
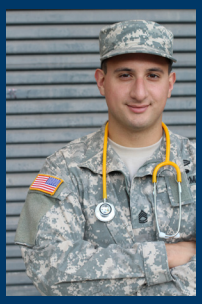


RECOGNITION OF PRIOR LEARNING IN THE 21ST CENTURY

Recognition of Learning Across Military & Corporate Settings: How ACE Blends Standard Processes, Disciplinary Expertise, and Context to Ensure Quality

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This brief is part of a broad landscape analysis focused on policy and practice issues related to the recognition of prior learning and is published by the Western Interstate Commission for Higher Education, with funding from Lumina Foundation and Strada Education Network. The landscape analysis focuses on issues arising in the practice of the recognition of prior learning, policies that encourage or limit its adoption, and key research needs and future directions for the field. To see the full series of briefs, as well as original research completed by the Council for Adult and Experiential Learning on the outcomes of PLA recipients, please visit wiche.edu/recognition-of-learning/.

Key Highlights of this Brief

- **Learning is Continuous.** We are now in a learning economy which requires that all learning – workplace, military, community, and college – be connected to optimize human capital for social mobility and economic competitiveness.
- **College and Other Learning Can Be Connected.** Evaluating non-college learning – workplace, military, and alternative provider – for academic credit is practical and sustainable and optimizes human capital by linking it to recognized credentials.
- **Context Matters.** Equivalent learning does not equate with successful portability across settings. Learners–whether a corporate employee, service member, boot camp participant or online course taker–need to recognize their own knowledge, skills and abilities in order to move across settings and, also, require support to continue learning in college or other environments.
- **Transparency and Incentives Matter.** Learners, employers and colleges all bring different perspectives to the understanding and purpose of evaluated learning. Transparency means all stakeholders have the same information about what has been learned and how it will be transferred to a college setting. Incentives means that there are strong motivations for each stakeholder to optimize the transfer of learning across settings. Public policy, employer and college policies and practices must align transparency and incentives.
- **A Technology Revolution is Needed.** Credit for Prior Learning remains a high-touch and nuanced human-centered exercise. Whether at the point of evaluating a workplace training course, documenting that learning for sharing, or having it reviewed on a college campus, the processes that support credit for prior learning underleverage current technology. To scale this practice, we need to use artificial intelligence and data analysis to reduce costs and automate review while embracing open data standards and common definitions to increase portability.
- **Balance Speed, Diversity and Quality.** Learning, technology, and a demand for skills in the labor market drive a reasonable impulse and urgency to connect all learning. Yet, we are still discovering much about how learning can by validated, documented, and shared across multiple life contexts. Thoughtful stakeholders will balance the speed at which the need to learn is emerging, the diversity of ways people are learning and our ability to ensure the quality of learning and how it is interconnected.

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Introduction

Over 100 years ago, the Spanish flu dramatically changed the labor market, education, and social institutions in the United States, reordering economic life. Now, in 2020, the COVID-19 pandemic has disrupted an economy and labor market that were fast transitioning to a dynamic relationship between education and work. With technology and skills needs changing in real time, employers, and workers, need to blend formal education experiences with work to create a seamless continuum of learning to remain competitive and promote economic mobility.

The immediate impact of COVID-19 has been an economic recession and a seeming pause to the education and work synthesis. At the end of July 2020, nearly 30 million individuals or 1 in 5 workers were collecting Unemployment Insurance,[1] and there is considerable uncertainty about how many of those workers will be asked to return to work. Moreover, with some legacy retail outlets declaring bankruptcy and prospects in the hospitality industry looking uncertain, some forecasters predict permanent job destruction from COVID-19.[2] As recessions have shown us in the past, the need to integrate education and work and reskill today is driving working adults (including those in military service) to explore education. Recent research from the Strada Education Network suggests working-age adults are, in fact, on the move and seeking work-relevant education programs.[3] Yet for these forward-leaning learners, success is not assured. During the 2008 recession, many working-age learners enrolled in postsecondary education programs, but only some completed their programs.[4]

Innovation at the intersection of education and work is required to grow the economy and get people back to work. The American Council on Education's (ACE) credit for prior learning program has been reviewing workplace, military, and non-institutional postsecondary education for college credit for over 60 years. This intervention at the intersection of education and work provides practice-based insight into improving how we document, validate and map non-institutional learning to college degree completion pathways.

This brief focuses on how credit recommendations by ACE for military and workplace training have had success in helping students receive credit for college-level learning. The brief also details challenges in recognizing learning for meaningful credit and charts

Types of Prior Learning Assessment

Many students – as well as potential students – have acquired a great deal of college-level knowledge and skills through their day-to-day lives outside of academia: from work experience, on-the-job training, formal corporate training, military training, volunteer work, self-study, and myriad other extra-institutional learning opportunities available through low-cost or no-cost online sources.

The process for recognizing and awarding credit for college-level learning acquired outside of the classroom is often referred to as Prior Learning Assessment (PLA). The various partners involved in creating this series of briefs are examining different types of PLA and using the following general descriptions of the different methodologies.

