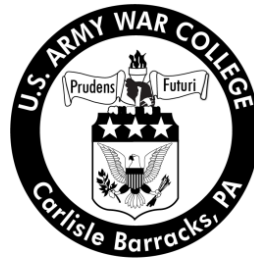


Strategy Research Project

Effective Measures of Continuing Education

by

Colonel Morris A. Turner
United States Army



United States Army War College
Class of 2013

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USAWC STRATEGY RESEARCH PROJECT

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Abstract

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Higher education strengthens the social and economic fabric of the U.S., enhances the innovation and growth of intellectual capital, and improves the economic growth of the Nation. Congress, the Department of Defense (DoD), and the military value and place a considerable emphasis on education. The DoD appropriates money for continuing educational opportunities for the GI Bill, Montgomery GI Bill, and Tuition Assistance for service members and veterans. Higher-level education adds to a service member's professional development and promotion potential while on active duty, as well as provides veterans with the requisite degree and skills to compete in the civilian job market. However, with the fiscal crisis facing the Nation and anticipated military budget cuts, the DoD may have to consider sacrificing some continuing educational opportunities for its service members. In order to prevent this from occurring, it is incumbent upon the military's strategic leaders to convince Congress and the DoD of the significant importance each of the three educational programs utilizing metrics that measure the effectiveness of the programs, and provide empirical data to Congress stressing that the return in education is worth the investment.

Effective Measures of Continuing Education

Higher education strengthens the social and economic fabric of the United States. President Obama and Secretary of Education Arne Duncan both agree that education is not only an economic necessity for the Nation, but also a moral imperative because America's future is directly linked to the quality of education for children, young people, and adults.¹ The personal value of obtaining a college degree extends through a person's entire life and is unquestionably an achievement which brings a lifetime benefit. Moreover, there are also enormous benefits to society as a whole from having a large and diverse proportion of the population with college degrees. College graduates earn more money in their careers, and they contribute more yet take less from society.² Additionally, investing in education enhances the innovation and growth of intellectual capital in the U.S. which improves economic growth and recovery by supplying a workforce with the requisite skills and education to work, pay taxes, and contribute to the economy. A comparable discussion about the value of education applies not only to the Nation at large, but also to the Department of Defense (DoD).

For the military, active duty service members and veterans are afforded the benefit of continuing education through the GI Bill, the Montgomery GI Bill (MGIB), and Tuition Assistance (TA). The money Congress appropriates to the DoD and the Department of Veteran Affairs for continuing educational opportunities not only affects those service members in the military, but also as veterans enter the workforce, it significantly impacts the employment or unemployment rate of the country and, thus, affects the intellectual capital of the Nation. Active duty service members are required to attend Professional Military Education (PME) classes throughout their career in order to prepare them for the next level of responsibility and improve their professional

development. However, PME only contributes to approximately 50% of the education an officer or noncommissioned (NCO) requires to develop the critical and creative thinking abilities needed at every level to lead men and women in a volatile, uncertain, complex, and ambiguous (VUCA) environment and the future. Although all three continuing educational opportunities have contributed greatly to the military and the Nation over time, in the midst of fiscal cutbacks, Congress is evaluating spending cuts across the board in the DoD, including continuing educational opportunities.

In the next five to ten years, the volatile and uncertain financial situation in the U.S. military will result in significant budgetary cuts that will severely impact individual and unit readiness. It is vitally important, therefore, that political and military leaders within the DoD apply the appropriate intellectual rigor to determine where to make cuts and consider the impact their decisions will have on the force in the future. In this VUCA environment, characterized by budgetary uncertainty to support the military's ability to maintain a trained and ready force, coupled with current and future threats facing the Nation, senior leaders must: 1) think critically about what systems, programs, units, and/or personnel to reduce; 2) think creatively about ways to meet future challenges; and 3) use system thinking with a Joint, Interagency, Intergovernmental, and Multinational (JIIM) approach to jointly meet current and future challenges facing our Nation and its military leaders. The DoD will have to prioritize all of its programs and make a decision on which ones to keep, reduce, or cut. With regard to the military's continuing educational opportunities, without any sort of measures of effectiveness to show the individual, organizational, and/or societal benefits of education and the return on the billions of dollars invested in the military's educational opportunities each year,

Congress will most certainly support reducing funds allocated for continuing educational opportunities.

