over 50 percent to 11 percent. BLC students in the 10th through 12th grades held consistently better grade point averages than their Non-BLC counterparts. Their average GPA improved from 1.31 to 2.11. Compared to non-BLC students the GPAs of BLC students were higher by 0.64 in 2001 and 0.80 in 2002. The BLC students were absent half as often and lateness was 40 percent less. (See Appendix A.)

In contrast to the non-BLC students, the students involved in the projects took more advanced courses (English III and Algebra II) and received higher grades in these classes. Most, 94 percent, of the BLC students passed Algebra I and 88 percent passed Algebra II, in contrast to 78 percent and 65 percent passage rates for the comparison group, respectively. The grades of BLC students in English I, II, and III were higher than the comparisons by 31, 48, and 35 percent respectively. The grades of BLC students in Algebra I and II were higher by 56 and 35 percent respectively. (We have no idea of how much of the differences in grades between the two groups were because of differential dropout rates and course selections. Did the comparison groups' average scores improve because the weakest students dropped out or did not choose to take English III or Algebra II?)

Soft skills comparisons are more complex. The metrics for academic scores and attendance are clear cut; that is not the case for the soft skills. There were (and are) no standards. To work

around this difficulty we arbitrarily divided the tasks students faced into basic and advanced SCANS behaviors and skills. We hypothesized that students would demonstrate increasingly complex work-based skills as their education continued (and they got older). Because non-BLC students were not taught soft skills or given an opportunity to demonstrate them, comparison groups are not to be found.

In each of the three projects students:

- Analyze and evaluate the quality of the information they obtain,
- Interpret and communicate information to others
- Build and work in teams

. On the two information skills, the proportion at advanced levels increased from about one of three to about two of three students. On teamwork, the increase was from three in five to almost four in five. See Appendix B.

Experiment #2. Welfare Recipients Receiving Mentoring from Supervisors.

The second experiment was directed to work-based learning. In this instance, the learners were welfare recipients and the teachers were their immediate supervisors. “Workforce Liaisons” facilitated the communication between the two.

The welfare reform legislation enacted during the Clinton administration limited cash assistance to 60 months in a lifetime and required recipients to engage in “work activities” after receiving aid for 24 consecutive months. Individual states pulled the noose even tighter. Meanwhile, Congress rejected the President’s call for additional jobs to accommodate these additions to the labor force.

The legislation, however, did allow the U.S. Department of Labor to fund Welfare-to-Work demonstrations designed to increase employment for these (mostly) women. DoL's goal was finding innovative programs to help those deemed hardest-to-employ find and keep employment. The Johns Hopkins University's SCANS Center received a \$5 million three-year grant to work with seven community locations around the country. The program served 799 women that received employer-paid wages and 360 publically subsidized workers and students. (These 360 were excluded from the wage and retention analyses described below.)

Unlike other grant winners, the SCANS demonstration served women that, for the most part, already had a job. The strategy was: Break the cycle of dead-end jobs alternating with unemployment. Because of limited hours and low pay, the women remain poor and on welfare. Although our sample may be more employable than many on welfare, they did qualify as "hard to serve" because they had at least two of three problems: no high school degree, poor employment history, and/or substance abuse.

Designers of the SCANS-based WTW pilot at Johns Hopkins hypothesized:

- Job success is often a function of the interaction between the worker and her immediate supervisor. A lack of common understanding between the two regarding soft skills is a problem.
- The supervisor-worker relationship can be improved by supporting shared expectations regarding performance of the soft skills.
- As a result, workers will work more hours, receive higher earnings, and enjoy longer job tenure.
- Employers will benefit from reduced turnover and higher productivity.

The hypotheses seem to be borne out. Earnings increased by 26 percent. Of this, only 7.6 percent was due to increases in hourly wage rates; the remaining 18 percent came about because of increases in hours worked. Most of the enrollees in the SCANS demonstrations had

earnings that, coupled with the federal Earned Income Tax Credit (EITC) and Food Stamps, exceeded the poverty line a little after one year of work.

The average post-enrollment retention was 10.18 months when measured on December 31, 2001, the date of final data collection. At that point, however, 62.7 percent of the enrollees were still working and in the program; the average time of completed stays would almost surely exceed 12 months. Moreover, the retention data includes only employment post enrollment and over half of the enrolled participants came to the program with a job. When their pre-enrollment data is included, the median retention tenure in all jobs is 11.07 months (the mean is 14.0 months). Although the pre-enrollment experience cannot be attributed to the program's intervention, it is important to note that the increased retention post-enrollment brings these participants to almost one full year on the job – a significant achievement for many hard-to-employ participants and for the supervisors that manage them.

The program will appeal to employers if it reduces turnover and increases productivity (more sales per employee). Unhappy frontline workers tend to provide poor customer service. The SCANS approach is consistent with what is considered good HR practice; namely supervisor support for worker development.

Unlike WtW programs that focus exclusively on the clients, the SCANS WTW Model worked with the employee **and** her supervisor. Mentors called “Workplace Liaisons,” recruited from local community colleges, helped supervisors identify the SCANS skills and assess and coach the welfare recipient. The skills were described and used in context; “customer service” was not a vague term but highly specific to a specific job in a specific organization.

In one case, a client – call her Mary --had a job in a Florida motel’s restaurant. Mary started with a morning–only position at the breakfast bar. Customer service included changing the scrambled eggs in the warming tray – not so infrequently that the eggs turned to rubber for the diners that came late to the tray nor so often that supplies ran out and the tray was empty when even later diners arrived. Mary also had to look for opportunities to help guests as well with the usual courtesies. The Liaison helped clarify the requirements. As a result of carrying out all her tasks properly, Mary moved up to a full-time job as a breakfast hostess. Together, the employee, supervisor, and liaison had built a potential career ladder within the company for the employee. Training became co-incident with work. The restaurant supervisor obtained a better subordinate; the employee obtained increased wages, earnings, prestige, and career prospects as she built a better resume.