- Evaluation of non-college programs: In this method, students can earn credit based on third party evaluations and the rigorous recommendations provided by the American Council on Education (ACE), or the National College Credit Recommendation Service (NCCRS). Institutions also conduct their own review of programs, including coordinating with workforce development agencies and other training providers to develop crosswalks that map between external training/credentials and existing degree programs.
- Standardized examination: In this method, students can earn credit by successfully completing exams such as Advanced Placement (AP), College-Level Examination Program (CLEP), International Baccalaureate (IB), Excelsior exams (UExcel), DANTES Subject Standardized Tests (DSST), and others.
- Faculty-developed challenge exam: In this method, students can earn credit for a specific course by taking a comprehensive examination developed by campus faculty.
- Portfolio-based and other individualized assessment: In this method, students can earn credit by preparing a portfolio or demonstration of their learning from a variety of experiences and non-credit activities. Faculty then evaluate the student's portfolio and award credit as appropriate.

potential paths forward. Because ACE focuses on high-quality post-secondary education and academic completion opportunities, this brief looks at prior learning and degrees. The topic of non-degree credentials lends itself to further exploration with a separate paper.

Background

Sophia Norcott, the 2018 ACE Student of the Year spent 20 years teaching herself how to code and growing within her work environment. Yet, she realized if she wanted to expand her professional journey, she would need to upskill formally with an academic degree. "For me, education did more than check a box on my resume. It equipped me with the gifts of curiosity and confidence – something that will influence every challenge I face going forward. A degree does not magically equip you with all the answers, but education gives you the tools to find them," she said.[5]

Using her ACE credit recommendations from the College Level Examination Program (CLEP) and DSST (formerly United States Department of Defense's Defense Activity for Non-Traditional Education Support (DANTES) program) examinations, Norcott was able to expedite her path to graduation, demonstrate her depth of knowledge, and validate the time investment in learning. She had the determination and drive to complete her degree, at the same time she knew she had a lifetime of workplace learning that was valuable. Fortunately for Norcott, she discovered her academic institution, Southern New Hampshire University (SNHU), had established the policies and practices to recognize workplace learning using CLEP exams and she was able to leverage her workplace learning while upskilling for expanded opportunities.

Norcott's journey embodies the all-too-human reality that learning across different environments is complex. Documenting experience as learning and mapping it to formal post-secondary education requires learner agency and persistence, rigorous evaluation processes and tools for sharing validated learning. Navigating this complexity if more important than ever. Today, it is well recognized that we are life-long learners, and the process of learning never ends. This concept is even more relevant in the workplace today, with people moving between jobs, changing careers, and constantly expanding their skills through self-directed learning opportunities. The need to be knowledgeable and relevant in a specific field means a substantial amount of learning is happening outside the traditional classroom.

The challenge: How do we recognize the relevant aspects of college-level learning that takes place outside of the traditional academic environment and convert it into college-level credit to help students achieve their dream of postsecondary success?

ACE has worked – since its inception in 1918 – to recognize learning gained in the workplace to help individuals achieve their professional and academic goals. ACE's credit recommendations – as well as others through organizations such as the National Collegiate Credit Recommendation Service – are grounded in assessment and evaluation practices developed by collegiate faculty and regularly validated.[6] Applied by over 1,000 faculty to over 30,000 courses across many industries, evaluation and recommendation practices are robust and adaptable. These faculty evaluators come from colleges and universities across the nation, are subject-matter-experts, and are actively teaching. They are trained to evaluate workplace courses and careers to determine if is college equivalent learning.[7] Yet there are still significant challenges for students who have earned these recommendations to have their learning recognized for meaningful college credit.

ACE Credit Recommendations through the Years

In its early years,[8] ACE focused on assisting in the education of those transitioning from military service. More importantly, ACE worked to foster a relationship between academia and the military community that would ultimately serve the greater needs of the nation and the service members who were returning to civilian life. Over 60 years of practice in the field, ACE has developed its industry standard process to evaluate learning in military, workplace, and community settings for college credit equivalency. The process pairs a structured framework to review the content, scope, rigor, breadth, and depth of non-institutional learning, with the disciplinary expertise of college faculty to evaluate and recommend college credit equivalents. ACE validates college-level credit recommendations for military training, workplace learning, and civilian training and provides open-source databases through online guides.

Both the military and civilian sectors face competition in attracting new employees, retaining current members/employees, and providing opportunities for employee development. One way that the military recruits potential new servicemembers is through the advertisement of ACE evaluations and credit opportunities. Military recruiters present potential recruits with information about the college-level credit they could earn in their first few years of military service. As one example, recruits are told about opportunities to earn college credit as they advance in the cybersecurity profession in the military. Once the initial training is completed in the first 12 months of service, these recruits can garner as many as 15 credit hours of cyber-related, college-level learning, based on the ACE evaluation recommendation. Additionally, the new recruit is earning hands-on experience relevant to the cyber community without accumulating tuition debt. This initiative provides a win-win situation for the military and the recruit who becomes an active-duty service member. Service members are introduced to higher education and the ACE credit recommendation programs at an early career stage, helping them see how they can succeed as a military service member and college student simultaneously.

At this point, before we delve deeper into the detail of ACE evaluations, a sense of scale is helpful to understand the reach of this service at the intersection of formal education and work. ACE maintains a data repository of more than 36,000 courses, occupations, and national examinations that have been validated with college credit recommendations and are available to transcript for college enrollment. To focus the lens on courses and linking real-world experience to classroom expectations, the 2018 top five evaluated fields of study from employers, military and non-institutional postsecondary education included Cyber Security, Information Technology, Hospitality, Manufacturing, Operations and Logistics, and Leadership and Management.[9]

The depth of learning evaluated is not all the same, but Bloom's taxonomy is leveraged as a framework to measure the complexity of learning within the education and training experiences. Over 50 percent of evaluated learning outcomes align with high demand and applied skills identified in research by Burning Glass Technologies.[10] Looking still further at the level of credit that was awarded, in recent years, reviewed courses yielded:

- 63 to 67 percent associate level
- 27 to 29 percent bachelor level
- 5 to 7 percent graduate level
- 1 to 2 percent vocation level.

