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## Participation in Noncredit Occupational Education and Training

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## Introduction

Recent decades have seen a growing focus on the role of postsecondary education and advanced training in preparing a skilled American workforce. As the knowledge and skills required to succeed in the labor market have increased substantially, demand has grown for workers with more than a high school education (Carnevale, Strohl, & Smith, 2009; Symonds, Schwartz, & Ferguson, 2011). In fact, the percentage of Americans in the workforce with at least some postsecondary education was 38% in 1973, but had risen to 69% by 2009 (Carnevale, Strohl, & Smith, 2009). “Middle-skill” jobs, which typically require an educational attainment between high school and a four-year degree, now represent a significant proportion of all occupations—48 percent—and many of these fields are growing rapidly (Holzer & Lerman, 2007).

The demand for a skilled and educated workforce is reflected in the positive correlation between education levels and economic outcomes (Bureau of Labor Statistics, 2012; Carnevale, Rose, & Cheah, 2011; Julian & Kominski, 2011). Obtaining a credential that requires as little as one year of education beyond high school, on average, can make a sizable difference in annual earnings, especially in an occupation related to one’s training (Carnevale, Rose, & Hanson, 2012; Dadgar & Weiss, 2012; Bosworth, 2010; Hollenbeck, 2008; Prince & Jenkins, 2005; Bailey, Kienzl, & Marcotte, 2004). Other types of formal work-related training, such as training provided by employers, can also yield economic benefits (Almeida & Carneiro, 2008; Frazis & Loewenstein, 2005). For example, an analysis by Frazis and Loewenstein (2005) suggests that participating in 60 hours of formal on-the-job employer-paid training translates into an average wage increase of about 3 percent. Employers benefit from providing this training as well; investments in formal training for employees have been shown to yield substantial (7 to 9 percent) returns for the employers providing the training (Almeida & Carneiro, 2008).

Findings such as these on the role of education and training in improving economic outcomes have not gone unnoticed by policymakers. President Obama has emphasized the importance of industry-recognized credentials and effective job training programs in his call for each American to commit to at least one year of higher education or training—whether through a community college, four-year college, vocational training, or apprenticeship (Obama, 2009).

Much of the training to update skills and to earn or maintain a credential—such as a postsecondary certificate, industry-recognized certification or licensure, or an apprenticeship certificate of completion—occurs outside of traditional credit-bearing education programs (Lerman, 2009; Van Noy et al., 2008; Voorhees & Milam, 2005). Some of this workforce skill development occurs within the education system, but on a noncredit basis. Community colleges play a key role in providing this type of occupational education and training; 5 million students enrolled for noncredit coursework in 2009 alone, comprising roughly 39 percent of all community college enrollments (American Association of Community Colleges [AACC], 2012). Approximately 52 percent of noncredit courses offered by community colleges are occupational, vocational, or technical in nature (Voorhees & Milam, 2005). Community colleges and other postsecondary institutions may provide noncredit occupational education and training independently or as contract training for an employer.

The other major sources of formal work-related training include employers, businesses and industries that train people to work on their products (Cisco, Microsoft, etc.), professional associations, unions, government agencies, and community-based organizations (Ganzglass, Bird, & Prince, 2011; Voorhees & Milam, 2005). Employers play a particularly important role in structured on-the-job training programs, as sponsors or co-sponsors (in collaboration with other businesses or unions) of formal apprenticeships (Lerman, Eyster, & Chambers, 2009).

To understand the role of noncredit occupational education and training in improving economic growth and outcomes, policymakers and researchers will need better data (Ganzglass, Bird, & Prince, 2011; Voorhees & Milam, 2005). Current state and federal data systems provide fairly comprehensive information on degree-seeking education received within Title IV eligible institutions. But noncredit occupational education and training take place outside the Title IV reporting environment; therefore, national data on adults' participation is incomplete, and information about the value of noncredit education and formal work-related training in building human capital is not available.

A group of federal agencies is working together to reduce the gap in what we know about how adults get the education and skills they need for work.<sup>1</sup> To date, efforts of this group to improve federal statistics on work credentials have led to a recommended core set of national survey items related to the prevalence and key characteristics of industry-recognized certifications and licenses (Bielick et al., 2012; Boivin & O'Rear, 2012). The group's next steps will be to develop items on the prevalence and characteristics of postsecondary certificates and diplomas; consider new and revised measures of participation in education and training for work, including noncredit education and formal work-related training; and develop a national household survey focused on adult education and training for work. This paper is meant to serve as a first step in informing the development of new household survey measures

of participation in education and training for work that includes (1) noncredit occupational education provided by postsecondary institutions—an area that is not as well understood as traditional postsecondary education—and (2) formal work-related training, including on-the-job training programs, provided by employers and other organizations outside of postsecondary education (Lerman, 2010; Jacobs et al., 2009; Pusser et al., 2007; Milam, 2005; Bellis, 2004; Bailey, 2003; Grubb, Badway, & Bell, 2003). The focus on two of the many potential routes to knowledge and skill acquisition is not intended to convey that these are the most important approaches to preparing for work; the topics were chosen because they represent two key types of education and training that are not yet well understood or consistently measured, and represent promising areas for future inclusion on a comprehensive survey of individuals' work-related education and training.<sup>2</sup>

## Noncredit Occupational Education Provided by Postsecondary Institutions

Adults' reasons for participating in noncredit occupational education are diverse—participants may wish to acquire job skills, explore a potential occupational area, meet an employer requirement, prepare for a certification or licensure exam, or earn continuing education credits. The remainder of this section describes the characteristics and prevalence of noncredit occupational education provided through formal coursetaking from postsecondary institutions.