Baltimore County was one of the earliest and largest sites, serving 245 workers. Starting early, it had a longer data record. Job tenure in the county averaged 13.74 months from enrollment until December 31, 2001. Their earnings data were made available from Maryland’s Unemployment Insurance (UI) system. The following refers only to the Baltimore County data. All the dollar figure are in 2001 dollars and before taxes.

The figure in Appendix C shows expected annual earnings and additional income from social programs four, six, and eight quarters of work after enrolling in the program. Earnings in the eighth quarter were 17 percent higher than in the fourth quarter and 48 percent higher than they were in the first quarter in the program.

The Appendix figure compares the enrollees’ income to the official poverty line. Expected annual earning are computed by multiplying earnings in the last quarter of the period

by four. Even if earnings in the first quarter did increase, their total income would exceed official poverty, if the benefits from the federal, state, and local EITC and Food Stamps are included. By the eighth quarter of work, people in the SCANS group earned income would exceed official poverty. Including federal, state, and local EITC and Food Stamps, they would be receiving \$23,557 annually, more than 50% above the poverty line of fiscal 2002.

Total average retention for SCANS participants was 5.2 quarters, or 15.6 months. For a group of people often considered to be “damaged goods” it shows that, with the Liaison’s intervention and the supervisor’s participation employers can expect as good or better retention when hiring SCANS welfare-to-work employees as their usual hires.

Experiment #3. CBOs and the Verified Resume

The BLC experiment demonstrated that soft skills could be taught along with academic skills in well-designed and implemented projects in school. The WtW experiment did the same for job specific situations with well-supported supervisors at work. This third experiment tested that the trick could be repeated for youngsters in out-of-school activities. It also tested the proposition that trained mentors could assess and certify skills in a reliable way – mentors and subsequent supervisors agreed on the ratings. Finally, it provided insight into the question of scalability.

Millions of youth engage in organized activities out of school: work (including summer jobs), athletics, clubs, service learning, and involvement with one of the thousands of non-profit community-based organizations (CBOs) in the US and elsewhere. Many of the organizations are confident that youngsters acquire employability skills from the experience. In truth, learning

during these activities is highly varied and, even when learning occurs, there is usually no assessment or certification beyond a certificate of attendance.

In 2009, John Merrow, the PBS education reporter and founder of *Learning Matters*, decided to test his guess that students learning how to make videos and other media in CBOs were acquiring SCANS skills. Merrow had started an organization of these CBOs called *Listen UP* (LU) and received a grant from the Kellogg Foundation to work with selected CBOs to check out this hypothesis.

The project began by surveying LU members to name the soft skills they implicitly taught in their programs. The responding CBOs selected the most important eight from a list of 33 skills identified in the SCANS reports. LU then recruited 13 CBOs from the larger group; the Executive Directors formed the learning community. When asked if they were in the business of making media or developing youth, 12 CBOs identified with the latter goal. Staff from the 13 then proceeded to contextualize the eight skills and develop approaches to teaching them in the process of making media. (For example, Responsibility included taking care of the equipment.)

In 2009, the 13 CBOs assessed close to 200 youngsters before and after they attended the program. Table 1 shows the results for the participating CBOs. The average improvement for 198 students, across all eight performance skills in all 13 sites, was 15.3percent percent. In 2010 the average improvement for 144 students that went through the pre- and post-test was about 22 percent. Table 2 has the results for each of the eight skills for the Baltimore site, Wide Angle (that add up to their 28percent improvement shown in Table 1). The implications are that:

- **Trained mentors** (aka advisors, youth developers, or teachers) at CBOs can effectively teach, assess, and certify these eight SCANS skills.

- **Young adults** can acquire these skills; on average they improved by 15percent to 20percent.
- **Young adults** can be awarded a verified document to show to potential employers as an alternative or supplementary credential to the GED or diploma. We called this document a Verified Resume or VR.

We did not know, at this point, whether the idea could be spread beyond the selected CBOs. CBO programs, except in rare circumstances (such as Youth Build or the Manchester Guild), have generally been one-offs. Often a charismatic leader, with time-limited funding, demonstrates extraordinary results. Often, when the funding ceases or the leader leaves the innovations disappear without a trace. Nor did we know whether employers would give any credence to the VR; did the VR carry the information they wanted to see and was it reliable.

In 2010, LU was awarded a second grant to explore these questions of scalability and employer acceptance. Five “lead” sites were chosen to test the proposition that the idea could be replicated in their communities: Wide Angle (Baltimore, MD), Grand Rapids (MI), Vid Kids (Meager County, MT), Spy Hop (Salt Lake, UT), and Home (Boston, MA which was not one of the original 13). These five CBOs were asked to enroll “satellite” sites and train mentors in these other CBOs. (The satellite CBOs were not necessarily involved with media.) If the VR system could be effectively transferred to enough other CBOs in their communities then employers would become familiar with the VR, increasing the chances that it would become widely accepted as an alternative credential. It would then scale up organically.