Finally, in the 2018 fiscal year, ACE sent 400,000 transcripts to hundreds of receiving institutions across eight Carnegie classifications. Acceptance of ACE credit recommendations remains an institution level decision with great variability across the higher education community. The topic of acceptance is discussed more thoroughly later in the paper. This brief snapshot demonstrates the broad reach of recognition of prior learning across both the private and higher education sectors. Now let us look deeper into how the process works.

ACE's Credit Recommendation Process

What is an ACE evaluation?[11]
The ACE evaluation is a rigorous, hands-on, in-depth assessment conducted by a team of teaching faculty from relevant academic disciplines, representing various colleges and universities. Faculty evaluators review military training and occupations, as well as training and exams for a variety of businesses and industry through the Learning Evaluations program.

What is a course review?[12]
Validated by the ACE criteria of eligibility, formal courses offered by business, industry, and military are assessed for their content, scope, rigor, breadth, and depth of learning in comparison to postsecondary education curriculum. For each course, the faculty evaluators examine instructor tools, student materials, and assessments, including the course outline and planning documents, instructor's manual(s), presentation slides, student texts, handouts, and assessment instruments.

Who are ACE faculty evaluators?[13]
ACE faculty evaluators come from accredited colleges and universities across the nation, are subject matter experts, and are active teachers. They are trained to evaluate workplace "courses and careers" to determine whether the material can be considered college-equivalent learning. They leverage rubrics and other tools to ensure inter-rater reliability and endorsed common definitions of content, scope, rigor, breadth, and depth of learning.

- ***Content:*** The knowledge, skills, and attitudes imparted by learning areas/subjects, cross-

cutting approaches, and performance activities. Topics and subjects are current and align with higher education, professional, national, state, and/or local standards of curriculum. A connection to higher education level concepts exists and are clear and descriptive. Resources and materials are cogent with higher education.

- ***Scope:*** Describes the expectations and breadth of what is to be covered in each content area and the overall instructional goals including content, skills, and knowledge needed. Breadth and depth of content is current and consistent with higher education foci. Measurable, cumulative, and supportive evidence are present.
- ***Rigor:*** Demanding curriculum that causes the application of critical-thinking skills to assimilate, adapt and apply the content, and which is appropriately assessed to the designed scope. Student learning outcomes clearly align with course objectives and assessments. Measurable understanding of content and/or application of knowledge, through assessment, promotes multiple and varied complex opportunities to demonstrate evidence of learning.
- ***Breadth:*** The learning that aligns the full span of knowledge for the specific subject within the academic discipline.
- ***Depth:*** The extent of learning to which specific topics for the academic discipline and subject are focused upon, amplified, and explored.

Recognizing College-Level Learning Acquired in the Military

The United States Armed Forces (comprising the Army, Marine Corps, Navy, Air Force, and Coast Guard) employ more than 1.3 million active-duty members. Talent management and career placement of service members is managed through each branch of service's centralized education and training authority through formal occupation course training, professional development, and on-the-job learning (occupation learning experiences). The details of the ACE evaluation outcomes are listed in the *Guide to the Evaluation of Educational Experiences in the Armed Services*, commonly referred to as the *Military Guide*, and may be accessed at www.acenet.edu/militaryguide.

To understand some of the potential pitfalls in ensuring that knowledge gained through military training and experience is equitably awarded credit, it is necessary to delve into the different types of learning that occurs. This includes the following military learning opportunities:

- Formal course training for occupations
- Professional development
- Occupational learning experiences

Each is discussed in further detail below.

Formal Course Training for Occupations

This thread of military learning teaches specific, job-related skills designed to equip the military member in a career field. The training has well defined principles of instruction, learning outcomes, assessment tools and is led by an instructor. The assessment tools ensure that participants accomplish learning outcomes. With these characteristics, evaluating military courses for the award of college-level credit is like the evaluation of a traditional academic course.

The difference is that a single military occupational training course may cover several academic areas and range from weeks to months. For example, the initial training for a new Cyber Operations Specialist (AR-1402-0296 v1) in the US Army is 20 weeks long, resulting in approximately 760 academic hours of training. A team of ACE evaluators determined this course was equivalent to three college-level courses in cyber operations, security forensics, and cybersecurity planning, controls, and implementation, totaling nine credit hours. A Marine Corps example, Network Administrator (MC-1406-0065 v1), yielded academic credit recommendations in networking and network administration.

This academic information is documented on the service member's official Joint Service Transcript (JST) within the "Military Courses" section. Since this is a formal learning environment, much like a traditional classroom, most colleges and universities acknowledge the learning as equivalent to a college course and accept it as transfer credit through the Registrar process.

The difference is in how the credit is applied to the student's academic program. As mentioned earlier, many states have legislated the acceptance of ACE military credit recommendation. Most institutions simply accept the recommendations as elective credit, while others attempt to align the ACE credit recommendations with actual courses on their campuses. This results in most of the ACE military

credit recommendations being accepted as elective credits, which may be less helpful in accelerating a student's progress toward a credential as students with substantial military training may receive numerous elective credits, but none towards their major.