However, the precursor to strategic leaders making any decisions on funding for continuing educational programs for the future lies in an essential question that the DoD and the military have to answer for Congress and the American taxpayer: What are the measures of effectiveness for the educational programs in the Army and are they worth the billions of dollars invested in the three programs each year? As of today, the DoD and the military have not identified the metrics and/or data collection methods to assess the value of the educational programs and the need to continue to fund one or any of the three educational programs offered. In 2011, the Government Accountability Office (GAO) published a report critical of the DoD's inability to effectively measure the usefulness of civilian education for military members.³ Without question, Congress supports all three programs and admits they are designed to provide educational assistance to service men and women, their spouses, and families because they provide lifelong learning opportunities which ultimately contribute to society and the enhanced readiness of our Nation.⁴ Nonetheless, with the national debt close to \$16.4 trillion, the military must evaluate all of its programs, including education, to ensure the benefits incurred are worth the costs required. Without true measures of effectiveness for all three programs, soldiers and veterans alike may be in jeopardy of losing an essential privilege for serving and/or having served their country – the benefit of continuing educational opportunities. The MGIB, Post-9/11 GI Bill, and TA provide funding for continuing education for soldiers, veterans, and their families, are accessible by all armed forces, and available to Active Duty, Reserve, and National Guard.

However, there are currently no clear measures of effectiveness to assess the true value of the programs, which contributes to the debate in Congress of whether to continue all the DoD educational programs as they currently exist.

This paper begins by providing a background analysis of the three programs utilized to pay for continuing education (TA, the MGIB, and the Post 9/11 GI Bill) and the marked distinction between the three programs as they pertain to active duty soldiers (Army Officers and NCOs). This is followed by an explanation and comparison of Officer and NCO PME and the differences between how the Army educates its officers as compared to its NCOs. Next, this essay will examine short and long-term metrics applied in the civilian sector to assess the value and benefits from the perspective of the individual, organization and society. Subsequently, this paper will advocate individual and organizational measures of effectiveness for continuing education (CE) in the Army. Lastly, the paper provides recommendations on the metrics the Army should use to assess the value of CE in an effort to demonstrate the need to maintain the current level of funding for continuing education for the Army and the DoD, in the midst of fiscal constraints.

The GI Bill/Montgomery GI Bill/ Post-9/11 GI Bill

In 1944, prior to the end of World War II (WWII), Congress passed the GI Bill.⁵ At the time, their intent was to appropriate money and resources to provide a full-range of benefits to veterans and their families. The GI Bill accomplished that and much more.

Few government programs have delivered on America's promise as a land of opportunity as explicitly as the GI Bill. The 1944 bill--among the most significant pieces of legislation ever passed by the U.S. Congress--included much more. Its educational benefits threw open the doors of elite academies to the masses, because in 1947, veterans made up almost half the nation's college students. It also offered low-interest, no-money-down mortgages, backed by the U.S Government that allowed millions of

families to purchase their first homes. The move helped spark the postwar baby boom and the suburbanization of America in the 1950s, and it effectively created the American middle class.⁶

Congress anticipated a drawdown of the military after WWII and wanted to prevent a spike in the unemployment rate, raise the educational level of service men and women re-entering the workforce and strategically, the productivity of U.S. industry. Finally, Congress sought to confirm the value that Americans placed on those who served in the military.⁷ The GI Bill was generally considered successful in accomplishing the goals Congress intended to achieve. It not only forestalled a recession but proved unexpectedly popular, and was one of the most enlightened pieces of legislation passed in the U.S. by enabling a whole generation to attend college who previously would not have had the opportunity.⁸ Ironically, the Army and the military have realized that they may face a similar predicament that they faced previously.

In 1985, Congress passed two DoD Authorization Acts, replacing the GI Bill with a revised program called the Montgomery GI Bill (MGIB). The MGIB was specifically modernized to recruit and retain a peacetime, volunteer force. Since 1944, more than 20 million veterans have received a total of \$61.7 billion for education and vocational training under the original bill and subsequent versions that continue today.⁹ The MGIB is very similar to the initial educational program from 1985; the program continues to assist service men and women by paying for college. However, some additional benefits have been added over the past 27 years.¹⁰ Service members can use the MGIB, after meeting all specified requirements, for no more than 36 months, with a maximum monthly payment rate of \$1473 per month, within ten years of separating from the military.¹¹ Service members may elect to utilize the MGIB while serving in the military; however, payment rates are significantly reduced.