Table 1. 2009 Overall Improvement in Eight Behaviors and Skills

Site	Improvement (%)	N	Weight (N/198)	Weighted Improvement (1) (%)	Weighted Improvement (2) (%)
BAVC	28.0	11	0.0556	1.56	1.56
Bronx River	-3.0	9	0.0454	-0.14	0.00
Child media	20.6	12	0.0606	1.25	1.25
CTVN	-7.7	29	0.1464	-1.13	0.00
DCTV	0.0	7	0.0353	0.00	0.00
Grand Rapids	15.5	10	0.0505	0.78	0.78
Mestizo	28.0	14	0.0707	1.98	1.98
Say SI	8.3	26	0.1313	1.09	1.09
Spy Hop	6.8	18	0.0909	0.62	0.62
Tribeca	28.0	21	0.1060	2.97	2.97
Vid Kid	52.4	7	0.0353	1.85	1.85
Wide Angle	28.0	27	0.1363	3.82	3.82
Youth Media	17.2	7	0.0353	0.61	0.61
TOTAL	17.1	198	1.00	15.3	16.5

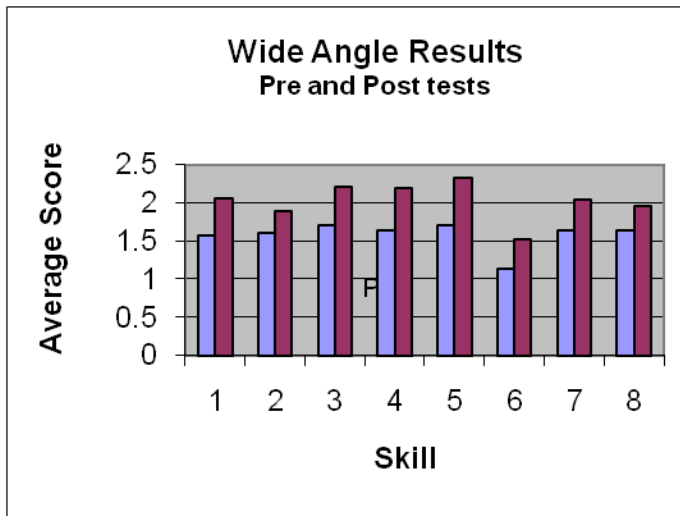
1. **Weighted by number of students**
2. **Negative Values Excluded.**

Table 2 Wide Angle Results for Each of Eight Skills

SKILL	Wtd* Avg.	Wtd* Avg.	
		Pre Test	Post Test
Responsibility	1	1.57	2.07
Team Player	2	1.61	1.89
Cultural diversity	3	1.71	2.22
Acquire/eval info	4	1.64	2.19
Creative	5	1.71	2.33
Interprets Info	6	1.14	1.52
Listens	7	1.64	2.04
Negotiates	8	1.65	1.96
Average		1.58	2.03

Overall improvement was 28 percent

Figure 1.



The LU team, working with Wide Angle, developed tools to be delivered in person and/or online to train local mentors. Six two-hour seminars were developed and used in training mentors at other CBOs. The materials delivered on the web were short animations coupled with Power Point slides that taught lessons such as “Hard Measures for Soft Skills” and “Making It Concrete.” The web-based material was especially useful in Montana where logistics are challenging. Virtual meetings were invaluable to support the joint learning community formed by each of the five lead sites. In addition to the webinars, traditional face-to-face training went on in Baltimore. In Grand Rapids, face-to-face training was used exclusively.

Four of the five lead sites enrolled a total of 20 satellite sites. Spy Hop Productions in Salt Lake City did not recruit outside partners but involved four departments within Spy Hop. Table 3 shows the results for four of the five and their respective satellite CBOs.

Wide Angle did not do a pretest in 2010 because Youth funds were reduced by the city. An interesting development, however, occurred in Baltimore. The Open Society Institute (OSI) engaged the city’s Family League to bring the VR process to other CBOs in Baltimore. Mentors in CBOs in Baltimore were trained by Wide Angle and this consultant in the latter part of 2010. The involved CBOs included the Debate League and the Algebra Club. All together one-hundred youth were involved and more than half received VRs.

The crucial test of the VR concept, the key to its sustaining and widespread use is employer demand. Specifically, do employers, and their HR departments, agree with the choice of skills, the layout of the VR and, most important, with the mentors’ assessments of their mentees? In 2009, selected employers were asked if they thought the VR would help young adults get a foot in the door. The answer was overwhelmingly positive; 88 percent agreed.

Will employers trust the reliability and validity of the VR? Reliability is the weak link inherent in any assessment process that relies on subjective assessments of performance. Of course, most meaningful assessments in the real world are subjective. Sports scouts, music and movie critics, interior designers and others provide subjective assessments to their clients and audiences. Executive headhunters do not use standardized test to choose CEOs or anyone else in C-level jobs. Judges of Olympic and other contests make subjective assessments that are generally accepted. Most grades that are used in computing GPAs are based, in part, on teachers' subjective assessments of papers or classroom performance which are notoriously unreliable. Judges of Olympic face cross-rater reliability and it would be useful for those filling out VRs (or marking school tests).

Validity is the weakness of standardized tests. Are these valid predictors of anything other than performance on similar tests? Would they predict job performance? In 2010, we put these questions of reliability and validity to its most difficult test: Would those supervising the youngsters in a subsequent job or internship confirm or contradict the CBO-mentors' evaluation?

The mentors made a follow-up call to that person, asking him or her whether they agreed with the mentor's assessment. The concordance between the two assessments was measured in two sites and for a total of 21 students (18 in Baltimore and 3 in Montana).