ACE's National Task Force on Transfer Credit identified four transfer of credit issues that are relevant in considering challenges associated with students receiving credit for formal military course training:

1. Disconnects between students' perception of credit acceptance and the reality of what and how credits actually transfer
2. The percentage of credit loss varies by transfer path
3. Credit loss could be due to a variety of reasons
4. The type of institutional accreditation plays a major role.[14]

This is reinforced with research from CAEL and WICHE's study that is focused on prior learning and transfer.[15] To return to the examples above, this could mean that the Cyber Operations Specialist essentially has to take classes repeating material already covered during military training to complete a credential in a related field. Concurrently, there are several initiatives in progress designed to better match course recommendations to general education and core classes.[16]

Professional Development

These courses have many of the same aspects as the occupational training courses but focus more on the soft skills of leading and managing people and resources, particularly as the service member is progressing in his or her career. They can be combined with advanced occupational training or taught separately. For example, an US Army cyber professional may take the Cyber Operations Specialist Advanced Leader Course (AR-1402-0297 v1), which is a professional development course combined with an occupational training event designed for middle level supervisors. This course is typically taken when a military member has approximately five years of service and includes additional cyber training and management components. Another example of a formal professional development course is the Chief Petty Officer Academy Course (CG-CG-1511-0002 v7), which is taught at the Coast Guard Training Center. The credit recommendations aligned in this course include communication, organizational behavior, and leadership.

Occupational Learning Experience

This type of learning is more complex and most often underutilized in terms of policies and practices related to credit for prior learning. This category focuses on the workplace learning the service member encounters on the job. The struggle many institutions have relates to recognizing and documenting the credit in a fair and meaningful way.

Assessing this learning involves an extensive review of the official branch of service materials, followed by an interview with the service members currently working in the pay grade to validate the professional duty expectations. This process is experiential in nature because it is not customized to the individual service member but is generalized to all of those in the same career field and at the same pay level. The credit recommendations are reflective of what the service member learns on the job by performing at that pay grade.

Consider the Navy's Air Traffic Controller (NER-AC-005) career field: The evaluation for credit is accomplished by interviewing a group of Sailors who work at the same skill level and pay grade. In this case, these are senior Air Traffic Controller's in the organization with more than fifteen years of progressive leadership this career field. Through the interview and evaluation process, ACE faculty evaluators determined academic credits aligned to more than ten different areas: critical thinking and decision-making, interpersonal communication, supervision, human factors in air traffic management, advanced radar operations, air traffic control advanced tower operations, aviation meteorology laboratory, management, collaborative air traffic management, leadership, strategic planning, and project management.

The occupation learning experience parallels the development of the learning portfolio used by most institutions that accept PLA credits. However, few colleges and universities have viable PLA portfolio practices and, therefore, struggle to accept military credit recommendation for occupational learning. This can result in students missing out on a significant amount of credit.

Examples of occupational learning

Another brief in this series, *Recent Developments in Prior Learning*, highlights several models of postsecondary-employer partnerships that can offer students the opportunity to earn credit for prior on-the-job learning. These include "next-generation tuition benefit companies" such as Guild Education; employer-based credential programs known as "bootcamps" such as Trilogy; and "white collar apprenticeships" such as Zurich North American.[17]

Part of the challenge in the complexity of the occupational learning is that Army employees (Soldiers) have progressive levels of proficiency in their individual career fields. The first two levels are entry-level (identified as 10- and 20-level) whereas the 30-, 40-, and 50-level positions are mid- to senior-management positions. In some Army career fields, there is a 60-level classification, which represents an executive-level leader. For example, a Soldier at the 30-level who is a Cyber Operations Specialist (job designator code 17C, evaluated by ACE) earns a recommendation of three credit hours in critical thinking and decision-making, scripting languages, information assurance, cyber intelligence, and cyber risk management, for a total of fifteen credit hours. At the 40-level, an additional six hours are recommended in management and organizational communication. Progressing to the 50-level, soldiers typically have more than fifteen years of experience, and so an additional six hours in leadership and human resources management are recommended. At the top of this career field, 60-levels receive a recommendation of an additional three hours in strategy and execution. At the maximum level, there are 30 credit hours recommended for military workplace learning for someone who has been in the cyber career field for upwards of 20 years. This same concept is present in the other military branches, with each branch having its own skill levels, rates of progression, and credit recommendations.

This process (the occupational learning experiences) is markedly different from the traditional PLA portfolio process in that the military student is provided the PLA supporting evidence through the ACE evaluation process.[18] Therefore, the onus is on academic institutions to develop policies and practices to recognize and apply college-level credit recommendations identified by an ACE evaluation team.

Policies for Recognizing College-Level Learning Gained in the Military

States, systems, and institutions integrate college-level learning acquired in the military into certificate and degree programs in different ways. Another brief in this series, *The Current State of Prior Learning Policies*, conducted a policy scan and found that 35 states and DC have system-level, state-level policy and/or enacted legislation that requires institutions to award credit for military experience as of 2020.[19] These state statutes vary in prescribing which entity (the state, a university system, or an institution) should create the policy and even under many of these state-level statutes, institutions apply credits differently, frequently to free electives.[20]

State Policies and Practices

Some states, such as Idaho and Wisconsin link their PLA policy to ACE recommendations.[21] For example, the University of Wisconsin system states,

> *Institutions may grant credit for military and non-military experience using internally-developed assessments, internal review of recommendations from organizations such as the Council on Adult and Experiential Learning (CAEL), or externally-assessed standardized exams. Credits awarded for prior learning must be clearly indicated on the student's transcript.*[22]

Other state statutes, like the one in Nevada, require board policy to be created in consultation with ACE.[23] Many other states leave policy setting in the hands of the institutions.