In July 2008, the Post 9/11 Veteran's Educational Assistance Act of 2008 was signed into law, creating a new robust education benefits program under the Post-9/11 GI Bill. Congress believed that since September 11, 2001, service had been arduous for military members and their families and that there was a need for an educational assistance program that provided enhanced educational assistance benefits worthy of such service.¹² Furthermore, members of Congress hoped a benefit that exceeded that available under the other active GI Bills would ameliorate military recruiting challenges and reduce the higher unemployment rate among veterans compared with non-veterans of the same age group. The benefits include up to 100% of in-state tuition and fees for a state college or university, a housing allowance, book stipend, and the benefit of transferability to a spouse or child.¹³ Eligibility criteria are very similar to that of the MGIB.

Tuition Assistance (TA)

The Army TA offering is another program Congress appropriated money through the DoD for soldiers to use to obtain and further their education for professional and personal goals. The Army TA program was introduced to the military in 1947, three years after the start of the GI Bill in 1944, as an additional means to subsidize educational costs for active duty soldiers and to showcase the Army's commitment to educating its soldiers.¹⁴ During the period from 1944 to 2002, soldiers could receive up to 75% of their college tuition. Beginning October 1, 2002, approximately 13 months after 9/11, DoD approved a change to the military's TA program by making soldiers eligible to receive up to 100% of their college tuition for classes taken during off-duty hours, to include textbooks if included in the school's tuition rates.¹⁵ TA is not a loan; rather, it is money for educational purposes that soldiers have earned as a benefit for

serving their country. The TA program is available to nearly all soldiers (officers, warrant officers, and enlisted) including Army Reserve and Army National Guard on active duty, with different guidelines and restrictions for each. Due to the disproportionate opportunities available for enlisted soldiers to obtain their undergraduate and/or graduate degree like their officer counterparts, they utilize TA to a greater extent than officers. In 2012, enlisted soldiers accounted for 89% of the active duty soldiers who utilized TA towards obtaining their undergrad or graduate degree.¹⁶

Educational Opportunities: Officer vs. NCO

An officer enters the military after completing a four-year degree from a military institution such as West point or through a Reserve Officer Training Corps (ROTC) program. Another program an officer can enlist to become an officer is through the Officer Candidate School or direct commission. Regardless of which source an officer is commissioned, they most often possess a four year degree. Soldiers, on the other hand, enlist into the military with at least a high school diploma or General Equivalency Degree (GED). The Army's goal is to recruit 90% or better of its Initial Entry Training (IET) soldiers with a high school diploma or GED.¹⁷ It is apparent that the duties, roles, and responsibilities of a new Second Lieutenant (2LT) completing Basic Officer Leadership Course (BOLC) are quite different from a soldier graduating from basic training and Advanced Individual Training (AIT) and lend credence to the need for officers to enter the military with a bachelor's degree. Thus begins the divide in education between officers and NCOs that will last throughout their careers.

Officer vs. NCO Education: Military and Civilian

In general, over a 20-year career, a due course officer will attain the rank of Lieutenant Colonel (LTC), while a due course NCO will attain the rank of E-7, and both

will have the opportunity to attend three levels of PME. However, continuing educational opportunities throughout their careers are significantly different. The compelling difference is twofold. First, the length of the three schools for officers totals approximately 22 months or approximately 88 weeks of classroom instruction, to include: BOLC is approximately 6 months long, Captains Career Course (CCC) 6 months, and Intermediate Level Education (ILE) 10 months; however, the length of BOLC and CCC may vary by branch.¹⁸ The three PME courses NCOs complete are the Warrior Leader's Course (WLC), Advanced Leader's Course (ALC) and Senior Leader's Course (SLC). As of January 2013, WLC changed from 17 to 22 academic days. ALC and SLC both vary in length by MOS. The longest ALC course is 13.5 weeks and the longest SLC course is 14.5 weeks in length. In total, the three Noncommissioned Officer Education System (NCOES) courses total approximately 31 weeks or 8 months of classroom instruction, which is one-third the classroom instruction for the military education of their officer counterpart. Interestingly enough, in an effort to compensate for the lost time in classroom instruction, the Training and Doctrine Command (TRADOC) has mandated that soldiers and NCOs complete Structured Self-Development (SSD) courses online, at home station, during their duty day. The Army developed SSD to bridge the operational and institutional domains and set conditions for continuous growth and life-long learning for both the Warrior and Warrior Leader. The mandate requires soldiers/NCOs to complete four SSD online courses; SSD1 and SSD 3 through SSD5 are all 80 hours each. SSD 1 must be completed prior to attending WLC and SSD3 prior to SLC. SSD4 and SSD5 are still in development and are intended to be completed before and after attending the Sergeant Major's Course

(SMC), respectively.¹⁹ Although several studies reveal a myriad of reasons students benefit from online courses and gain similar educational benefits as classroom instruction, be that as it may, e-learning cannot replicate cognitive, intellectual face-to-face interaction, dialogue, and discussion between students and/or instructors that clearly promotes higher learning. Additionally, classroom instruction promotes academic responsibility and sharing of ideas, which contributes to a student's ability to learn more effectively.