Employers tended to agree with the assessments made by trained mentors at the CBOs. The difference between mentors and employers ratings was a little over one-third a point (0.36) on a scale of five. As one might expect, the mentors were more generous than the employers, but not by much. (See Table 4.) Importantly, the discrepancy supports continuous improvement

Table 3. 2010 Student Improvement in Four Communities

Lead Site	Satellite Site	Improvement (%)	N	Weight	Weighted Improvement (%)	VRs Issued (2009,10)
Grand Rapids, MI						16
	Grand Rapids Media Center (MI)	42.70	10	0.0694	2.96	
	Michigan Banner (MI)	41.90	10	0.0694	2.91	
	Jubilee Jobs (MI)	7.50	12	0.0833	0.62	
Boston, MA						15
	Home, Inc. (MA)	5.50	13	0.0903	0.50	
	Madison High School (MA)	10.10	14	0.0972	0.98	
Montana						53
	Learning Partners (MT)	32.60	13	0.0903	2.94	
	Roundup (MT)	21.7	6	0.0417	0.90	
	Benton Creek (MT)	31.2	4	0.0278	0.87	
	Word (MT)	-0.60	12	0.0833	-0.05p	
	Florence Crittenton (MT)	24.10	6	0.0417	1.00	
	Meagher Co. TV (MT)	22.70	7	0.0486	1.10	
Spy Hop*, Salt Lake, Utah						39
	Chris' Group (UT)	14.70	9	0.0625	0.92	
	Koffi's Group (UT)	67.90	10	0.0694	4.71	
	Jeremy's Group (UT)	15.50	11	0.0764	1.18	
	Jeremy Record's Group (UT)	13.50	7	0.0486	0.66	
Total			144	1	22.20	

* Spy Hop had no external satellites but did send students on to other departments

in curricula; for example, Wide Angle discovered it needed to teach students how to leave a job in a responsible manner. An improving system requires feedback from the customer (the work supervisor) to the producer (the CBO mentor).

In addition to the Kellogg-funded activity, the author worked with four students, deemed at-risk of dropping out, who were engaged in a summer job. They were assisting in a Hopkins project to reduce obesity among adults in the community. One student’s reflections on the lessons he learned and the VR he earned is in Appendix D.

Table 4: Concordance between Initial Mentor and Subsequent Supervisor Ratings

Behavior/Skill	Mentor	Employer	Differenc
Responsibility	4.29	4.29	0.00
Team Player	4.43	4.14	0.57
Listening	4.29	4.00	0.29
Acquiring & Evaluating Info	4.29	3.86	0.43
Creativity	4.71	4.43	0.57
Negotiation	3.86	4.67	0.14
Average	4.41	4.22	0.37

Conclusion: Context and Relevance

When this work began the No Child Left Behind's emphasis on standardized tests in English and math dominated educators thinking. The emphasis in the Common Core and Race-to-the-Top maintains this faith. One result is a math teacher in Baltimore's high school experiment who suspended the Business Plan project so she could teach imaginary numbers.

Yet, in recent years, the significance of soft skills is increasingly recognized. A recent article in the Financial Times [June 9, 2014 p. 8] was headlined "Recruits sharpen soft skills to win jobs at tech giants." ... [W]e would choose soft skills rather than hard skills" the article quotes Beat Buhlman who had been in a hiring role at Google. "Soft skills for hard jobs," says recent ads by the Lumina Foundation in the Economist.

But Google has different soft skills in mind from the fast-food employer to whom soft skills means coming on time, sober, and drug free. Self-control for a four year old means learning to wait for a second marshmallow; for a forty-year old waiter, it may mean learning to be patient with a snotty young customer. Communicating with team players on a basketball team is a different skill than making a presentation to 6,000 at a convention or presenting an on-line course. In earlier research, this author found that the literacy of the building manager determined the literacy requirements for the maintenance workers he or she hired. A soft skill only becomes meaningful when a context is specified.

Not all contexts are equally valuable in the workplace, even when similar academic content is involved. Algebra 2 lessons in the context of developing a business plan is different from word problems about determining how many sheep each of two shepherds have. Building a business plan has advantages because many lessons can be built around a common context: the

rental of space, interest costs on a loan, and the mark up on items all pertain. Students of all ages are more comfortable with a narrative than they are in isolated examples. We know that ESL is best taught in the context of a familiar workplace. Soft skills are performance-based; assessment must be informed observation. Teaching and formatively assessing ball-players and musicians are better analogies than lecture driven courses and a final. [Brown]

The federal government departments of education and labor have recently discovered what they now call essential skills. Their choice of the word “essential” suggests a deep conversation about the adult roles that we expect students to fill. The government’s rhetoric suggests, and most parents think, it is essential to equip youngsters with the skills and behaviors needed to earn a family wage that supports a middle class style of living. Thomas Jefferson emphasized a democracy’s need for engaged citizens. Some educators and parents will suggest that art, music, and literature are essential for a full life.