The Ohio Department of Higher Education and the Kansas Board of Regents have developed statewide programs requiring the alignment of military credit recommendations to specific courses and programs.[24] The Ohio Department of Education's General Education Military Credit Project identifies general education credit for the cultural awareness education military members receive during deployment preparations and while deployed.[25]

The Multi-State Collaborative on Military Credit has done extensive work identifying colleges and universities within their 13-state collaborative that are using ACE credit recommendations for degree programs.[26] The use of military credit recommendations at these institutions resulted because they had a champion at the state or local level who established the value and transferability

of the credit in the degree programs. Furthermore, those who championed the articulation of military credit also took the time to educate their own staff and faculty on how ACE assesses learning. Face-to-face workshops, webinars, presentations, and release time to support faculty to serve on ACE evaluation teams were some of the strategies employed. For relevant learning to flourish, it must be appreciated at every level of the institution.

Institutional Policies and Practices

Numerous postsecondary institutions are expanding their recognition of ACE credit recommendations and effectively integrating these credit recommendations into their degree programs. Take for example, the Organizational Leadership and Learning degree program at the University of Louisville. Over the past 20 years, the program has matriculated military-affiliated students at a high rate because of the university's use of ACE credit recommendations to complete a significant part of the degree, including core and general education requirements. Today, the department is working in direct partnership with the US Army's Cadet Command and Recruiting Command to customize a degree program designed to integrate military-related learning into a well-established undergraduate degree program.

The cybersecurity program at the University of Charleston, West Virginia offers another example of partnership between the U.S. Armed Forces and an institution. The university's curriculum aligns the cyber and network training offered by the Google IT certification program and the U.S. Armed Forces' initial cyber training. The ACE credit recommendations for the Google IT certification is 12 hours and, for the military, it ranges from nine to 15 hours in cyber and/or networking. Using a mix of one or both, students can use relevant, hands-on learning to complete an undergraduate degree or certificate in cybersecurity in a short time.

Whether through institutional initiative or legislative action, both methods have been effective in raising the level of acceptance of relevant learning associated with military service. Together, academic institutions and military training providers can create a culture in which learning is valued and recognized in both domains. There are two key lynchpins that make these processes work. First, the faculty evaluators substantiate the rigor of military training and connect that training to the recommendations in specific academic programs. Second, ACE provides comprehensible guides for understanding how complex learning correlates to specific credit recommendations.

Recognizing College-Level Learning Acquired in the Corporate World

Higher education institutions are less familiar with ACE assessed corporate learning than they are military recommendations. Part of this may be attributed to the long history of military credit recommendations and the magnitude of the military evaluation program. Yet, learning in a corporate or business environment can be as challenging as it is in the military community. Similar to military occupational training, corporate training includes a range of opportunities, from entry-level technical knowledge needed to develop managers and leaders within the organization to more advanced and specialized learning.

Organizations can benefit from their human capital while improving their operational efficiencies through rigorous training programs. Corporations like Walt Disney, Google, Walgreens, Kentucky Fried Chicken, and Jiffy Lube take a proactive approach to developing their employees and encouraging talent to obtain education.[27] One trend observed within a number of colleges and universities is the establishment of "ACE-lite," which are versions of corporate credit evaluations and recommendations. One example is Thomas Edison State University, which has evaluated local and regional businesses and granted credit specifically mapped to its degree programs.

One of the biggest differences in student support between the corporate and military evaluations is the military's evaluations have a portfolio-like aspect for learning on the job. ACE assessments are only conducted on corporate training programs, whereas the military learning is assessed on training as well as occupational learning (workplace experiential learning).

Rise of Alternative Providers

Training providers, such as Pearson, edX, StraighterLine, Saylor, Ed4Credit, and Sophia engaged in the ACE Alternative Credit Project (ACP).[28] The purpose of ACP is to increase broad acceptance of credit from alternative education providers to

create a more flexible pathway to postsecondary credentials. Employers within business and industry are assessing their training courses and programs. Training providers bridge an opportunity to support the formal and informal learning experiences that are also inextricably linked to academic credentials, licenses, certificates, and competencies. For example, Pearson offers a 12-week course in critical thinking (ACE ID: PLNS-0090) which, after an ACE faculty evaluation, comes with a recommendation of three semester hours in critical thinking. The learning outcomes documented in the course align to postsecondary education and bring value to an employer cultivating an employee.

One example of corporate-level relevant learning is Google's IT Support Professional Certificate for its employees, now available to others through Coursera. The certification is a rigorous program of approximately 130 hours of self-directed, facilitator-led instruction. The outcome of the ACE evaluation yields credit recommendations in computer information systems, computer networking, and cybersecurity fundamentals. The details of the evaluation outcomes are listed in the *National Guide to College Credit for Workforce Training*, and may be accessed at www.acenet.edu/nationalguide. Those who successfully complete the Google IT Support Professional Certificate are eligible for an official ACE transcript which can be used by academic institutions for transfer, award, and acceptance of college equivalent credit. This reaffirms for Google a quality measure in terms of academic semester hours and the rigor of the customized training, and also supports employee professional development. Google's workplace training is one of many corporate partners assessed by ACE and listed in the National Guide. Organizations such as Jiffy Lube, Dollar General, National Credit Union Association, and Starbucks are just a few national-level corporations ACE has assessed.