Secondly, it is important to note that all officers come into the Army with a bachelor's degree and for the majority of officers in basic branches, there are generally four ways of obtaining a master's degree. One way is cadets, prior to graduating from West Point or ROTC, are given the option to enroll in the Expanded Graduate School Program (EGSP), in exchange for a guaranteed opportunity to attend graduate school. If a cadet decides to obtain his master's degree, he will incur a two-year Additional Service Obligation (ADSO). A second method for officers to complete their master's degree is to apply for the program prior to starting CCC by using TA. This program is offered to some branches and officers who apply incur a two-year ADSO. A third course of action is for an officer to obtain his master's degree while attending ILE. The program is similar to officers who attain their master's degree while in CCC. The fourth way an officer can attain their master's degree is through an assignment that mandates they must have a master's degree prior to performing duties in their next assignment. For example, an officer is selected to instruct at West Point where a master's degree is required to fulfill the assignment. In comparison, NCOs do receive college credit for their PME courses (ALC and SLC), depending on the degree they are pursuing; however,

due to the short duration of their courses, NCOs are not afforded the same educational opportunities, as their officer counterpart, to obtain enough credits to complete either an undergraduate or graduate degree in conjunction with their PME courses. Additionally, there are only two assignments in the Officer of The Chief Legislative Liaison which require an NCO to obtain a degree prior to fulfilling their assignment.

Officers and NCOs have different roles and responsibilities in the Army, thus the difference in structured professional development and continuing educational opportunities. However, as illustrated, a significant divide exists between officers and NCO educational opportunities, for both PME and civilian education. Because officers and NCOs are trained, educated, promoted, and professionally developed differently throughout their active-duty careers and do not compete for the same job, the disparity in education does not affect either of them from reaching their full potential. However, the disparity in continuing education does impact an NCO's ability to become a more well-rounded, creative thinking leader on today's and future battlefields. Educated NCOs are critical thinkers, nimble in their decision-making, innovative in their counsel, and able to apply a multifaceted store of knowledge to whatever problem needs solving.²⁰ Additionally, the distinction in education also impacts an NCO's ability to find a job once they depart the military and enter the veteran ranks. Searching for job opportunities in the civilian workforce will be quite different for an officer with a bachelor or master's degree versus an NCO with only an associate's degree. On average it takes a soldier 5-7 years to complete an associate's degree and 12-15 years to complete a bachelor's degree.²¹ The ensuing paragraphs will reveal the tremendous benefits of

education and lend itself to why it is extremely important to maintain the continuing educational opportunities for NCOs.

Measures of Education

Although the military and the Army do not have established benchmarks to assess the benefits of continuing education, many studies have been done in the civilian sector in this endeavor that can be used by the Army. Figure 1 below depicts a sampling of the measures of education in the civilian sector by category (individual, organizational, and societal) in relationship time; short-term, three to five years, and long-term, five years and beyond.

Category/Impact	Short-term (3-5 years)	Long-Term (5 years and beyond)
Individual	Increased Earnings Continuous Learning Increased Job Satisfaction/Performance Agility and Adaptability Teamwork	Lifetime Earnings Future Job Opportunities Smoking, Exercise, Obesity Impact on Future Generations
Organizational	Increased Productivity Increased Ability to Take Advantage of Innovation	
Societal		Tax Revenue Unemployment Rate Social Support Programs Poverty Voting Volunteerism

Figure 1. Short and Long-Term Measures of Education on the Individual, Organization, and Society

The ensuing paragraphs describe in detail the measures associated with assessing the value of education in the civilian sector.

Individual: Short-Term

Increased Earnings

Overall, higher levels of education lead to higher earnings in the U.S. across all professions. According to the National Center for Education Statistics' 2009 Condition of Education Annual Report, in 2007 young adults ages 25–34 with a bachelor's degree had a median income of \$45,000, while the median earnings for adults with an associate's degree was \$35,000, and for those with a high school diploma or equivalent it was \$29,000. In other words, young adults with a bachelor's degree earned 29 percent more than young adults with an associate's degree and 55 percent more than a young person with only a high school education.²² These figures reflect an incredible difference in short-term benefits that will only be magnified in the long-term benefits of lifelong earnings.