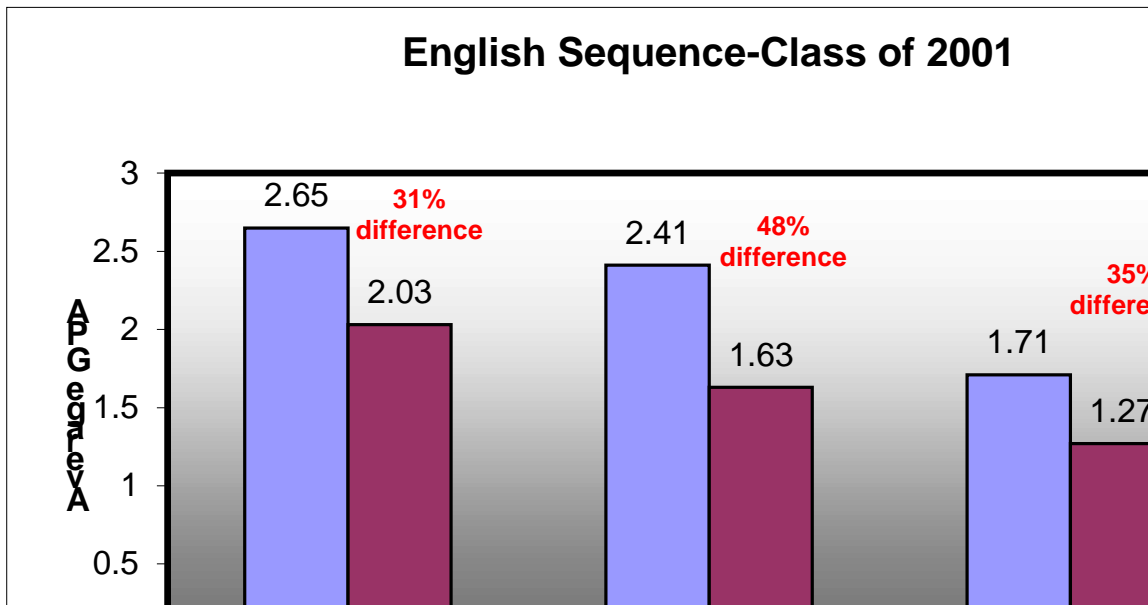
The contexts for soft skills instruction should be chosen with these adult roles in mind. Recognizing the importance of essential skills will alter what it means to prepare students for college and career (and citizenship). Taken seriously, it will affect curriculum of K-12 education. In math, planning and budgeting may replace some of the more esoteric subject matter in trigonometry. History and literature can give students insights into responsibility. Art and music will be recognized as important for creativity. Perhaps philosophy can make a comeback. Certainly, Career and Technical Education will change. Hands-on science and project-based learning will be encouraged as they provide opportunities for teaching essential (soft) skills.

Publically-financed training programs should also change. Programs to pass the GED will have to be augmented if not replaced with courses in communicating, collaborating, critical thinking, and problem-solving. Work-based learning may be re-examined and expanded to go beyond technical skills.

Before all this can happen clearer definitions, more specification of context, and more experimentation in different settings are needed. More research in reliably observing and assessing performance is crucial. There is something to learn from experts who assess athletes and artists. Ignoring soft skills because there is no standardized tests is surely the poorer strategy.

The VR is not a single document from one teacher. It is an updateable document that should foster life-long learning by students and workers. Teaching soft skills and recording them in a VR could have powerful effects on education and the labor market. Think Linked-in and having VRs from teachers, mentors, and supervisors instead of (or in addition to) references from friends and family who may be biased. Use of the VR will encourage supervisors -- in internships, apprenticeships, extra-curricular activities, and on the job -- to take their mentoring roles more seriously. Success for individuals, communities, and the nation will depend, in great part, on how much and how well we invest in human resources – in acquiring soft as well as the hard and technical skills.