There are ways in which employers are influencing higher education in determining how workplace learning can be recognized as college-level learning. Consider the flexible pathway program that developed with Northeastern University and GE Aviation to create a manufacturing and innovation partnership. The program focuses on "learning while doing" and apprenticeships, helping working professionals to complete their degree by recognizing the learning that goes on in the workplace. These partnerships and collaborations advance higher education initiatives and opportunities through these pioneering pathways, creating new ways to integrate relevant learning into academic programs that are in demand in the workplace. Building pathways to degree completion introduces the idea of scalable and relevant learning through a variety of credentialing opportunities, such as certificates, certifications, and licenses. Pairing these concepts with apprenticeships adds the dimension of "work-ready" professionals who have transportable and transferable skills.

Equity

There are significant equity implications of ACE credit recommendations. In examining these, it is useful to start with a background examination of military demographics. Military learners come from all walks of life; it is truly a microcosm of our society. More than 40 percent of the active-duty military community are minorities and 15 percent are women.[29] But the most telling data that points to inequities for the military is the number of college graduates in the enlisted ranks. The same report indicates only eight percent of the actively serving enlisted personnel have completed a bachelor's degree or higher, which is significantly below the national average.[30] The rest have some level of college, but no degree. Interestingly, many military members do not realize they have "some college" because they do not take into consideration the ACE credit recommendations they earned for their initial training.

Though they may have joined the military to earn money for college, few engage in education while in service. Understanding that they have already earned some college credit motivates many service members to pursue a postsecondary credential while they are still on active duty. Despite other factors contributing to the low numbers, the knowledge that they may have already completed some college-level learning can have the greatest impact. Ultimately, it is still up to the individual academic institution to apply it in transfer and award.

Though beyond the scope of this paper, race, ethnicity, and equity is a crucial area for further research. ACE released *Race and Ethnicity in Higher Education: A Status Report*, which provides critical analysis to inform a comparative study specifically focused on military learners.[31]

Leveraging the Programs for Better Outcomes

The previous sections illustrated how ACE's credit recommendation programs function. To improve the recognition of workplace learning, it is important to look at the challenges faced by three primary stakeholder groups: students, corporate/military employers, and faculty. Furthermore, we reflect on transparency, incentives and technology lessons that apply more broadly to all stakeholders.

Student Challenges

Many post-traditional students are unaware of how their military or corporate learning can be leveraged as college-equivalent learning according to several briefs in this series.[32] Frequently, potential students learn about workplace credit word-of-mouth from other classmates. Usually by this point, students are too far along in their program to effectively capitalize on the opportunity. Military students are often unaware of how to best use their JST (if they are even aware that they have a JST), how to advocate for their military learning, or what schools most effectively use the ACE credit recommendations. Many military students do not understand how the ACE credit recommendations can be used in their degree program.[33] Intuitively, the simple solution seems to be a matter of educating them on the value of their military training and how that training can be used to complete an academic degree. However, many military students are also first-generation students, confronted with a multitude of additional challenges. These same challenges confront the corporate-connected student, while at the same time the dearth of corporate-level course evaluations compounds the situation.

Many institutions accept the ACE recommendations as elective credit without assessing how the credits might be used to complete core or general education requirements to facilitate degree completion. The Virginia Community College System, as one example, has made significant strides in translating and aligning military credits to degree pathways with consistency across the entire system. This project continues to expand, aligning civilian workforce and professional certifications. There is work that needs to be done to address the fair and equitable use of ACE credit recommendations for military training and workplace learning. This includes, but is not limited to, engaging registrars, admissions staff and faculty.

Corporate Employer Challenges

Many corporate employers provide financial assistance to their workforce, which is a great benefit. They support employees in lifelong learning through academic pursuits, as well as professional development. Very few engage in recognizing learning in their workplace, leaving it to higher education to identify and award college credit for workplace learning. The problem with this approach is the student and higher education institutions are left to create their own pathways of workplace learning, a process that must be repeated with each new student. The employees missing out on the opportunity may be those who least understand the process, such as first generation and low-income students.

Corporate employers need to look at how prior learning assessment can be used in conjunction with their professional development initiatives to capitalize on workplace learning to grow their employees and reduce tuition assistance costs. For example, many companies provide supervisory development programs designed to promote employees into leadership positions. By integrating college-equivalent learning and having it evaluated for college-level learning, the company can reduce the number of courses their employees might need to take to complete a degree. This is an immediate return on investment for those employees who choose to pursue an academic degree.

Military Employer Challenges

As an employer, the U.S. Armed Forces offers service members clear pathways of career advancement, including training, education, and work experience. Each branch of service maintains a clear culture and manages its talent with service-specific, customized, complex data tools, as well as resources and systems. The multiple systems exacerbate interoperability issues related to data and the potential for research in order to better understand the government's investment in the military Tuition Assistance (TA) program. Currently, academic institutions that want to provide education programs to active duty service members who are using TA funding must sign the Department of Defense (DoD) Memorandum of Understanding. Within the scope of this agreement, there is no specific requirement for institutions to report on how the ACE credit recommendations are used, aligned, and transferred. The government and ACE respect the fact that

academic institutions have the sole authority to establish policies and practices related to transfer credit and credit for prior learning. However, the lack of data catalyzes two areas of equity concern: the recognition of the uncharacteristic learning environment and acceptance of a unique student population.

Faculty Challenges

Faculty impact institutional relevant learning programs because they often hold the decision-making authority to determine whether a specific learning experience is sufficient to meet the depth, breadth, and rigor of their course learning outcomes. Many academic faculty are not familiar with how ACE credit recommendations are determined and question the validity and reliability of the assessment in comparison to their own course experiences. In addition, depending on the institution's mission and vision, the decision to accept extra-institutional recommendations is a function of practice as opposed to policy.