Continuous Learning

Individuals who are self-motivated to take classes towards their undergraduate and graduate degrees have a thirst for knowledge. They are continuous learners who develop the willingness to ask questions of others and challenge the status quo.²³ Continuous learners also incite diverse ideas and thinking which they acquire from professors and peers that continually challenge them to think differently and reshape their perspective and way of thinking.²⁴ As a result, these individuals develop the ability to analyze problems, develop creative and innovative solutions, and think clearly about complex problems in ambiguous circumstances. These benefits of continuous learning are absolutely essential tools for any employee who considers ways to improve himself and his organization.²⁵

Increased Job Satisfaction/Performance

Employees with higher levels of education are more likely to be satisfied with their job, feel a sense of accomplishment, and perform their job more efficiently. In a 2008 survey by the College Board Advocacy and Policy Center of employed individuals 25 and older, 58% of college graduates reported being very satisfied with their job while 50% of high school graduates and only 40% without a high school diploma reported being very satisfied with their job.²⁶ By virtue of increased job satisfaction/performance, employees learn quicker, have higher energy levels, are easier to manage, and accomplish tasks faster than their contemporaries.²⁷

Agility and Adaptability

Nothing more accurately describes today's business world these days than intense competition, rapid change, complex situations, and uncertainty.²⁸ Today's business world requires educated individuals who are capable of being assigned multiple, unrelated tasks, with the ability to shift between them or accomplish all simultaneously. Regardless of profession, employers seek out employees who are not just capable of being agile and adaptable in a multifarious environment, but individuals that literally look forward to such challenges.²⁹

Teamwork

The ability to collaborate with others and work effectively as part of a team is one of the two skills employers value most.³⁰ Presently, it is standard practice for companies to operate nationally, internationally, and compete in a global economy, necessitating employers to enlist educated employees who naturally thrive and feel comfortable working as part of a team. Individuals with undergraduate and graduate degrees learn the value of team work in working together with their peers on assignments, studying for

tests, and working on projects as a group. A precursor and advantage of employees adept at working as part of a team is the ability to communicate, which is essential for employees to work in concert with one another.

Individual: Long-Term

Lifetime Earnings

In addition to short-term, elevated earnings for a more educated person, individual, life-time earnings are projected to significantly increase. A typical bachelor's degree recipient can expect to earn about 66% more than the typical high school graduate earns over a 40-year working lifetime.³¹ In total dollars, that amounts to an average of about \$1 million of potential earnings for college graduates over their working lives versus a high school graduate.³²

Future Job Opportunities

As an individual improves upon his/her training and education, they acquire additional skills that qualify them for higher level or managerial positions within a company. It is sometimes difficult for organizations to hire first-level managers externally because no matter how strong their management skills, they are unfamiliar with the company, how it functions/operates, and its corporate culture.³³ Consequently, companies are eager to hire college graduates who possess the attributes they are looking for to fill a current job vacancy, but they are also hiring an employee based on their potential to grow within the company and, of course, improve production/operations to increase company revenues.

Smoking, Exercise, and Obesity

Studies have shown that an individual's health is impacted by their level of education, specifically smoking, exercise, and obesity. In 2008, studies revealed the

stark difference in these three areas based on an individual's level of education. College graduates between the age of 25-64 years old were 16% less likely to never have smoked or quit smoking, 30% more likely to engage in exercise, 14% less likely to be obese, and 10% less likely to have obese children or teenagers.³⁴ These characteristics also have significant implications on reducing health care costs over time.

Impact on Future Generations

College-educated parents engage in more educational activities with their children, hold higher expectations of their children to do well in school, and encourage their kids to go onto college to earn a degree.³⁵ Parents begin teaching and educating their children from infancy to stimulate their mental development. Newborns come into the world with an undeveloped cognitive intellect, but their intellects are working well, and they have the ability to perceive a great deal and develop decided preferences as they interact with their parents and their surroundings.³⁶ In 2008, the University Leadership Council of the Advisory Board of D.C. published the results of a 1999 survey of cognitive skill levels for pre-school kids (ages 2 to 5 years old) by mother's educational level. Children of mothers with a bachelor's degree performed better in all three categories: 20% higher for recognizing letters, 25% for counting to 20, and 13% higher in writing their name.³⁷