Appendix A: BLC Results on Academic Performance



Figures 1 – English Grades of BLC Students Were Higher by 31 to 48%

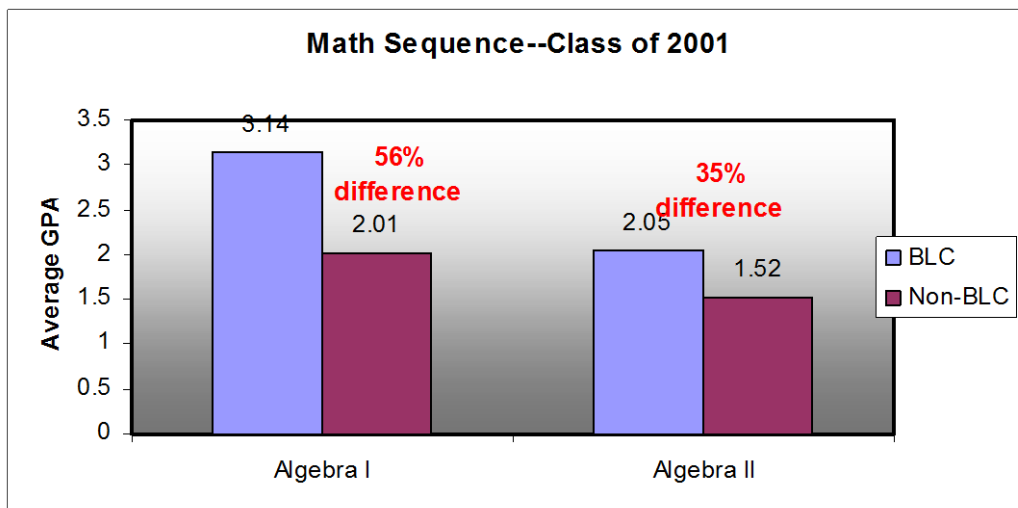


Figure 2 –Math Grades of BLC Students Were Higher by 35 to 56%

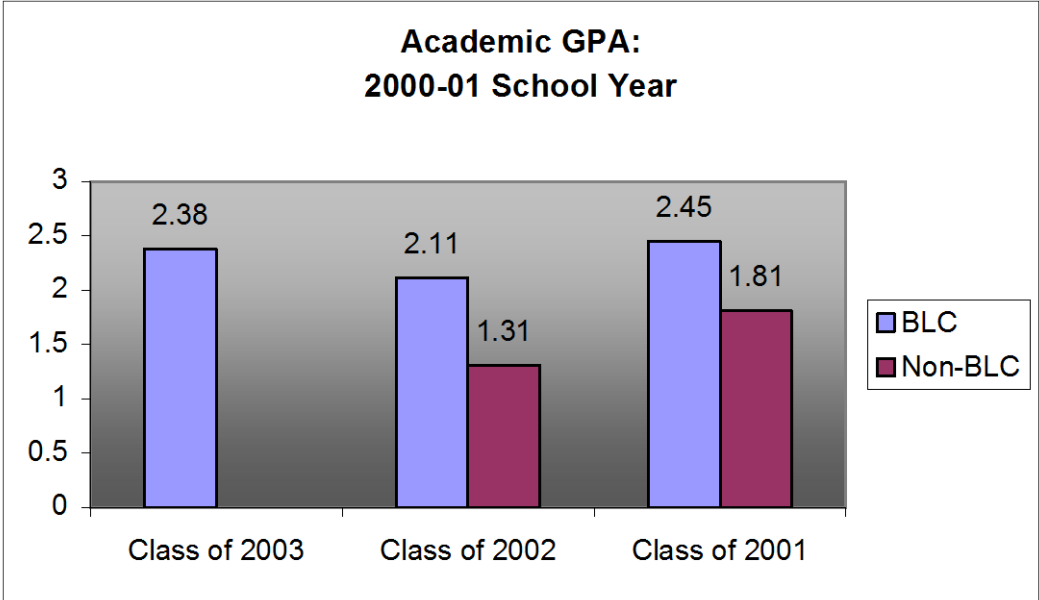