From the faculty perspective, the foundations of the academy, curriculum integrity, and accreditation are linked to their willingness to consider the acceptance and alignment of relevant learning. As we move towards a post-pandemic environment, "faculty will need to expand its views of the sources of knowledge and understand the different but essential role that faculty has as a guide to knowledge acquisition and integration," as stated in another brief in this series.[34] It cannot be emphasized enough; the role of the ACE faculty evaluator is integral to the evaluation process and their representation of the academy. As faculty become more familiar with the rigor and integrity of the ACE evaluation processes, they are more likely to support changes both in policy and practice.

Challenges Across Stakeholders

Students, employers, colleges and universities, and the military, each have different purposes for the learning that is being mapped to college credit. Transparency about the quality and level of learning is essential to creating a marketplace in which learning flows into postsecondary education from these other settings. An effective marketplace further requires that each stakeholder setting have appropriate incentives in place for ensuring that the learning that is validated as college level is accepted when shared.

A final set of technology related observations with regard to context and transfer of learning as well as the high, human touch aspect of the work. The first is that while a rigorous set of practices are in place to map learning to college credit, the process remains highly contextualized based on the design and purpose of the non-college learning experience. Second, although less discussed, credit evaluation remains a largely human endeavor leaning heavily on the expertise and experience of faculty evaluators. Neither of these realities is a negative, per se. Rather they serve as signposts for challenges we need to address as we seek more scaled application of credit for prior learning. Intriguingly, both are connected to the use of technology. Scaling our understanding of which learning transfers across contexts and increasing the volume of non-college learning that can be reviewed for credit are challenges to which we must turn to technology for solutions. Structured data on credit evaluations stored in interoperable databases and analyzed by artificial intelligence are the pathway to expanding the impact of this intervention on college completion for post-traditional learners.

Recommendations

These four recommendations are starting points for the work that needs to be done regarding the recognition of military/corporate workplace learning and the adoption of ACE credit recommendations by colleges and universities. More importantly, there is much research that needs to be accomplished to support these recommendations.

Focus on Serving Post-Traditional Students

Higher education and the work-world need to re-partner to better understand how they can complement one another in the area of up-skilling/re-skilling, thereby enhancing and accelerating the learning environment. Traditionally, higher education is about developing individuals for knowledge worker positions, building on the high school student experience, and preparing them for the work world. Now, the largest population of students have already been in the work-world, but higher education has been slow to change their approach to those returning students.

Colleges and universities need to clearly identify and define their post-traditional student population and consider how their programs support that

population. These programs are not just curricular in nature, but include the student support services infrastructures as well. Developing a team of professionals, both staff and faculty, who understand occupational learning experiences (on-the-job learning) and can help post-traditional students to apply them to their degree requirements. Furthermore, these teams need to be recognized as a valued addition to the institution's student engagement efforts, being just as important as the Writing Lab, Student Learning Center, or other programs. Such an approach would substantiate the work ACE does to validate corporate and military courses and on-the-job learning, while encouraging the student as they navigate the challenges of completing their academic degree.

Ensure PLA Credit is Meaningful

As previously mentioned, many institutions simply accept ACE credit recommendations as elective credit. While there are some institutions (with and without state policy influences) working toward a better solution for this challenge, there needs to be a more deliberate and focused effort in higher education to align ACE recommendations with specific degree programs.

As addressed with other papers in this collection, colleges and universities need to assess their institutional policies and programs and see how on-the-job learning can be recognized and integrated into degree programs instead of just lumped into elective credit. For example, the brief written by AACRAO reports that PLA credits can be applied across several requirements with the majority (91 percent) allowing PLA credits to be applied to elective requirements and fewer allowing credits to be applied to major requirements (78 percent) and minor requirements (63%).[35] The historical mission of academia has been to prepare individuals for the workplace, but this has changed. Students are coming from the workplace with a significant amount of learning – often called professional development. This learning needs to be recognized and valued, not repeated in the classroom because of the adage, "this is how we've always done it."

Improve Assessments of On-The-Job Training

While many colleges and universities adopt some prior learning practices, the most underutilized is the integration of the workforce experience (on-the-job training). These experiences are more complex to measure in comparison to a formal corporate or military course. Portfolios, whether composed of written evidence of work, an interview, a presentation, or other, are a great tool for presenting on-the-job training and can be used by students to articulate how they have met the learning outcomes of a given course.

Colleges and universities need to integrate more robust methods to translate, transfer and award workforce experience (on-the-job training). Specifically, for military occupation reviews, the ACE faculty-evaluation process has already done the heavy lifting in aligning military service into learning outcomes to specific academic credit recommendations in a myriad of career fields. ACE is expanding this model to civilian apprenticeships, and it is incumbent on higher education to align these recommendations to degree completion requirements.

Integrate Equity Research into PLA Efforts

Diversity, equity, and inclusion is not just a trend, it is an imperative. Without much data on the usage of ACE credit recommendations by race/ethnicity, it is difficult to identify or resolve disparities. How can military and corporate credit evaluations and recommendations be used to support workplace learning at all levels and across multiple underserved populations? Are there initiatives that can be implemented to facilitate recognition of relevant learning in areas typically associated with equity challenges?

Colleges and universities need to identify strategies to augment, enhance, and improve technology systems to better track credit for prior learning and the student population. Other briefs in this series have addressed this issue and identified detailed potential solutions for addressing data categorization challenges.[36] This builds the foundations to drive success with hard metrics. Building the data collection infrastructure leads to more systematic research and interoperability with systems.