Organizational: Short and Long-Term

Distinguishing between the short and long-term benefits for the organization of a more highly educated workforce is difficult. Consequently, this section focuses on the benefits for the organization with less regard to the timelines associated with those benefits. The largest asset that any company has that does not appear on their financial worksheets is its workforce. Employers know that college-educated employees will not

need as much training, and they bring a different perspective of the industry to the company than someone without a college degree. Most college programs cover theory in addition to practical application and generally offer a historical insight that someone might never gain with a high school diploma and just on-the-job training. This exposure contributes to a more well-rounded and versatile employee, which are attributes employers consider being very valuable. Employers have a vested interest in hiring, training, and retaining quality employees, educated in their profession or field of study, because of the benefits they reap from a quality workforce. Two decades of private industry and academic research, summarized in 2010 by Tim Lohrentz of the National Network of Sector Partners, confirm that quality employees can improve an employer's bottom-line profitability by increasing revenues and lowering expenses.³⁸ A review of employee development literature reveals the links to profitability in the following areas.

Increased Productivity

In general, a well-trained and well-educated person tends to be more productive than an individual who does not acquire the training and education needed to improve their performance.³⁹ Employees with a college education learn better time management skills, which enable them to perform their duties more efficiently and increase output of products or services. In addition, they have learned to think critically and creatively, which facilitate their initiative to resolve issues and develop new ideas to institute better business processes, therefore leading to less time spent per task. Collectively, better trained and educated employees improve a company's productivity as well as its bottom line - revenue.

Increased Ability to Take Advantage of Innovation

This generation of graduates has grown up with technology as part of their everyday lives, at home, in their classroom, and in their personal lives.⁴⁰ They have utilized cell phones, texted, skyped, and emailed since middle school; used the latest computer, ibook, ipad, facebook and/or twitter account since high school; and have mastered conducting research on the internet while in college. Today's college graduates are very "tech savvy" and will not require much training to master their company's technology. They absorb new technologies rapidly, and this, combined with their extensive knowledge of the latest hardware and software, automatically makes them a high-value hire both for current and future needs in a company.⁴¹

Increased Commitment

College-educated employees demonstrate a higher degree of commitment compared to an employee without a college degree by virtue of their willingness to confront the rigors associated with earning a four-year degree.⁴² College grads that are more satisfied with their job and anticipate future job opportunities within their company, which may lead to increased earnings, are typically more committed to their job. Additionally, college graduates demonstrate their level of commitment by the effort and dedication they put forth in excelling in college by completing classes, assignments, writing papers, and studying for exams.⁴³ Enrolling and graduating from college demonstrates a financial commitment as well, which validates to an employer a college-educated employee's commitment, perseverance, and task accomplishment.

Increased Employee Retention

The net result of all the short and long-term individual and organizational benefits of hiring a college graduate is employee retention. Companies that maintain a positive

work environment instill a culture of hard work, teamwork, camaraderie, and innovation, coupled with opportunities for growth and advancement to management level positions, will inherently increase employee retention. Employees become an asset to a firm for many years to come, and in effect, besides reaping the benefits of employee productivity, companies also save money normally spent on recruitment, hiring, and training new employees. Furthermore, companies that continue to invest in education and training their employees make it compelling for them to remain with the company. According to a 2008 Spherion Atlantic Enterprises LLC study, 60% of respondents who received continuing education and training were more likely to remain with their current employer for the next five years.⁴⁴ Naturally, employees greatly appreciate continuing education benefits and are more likely to remain with a company when their employer is funding or helping them in that endeavor.⁴⁵

Societal

In addition to the number of measureable benefits of education for individuals and their companies, there are also significant benefits from the broader societal perspective. Many countries see education as an investment in human capital and have placed greater emphasis on investing in education.⁴⁶ As a whole, society derives a multitude of direct and indirect benefits when citizens attain higher level education: more tax revenue is generated from higher wages, unemployment rates are lower, less reliance on social support and public assistance programs, decreased poverty, increased voting and volunteerism.

Tax Revenue

As employees with higher levels of education advance within a company and are awarded higher pay, they end up paying higher taxes, which result in increased tax

revenue for local communities, states and the federal government. In 2003, the College Board Association collected information from the U.S. Census Bureau and the Internal Revenue Service to show the impact an educated employee earns on average and the average taxes paid. A 25-year old person working in a year-round job with just a high school diploma earned on average \$30,800 per year and paid \$4,300 in taxes, while a 25-year old person with a master's degree earned an average of \$59,500 a year and paid \$14,900 in taxes.⁴⁷ In 2008, as expected, due to more college-educated employees in the work force as well as higher wages paid due to a better economy, a high school graduate earned \$33,800 and paid \$7,100 in taxes versus the employee with a graduate degree who brought in \$67,300 and paid \$16,200 in taxes.⁴⁸ Moreover, from a strategic perspective, as companies hire and train graduate-level employees, they will experience higher revenues, and collectively, stronger performing companies boost the economy of the U.S. Countries with a greater portion of their population attending and graduating from schools see faster economic growth than countries with less-educated workers. As a result, many countries provide funding for in order to improve economic performance. In this sense, education is an investment in human capital.⁴⁹