Figure 3 – Overall Grades of BLC Students Were Higher

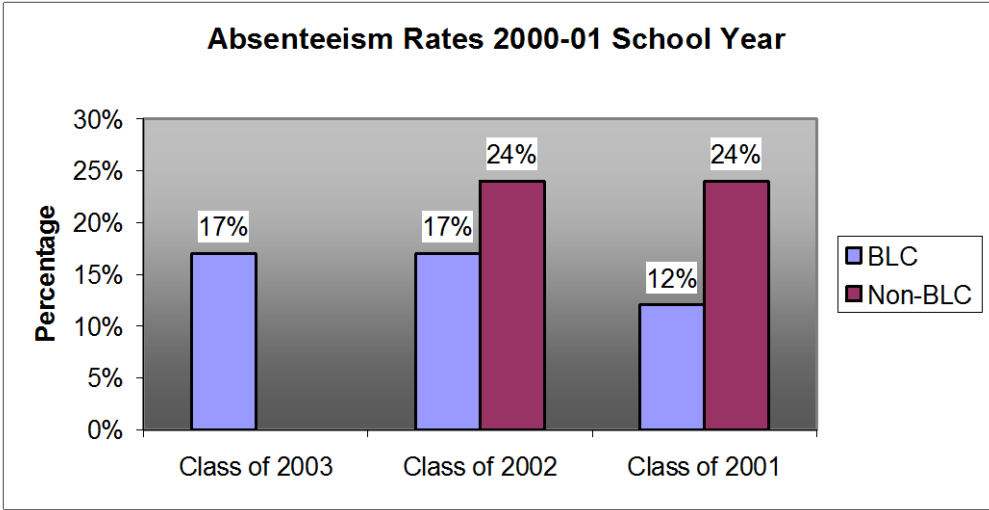


Figure 4 – BLC Students Were Less Likely to Be Absent

Appendix B: BLC Results on Soft Skills

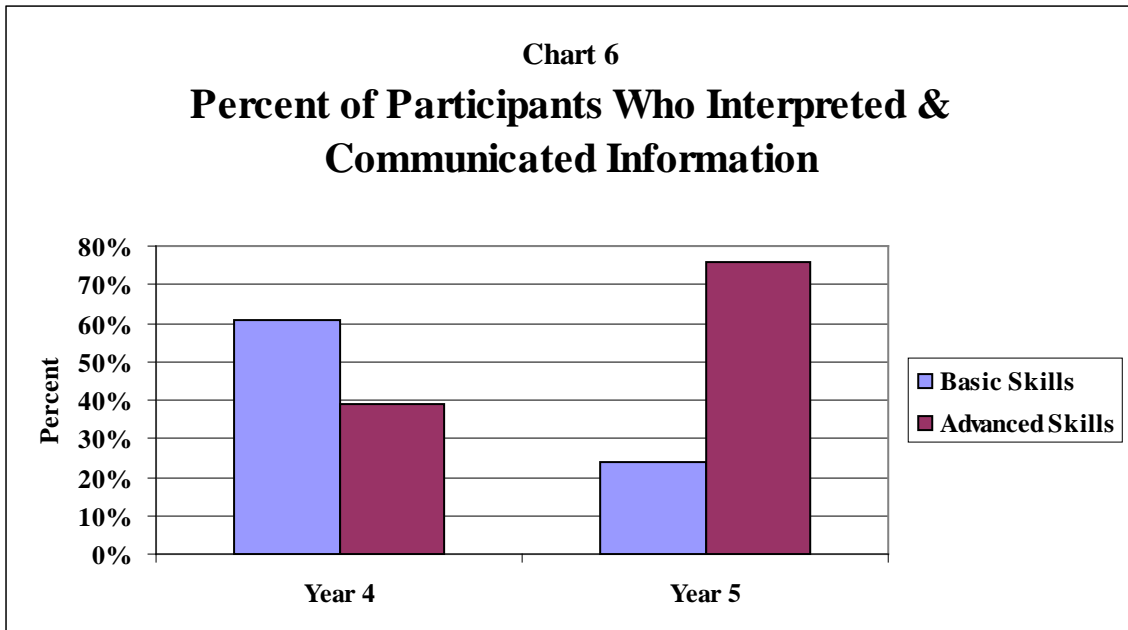
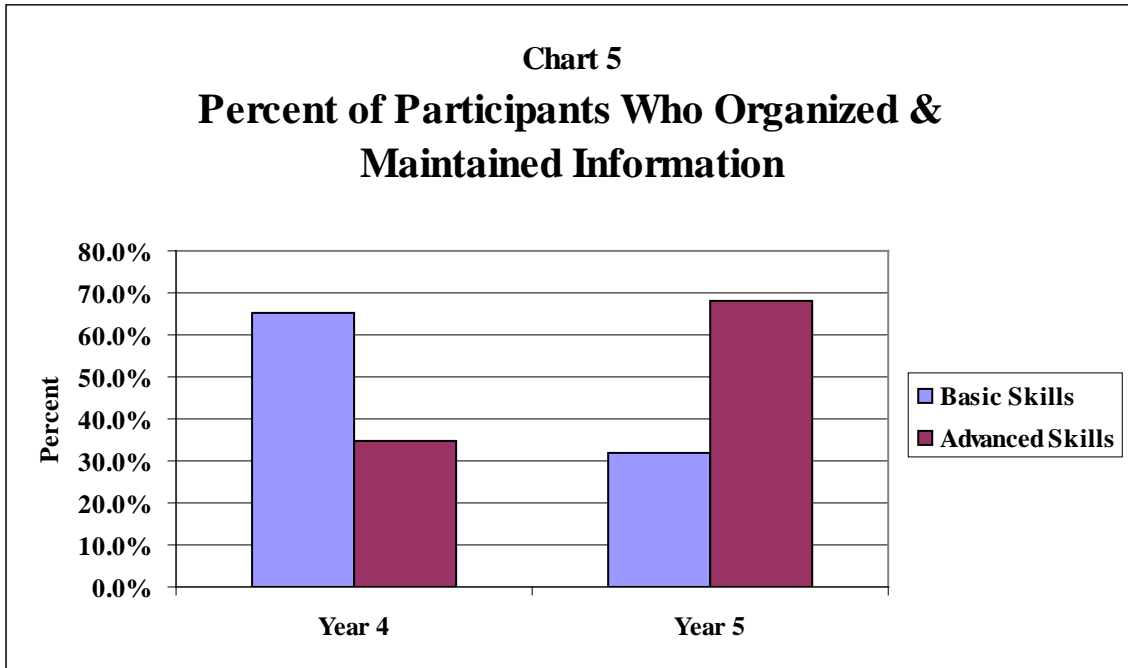
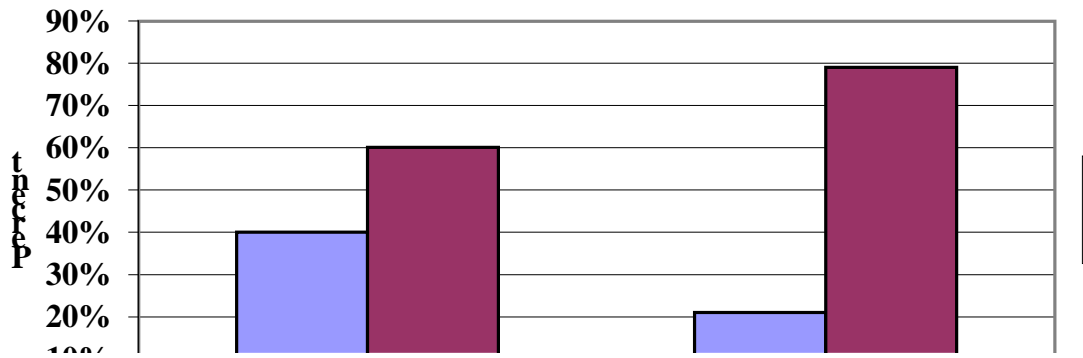