Areas of Future Research

"Education, in its broadest sense, is the means of this social continuity of life," said John Dewey. The recognition of college-level learning acquired outside of the classroom is imperative in today's

fast-paced, high-tech, mobile economy. Now more than ever, there is a need to deeply understand data and metrics to inform policy and practice and build enterprising solutions. We offer four areas of further research below:

Understand Application of PLA Credit

The most significant research gap is the application and use of ACE credit recommendations toward degree completion. How much of the credit is accepted and aligned for a major versus elective credit? How do state or institutional policies impact the alignment of credit recommendations? How do students understand the value of their workplace learning?

Through informal surveys and polls conducted by ACE, there is an observed disparity in the acceptance of credits for formal courses in comparison to on-the-job (occupation) learning. This occurs because formal course recommendations are often accepted as transfer credit, which is easier to align with current curriculum. Whereas on-the-job (occupation) learning is often only acceptable if there is a written policy to support the experiential learning or it has been reviewed through an institutional PLA portfolio process to award credit. In the end, this creates more work for students and faculty. To understand the institutional decisions in their use of ACE credit recommendations, formal research needs to unpack the complexities and barriers that could, in turn, yield opportunities for program development.

There are several ways this could be achieved. One recommendation is for individual academic institutions or state systems to engage institutional researchers to analyze and publish findings specific to their institutional transfer and award decisions for ACE credit recommendations. These findings could be presented at transfer conferences, shared through professional articles, converted to an infographic, and posted to website resources, or shared on ACE's Engage platform.

Develop Research from Student Perspective

A second area of impact for research relates to credentials and competencies from the student/employee perspective. The currency of education, upskilling, and reskilling of employees is frequently researched from the employer and postsecondary institutional lens. The variety and number of programs and initiatives across the country generate opportunity, as well as complexity and confusion. How does the student/employee/military member learn about their credentials and use these programs? Additionally, corporate training programs need to review integration of ACE credit recommendations for those employees who are veterans.

This research focus is prime for a design-thinking approach. It demonstrates to the student/employee/military member real action and support, starting with empathy. The underlying strategy is to build a connected ecosystem that the student/employee/military member can trust.

Improve Equity Research

Not much is known about the outcomes of individuals who receive credit for their military experience and/or corporate training, let alone when disaggregated by industry/sector, race/ethnicity, gender, age, and economic status. There needs to be more research on the equity implications, impacts, and outcomes of college-level learning acquired through the military and corporate training. Furthermore, related to understanding whether PLA credits are granted for electives or major/core classes, there is a larger issue that pertains to inequitable outcomes for students if we do not know who earns credit towards what from ACE's recommendations. Do some groups of students receive elective credits while others receive credit towards a degree, or do some students get credit based on the recommendations while other students do not?

A pilot research study with institutions that have built robust data systems could start to unpack trends and equity concerns. This study could be replicable, and the findings of the pilot could inform a toolkit.

Analyze Linkages between Workplace Training and Credit Evaluations

Innovation and technology are driving change. In the age of comprehensive learner records, blockchain, and digital credentials, how should these tools be leveraged and where are the red-flag concerns? As the US Department of Education continues their research and efforts with blockchain, there could be virtual meetings, webinars, and digital tools designed and targeted for employers. As employers learn and recognize the validity of these programs, they are better equipped to communicate the value of workplace learning to their employees.

Credit for prior learning is often used in the context of employee assistance programs at large firms, to help pay for college, data sharing collaboration between corporations and higher education institutions could prove a rich source of information about the use of recommended credits. How closely do credit evaluations align with the workplace training's intended purpose? Do corporate leaders fully understand how credit is applied in support of the financial assistance they provide to employees to compete their education? Are there elements of corporation/college collaboration that yield more returns to the recommended credits? ACE and other higher education organizations could partner with business associations to facilitate the data sharing arrangements and help college, universities, and business learn and adapt employee assistance programs.

Conclusion

The recommendations and research foci above are intended to promote and deepen our understanding of the integration of learning at the intersection of education and work for working-age adults. ACE's almost 100-year body of work on recognition of learning suggests that there remains a lot of ground to cover if we are to help the 30 million unemployed Americans re-skill and up-skill for the opportunities that will emerge in wake of the COVID-19 pandemic. With the pandemic-driven economic reset still in play, we must expand existing education/employer partnerships, revisit higher education institutions' policies on credit for prior learning, ensure that we work to close equity gaps in the recognition of non-college learning, and continue to deepen our understanding of the perceptions of prior learning held by stakeholders in this system.

In many ways, recognition of learning across the workplace and formal post-secondary education is coming of age, yet again, as it did just after World War II and in the 1980s during the transition from the industrial to knowledge economy. We face a similar time in 2020 of great economic and social uncertainty. We must leverage all the learning available to us with a particular emphasis at the intersection of work and education. ACE believes that the recognition of prior learning can be a catalyst to speed American's human capital toward greater national competitiveness, economic opportunity, and social mobility.

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About the Organization

The American Council on Education (ACE) is a membership organization that mobilizes the higher education community to shape effective public policy and foster innovative, high-quality practice. As the major coordinating body for the nation's colleges and universities, our strength lies in our diverse membership of more than 1,700 colleges and universities, related associations, and other organizations in America and abroad. ACE is the only major higher education association to represent all types of U.S. accredited, degree-granting institutions: two-year and four-year, public and private. Our members educate two out of every three students in all accredited, degree-granting U.S. institutions.

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