Unemployment Rates

College-educated individuals tend to have lower levels of unemployment, refrain from relying on social support programs, and avoid poverty. They possess the knowledge and/or skills that are highly marketable in today's economy. The unemployment rate for employees with a bachelor's degree has consistently been lower than employees with only a high school education. From 1992 to 2009, unemployment rates among graduate-level employees have consistently been at least three percentage points lower than high school educated employees.⁵⁰ In Washington State

alone, the disparity was six percentage points lower for bachelor degree level employees compared to those with only a high school education.⁵¹

Social Support Programs

Individuals with higher levels of education not only have higher incomes and pay more taxes, but they are also less likely to rely on social assistance programs. High school graduates are eight times more likely to depend on public assistance programs and three times more likely to live in poverty than college graduates.⁵² The government saves a considerable amount of money on social support programs with more college-educated people in the workforce. According to the College Board Advocacy & Policy Center's most recent analysis in 2010, 28.4 million participants received an annual average of \$1,218 in food stamp benefits and 31 million children received free or reduced-price school lunches, at a total cost of \$8.3 billion to the federal government.⁵³ In Washington State, for example, high school educated individuals relied more on food stamps and welfare than did citizens with a bachelor's degree. 27% of high school-educated workers between the ages of 25-64 utilized food stamps and 11% utilized welfare, while only 2% of individuals with a bachelor's degree resorted to food stamps and welfare provisions.⁵⁴

Poverty

Poverty is inextricably linked to unemployment, social support programs, and education. The poverty rate among high school-educated individuals is much higher than those with a graduate and/or post-graduate degree. In 2008, the poverty rate was reportedly 4% in all households where parents had a bachelor's degree or higher; 12% in households with high school educated parents; 2% and 9%, respectively, for married

couples with two kids, and 12% and 35%, respectively, for single mothers with two children⁵⁵

Voting

An individual's level of education also affects their likelihood of voting. Adults with higher levels of education are more likely to vote than adults with lower levels. In the 2008 presidential elections, the gap between voting rates of individuals with at least a bachelor's degree and those with a high school education was 30% for 18 to 24-year olds and 32% for 25 to 44-year olds.⁵⁶ Even comparing older voters, the trend remained the same between adults with a higher level of education and those with only a high school education; however, the percentage difference fell over time, but never below double digits.

Volunteerism

Evidence suggests that levels of educational attainment are associated with increased participation in charitable or public service activities. The percentage of people who donate their time to organizations and the number of hours people spend in volunteer activities are higher among individuals with higher levels of education. Among adults with at least a bachelor's degree, 43% volunteered for a median of 54 hours from September 1, 2008, through September 1, 2009, while only 19% of high school graduates volunteered, for a median of 48 hours during the same time period.⁵⁷

Assessing the Army's Educational Programs

The 17 individual, organizational, and societal measures portrayed in Figure 1 on page 12, and subsequently described in the ensuing paragraphs, are only a sampling of the various metrics that the civilian sector uses as measures to assess the value of education. Of the 17 metrics listed, eight of them can be utilized as measures for the

Army. Lifetime earnings would be best measured over an individual's lifetime and not just their military career, while the organizational metrics, increased productivity and increased ability to take advantage of innovation would be difficult to measure for the Army to measure. Lastly, the six societal metrics are best measured from a civilian perspective. In the Army, tax revenue, unemployment rates, voting, and volunteerism are not necessarily tied to the attainment of a post-secondary education. All soldiers pay taxes because they are employed by the U.S. government; all soldiers are encouraged to vote, and volunteer their time for either an on-post activity or within the local community. There are a relatively small number of service members who utilize social support programs and border on the verge of poverty; however, both are the result of poor decisions soldiers have made to put themselves in either category.

The remaining eight short and long-term individual measures, as depicted below in Figure 2, are representative of the metrics the Army should consider using to measure the benefits of its continuing educational programs and can be assessed over an individual's military career.