Chart 7
Percent of Participants Who Aquired Tea Building Skills



Appendix C: Income of SCANS WtW Workers

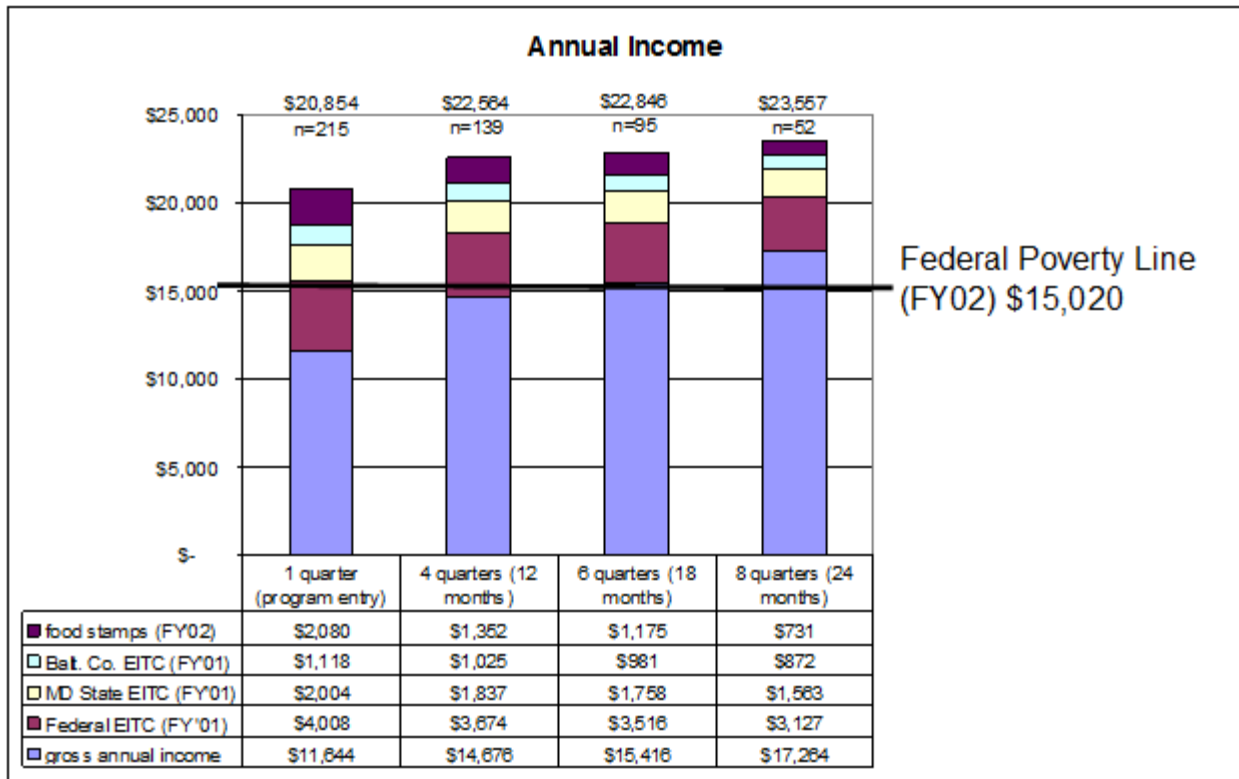


Figure 1

All data in current (2001) dollars

The 139 people who worked four or more quarters had average earnings in the fourth quarter of \$3,669; or \$14,676 annually. Including federal, state, and local EITC and Food Stamps, she would have an annual income of \$22,564. The 95 participants who worked six or more quarters had average earnings in the sixth quarter of \$3,854. Including the three EITCs and Food Stamps, brings her total annual income to \$22,846. The 52 participants who worked eight or more quarters earned an average of \$4,316 in the eighth quarter. If they maintained this quarterly income for a full year and received the three EITCs and Food Stamps their annual income would have been \$23,557. By the eighth quarter of work, people in the SCANS group were receiving \$4,316.

Appendix C: One Youngster’s Verified Resume and His Reflections

Verified Résumé of Professional Skills for XXX

Work Experience

Johns Hopkins School of Public Health, June –July, 2011

Xxx served as Intern Assistant in Weight Loss Research. He sought to contact five participants and engage in helping them with exercise and shopping for healthy foods. He also participated in four lectures to other students about nutrition.

Evaluated and certified in the following job performance skills

SKILL OR BEHAVIOR	RATING*	OBSERVATIONS FROM OBSERVATION AND IA REFLECTION
Responsibility	4.5	Managed to make contact with 4 patients regarding weight loss program. Came to work on time, finished work on time, writing indicates understanding of the concept.
Team Player	5.0	Worked with other 3 IAs to develop skills and carry out tasks such as making the presentations.
Time Management	4.5	Developed schedules for contacting participants. Writing indicates understanding of the concept.
Information Handling	4.5	Collected data from participants, Developed Excel spread sheet to collect data
Listening	5.0	Listened attentively to lectures and instruction in class. Listened to answers from participants.
Written Communication	3.5	Wrote two short (200 – 300 word) essays on what he learned. Developed Power Points for presentations described below. Needs to read over what he writes more carefully.
Oral Communication	3.5	Helped make four presentations to student groups about nutrition and exercise. Spoke to participants on the phone. Practiced speaking to participants and engaged in class discussion. Voice needs more clarity and projection.

Additional Observations: Xxx has talent and needs to further develop his communication skills.

Certified by:

Intern

Arnold Packer, PhD
Supervisor

*** For Responsibility, Teamwork, and Listening:**

5= always, 4=most of the time, 3=sometimes, 2=occasionally, 1=rarely

For Time Management, Information Handling and Oral Written Communication

5=could teach others, 4=can do himself, 3=needs some supervision, 2=needs much supervision, 1=cannot do.

Xxx's Reflection on the Summer Learning (2011)

This piece is about what I learned at work this summer about responsibility, how I used it, how I learned to apply it to work, and what I got from it. When I started working, I learned that everyone has the same amount of responsibility as the next person; that is how you make a healthy working relationship between the supervisor and the employee. We, the intern assistants are responsible for contacting our participants, making sure they know where to get weighed, making diets for them, taking them on walks, and helping them better their health, so they will live longer. Bettering their health will allow them to spend more time with their friends and family, plus they will be in better health to do more activities such as football, basketball, bike riding, power walks/Jog and swimming. This will also allow them to be more comfortable with their body's,[sic] so they will feel better about going out in public with their friends and family. We also went online to find restaurant that sells healthy food, so they can eat out with there [sic] families. The I.As were given responsibility to give presentations about what we were doing, how we were doing it and what we learned from our responsibilities. One of our many responsibility [sic], was to go and find convenient places for the participants to go take walks, gyms, exercises and for them to eat healthy food without gaining weight.

We learned a lot about weight lose [sic], like the amount of calories your body burns each day through a combination of activity walking, standing, moving, and keeping you alive and functioning pumping blood, digesting food, and breathing. We learned if you have a poor management of your diet it is possible to end up with type-one diabetes and it can harm you to the point that you might lose a limb.

We learned to work together, respect each others' [sic] ideas, and keep our hands to our self. Our group started teamwork by doing multiple icebreakers a day. We also worked together to achieve the same goals, which also contributed to our great teamwork. Team work is necessary for a productive and healthy work environment. Team work is important because when you work as a team, you usually get things done a lot quicker and more efficiently.

Public speaking is a form of communication that can be used to sell a product or convince an audience. Something like, when you are in court, and you are trying to convince the jury that you aren't a serial killer, public speaking can be used in matters of life and death. Public speaking can also be used to motivate and to improve an audience's work habits. We learned the way you speak is the way people react to what you are trying to sell. However, public speaking is not all about the way you talk - it is also about the way you present yourself. For example, how you do with your hands, eyes, feet, and body movement

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