Metric Category	Army Assessment Measure
Increased Earnings	Draw a correlation between soldiers who attain a post-secondary degree and promotion rates. (Soldiers who possess the initiative to take continuing education classes and subsequently earn a post-secondary degree habitually have a greater chance of being selected for promotion ahead of their peers and, therefore, increase their earnings during their military career).
Continuous Learning	Track the number of continuing education classes a soldier takes and completes towards an associate, bachelor, and/or master's degree.
Increased Job Satisfaction/Performance	Document promotion and retention rates of soldiers who continuously pursue post-secondary educational opportunities.
Agility and Adaptability	Compare educational attainment with the number of change-of-station moves soldiers make in conjunction with the type of assignments they fulfill. (Soldiers are more agile and adaptable when they do not homestead at one post for a considerable amount of time, take on challenging assignments that are career-enhancing jobs to broaden their skills and experiences, and are capable of serving well on staff or in leadership positions).
Teamwork	Analyze the percentage of soldiers who pursue continuing educational opportunities compared to the number of leadership positions they have held over time and the type and size of units they have led.
Future Job Opportunities	Assess future job opportunities by comparing soldiers who pursue continuing educational opportunities with the type and location of job assignments they are given to broaden their experience or challenge them in higher level staff or leadership positions to make them competitive for future promotions.
Smoking, Exercise, Obesity	Correlate this measure by associating the continuing education status of soldiers (including family members) with medical statistics that track the health and welfare of soldiers and their family members.
Impact on Future Generations	Collect data related to a soldier's continuing education efforts, as well as spouses doing likewise, along with their children's academic levels or achievements in school, in addition to teaching/study techniques enforced at home.

Figure 2. Short and Long-Term Metrics to Assess the Army's Educational Programs

Recommendations and Conclusion

The Army should lead the way for the other services and the DoD in establishing a comprehensive list of metrics to measure the effectiveness and benefits of education. Congress clearly understands the importance of education. They know that it is a vital tool for boosting recruitment, retention and force readiness for the military; however, they also realize that the military is the largest consumer of discretionary spending, that the three continuing educational programs consume a considerable amount of the DoD's budget, and that Congress is looking for efficiencies that can be gained by combining and/or eliminating the TA program. Congress reasons that cuts will have to take place in the very near future. Some members of Congress, notably Senator Tom Coburn of Oklahoma, believe that drastic cuts should be made to the DoD and military budget for continuing educational programs.⁵⁸ Before ideas like these gain too much momentum to reverse, now is the time for the Under Secretary for Manpower and Reserve Affairs, who manages the Army's budget for education, to employ his staff to conduct an analysis and produce the results to support uninterrupted funding of continuing educational programs.

In order to convince Congress and the DoD to maintain the current funding appropriated each year towards continuing education programs, given the current and future budgetary cutbacks across the DoD, the military's strategic leaders will have to convey the true importance and tangible benefits of providing continual educational opportunities for all service members (active, reserve, and veterans). They will have to establish metrics to measure the return on this investment and the benefits of the continuing education programs. They will have to demonstrate to Congress and the DoD the profound short and long-term effects on an individual obtaining their associate,

bachelor, or master's degree, the benefits to an organization, and the impact a college-educated veteran has on society. Additionally, the military's strategic leaders must appeal to Congress to remind themselves of the reasons they approved the GI bill 68 years ago, in addition to subsequent educational programs, and why their rational decisions then are still relevant today. Moreover, as over 85K active duty and reserve soldiers depart the military in the next three years, it is incumbent upon the military and the DoD to provide soldiers every opportunity to receive a graduate degree to increase their chances of finding a job once they leave the military.

With a slow-moving economy, a civilian unemployment rate hovering at about 7.9% and veteran unemployment at approximately 10%, the last thing the economy needs is a sizeable number of soldiers attempting to re-enter the workforce with the same high school degree they possessed upon entry into the military. Finally, Combatant Commanders require well-rounded, tactically and technically proficient soldiers, physically and mentally tough, able to operate and lead in the current and future VUCA environments in their respective geographical areas of responsibility, and continuing education fosters those skill sets. It is, therefore, imperative that NCOs are provided both the military PME and civilian education required to produce NCO leaders capable of thinking critically and creatively at the tactical and operational levels.

While the economics of higher education are clear, the politics are not. Still, it is clearly evident that reducing funding for post-secondary education is both harsh and detrimental to economic and social policy. The consequences of slashing higher education budgets is a decision that will affect inequality in both areas for the next several decades by determining who gains access to middle-class careers. Slowing the

stream of college graduates into the economy threatens to leave employers without the skilled workers they need to thrive in a fiercely competitive national and global economy, and to keep the Nation strong and thriving.

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