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<sup>1</sup> In the fall of 2009—at the request of the Council of Economic Advisors (CEA), the Office of Statistical and Science Policy (Office of Management and Budget, OMB), and the Under Secretary of Education (OUS)—the National Center for Education Statistics (NCES) began a new interagency effort to improve federal statistical data on the education, training, and credentials that out-of-school youth and adults need for jobs. An Interagency Working Group on Certificates and Certifications was founded to oversee this work. In 2012, the group's scope expanded to include measures of participation and enrollment in federal surveys and its name changed to the Interagency Working Group on Expanded Measures of Enrollment and Attainment (GEMEnA). GEMEnA consists of senior representatives from the Bureau of the Census, the Bureau of Labor Statistics, the National Center for Science and Engineering Statistics, as well as CEA, NCES, OMB, and OUS.

<sup>2</sup> Ideally, surveys would capture all the routes adult take to get the education and skills they need for work, including for-credit and noncredit postsecondary education, formal work-related training (on-the-job and outside of work), and informal on-the-job training and learning by doing. In fact, research suggests that informal on-the-job training is more prevalent than formal training; however, it is very difficult to measure, and therefore surveys typically focus on more formal types of job training (Frazis & Loewenstein, 2006).

### Characteristics and definitions of noncredit occupational education

A national study of Title IV postsecondary institutions and state agencies conducted by HigherEd.Org highlights the complexity of noncredit coursetaking. This study found wide variation in the characteristics that institutions used to define noncredit courses (Voorhees & Milam, 2005).<sup>3</sup> State higher education executive officers were also surveyed; less than half of those surveyed reported publishing a state definition of noncredit education, which may explain the variation among institutions.<sup>4</sup>

Results from the HigherEd.Org survey of postsecondary institutions indicate that some common characteristics of noncredit education—those reported by at least 50 percent of one or more types of institutions—include the following (table 1):

- » not applicable to a degree (51 percent of associate’s institutions and 61 percent of public institutions)

- » offered through continuing education departments (54 percent of public institutions)
- » contract training for business and industry (50 percent of public institutions)

Other types of institutions were less likely to report these characteristics as part of their definitions of noncredit courses.

Van Noy and colleagues (2008) have also offered definitions related to noncredit education. Their study included reviews of noncredit occupational education policies in each state and interviews with 20 community colleges.<sup>5</sup> Based on their work, they provide several definitions relevant to noncredit education, including those that describe courses taken specifically for work (content excerpted from Van Noy et al. 2008, pp. 8–9):

- » *Noncredit education* refers to courses or activities carrying no academic credit applicable toward a degree, diploma, certificate, or other formal academic award at the institution or within the postsecondary educational system. Noncredit education

**Table 1. Percentage of postsecondary institutions that use each criterion to define noncredit courses**

Institution type	% Not applicable to degree	% Not part of academic curriculum	% Offered through Cont. Ed.	% Contract for business and industry
Carnegie				
Associate’s	50.7	37.3	42.4	40.8
Baccalaureate	45.0	15.6	14.2	10.1
Master’s	47.2	36.9	38.1	26.7
Research/Doctoral	53.6	32.1	35.7	38.1
Control				
Private, for profit	25.0	12.1	3.4	11.2
Private, non-profit	40.1	19.8	19.3	9.5
Public	60.9	45.1	54.0	50.4
Total	45.7	28.5	30.3	26.5

Adapted from Voorhees & Milam, 2005. *The hidden college: Noncredit education in the United States*. Winchester, VA: HigherEd.org.

<sup>3</sup> The survey of postsecondary institutions was conducted in 2004. Surveys of state staff took place from 2003 to 2004.

<sup>4</sup> In a study by Van Noy et al. (2008), just over half of states reportedly provide colleges with guidelines for defining noncredit workforce education.

<sup>5</sup> Interviews with state policymakers were held in 2006. Interviews with college administrators took place from 2006 to 2007.

may include workforce instruction, contract training, customized training, developmental education, recreational courses, ABE, and ESL. Many colleges also use the term continuing education to refer to noncredit education.

- » *Workforce education* refers to courses or activities that prepare people for employment requiring technical skills or enhance incumbent worker skills. It can be customized for a particular company or generalized to a specific technology (such as welding) or a specifically defined occupation (such as physical therapy assistant). It can include credit or noncredit instruction.
- » *Noncredit workforce education* refers to courses or activities that provide technical skills for the workplace but carry no institutional credit applicable toward a degree, diploma, certificate, or other formal award. These courses may result in industry-recognized certificates, but do not include ABE, ESL, developmental education, or recreational courses.
- » *Contract training* refers to courses or activities conducted for a specific client organization in a range of formats, including credit and noncredit.

Implicit within Van Noy et al.'s definitions is the type of education that results in continuing education credits. Continuing education for professional purposes is intended to provide the education and training needed to obtain or maintain an occupational credential, such as a certification or license (Van Noy et al., 2008; Voorhees & Milam, 2005). Participation in continuing education generally results in a certificate of completion or attendance and/or receipt of some type of continuing education credit, such as continuing education units (CEUs), continuing education clock hours (CECHs), or professional development hours (PDHs), among others.

The CEU is the most well-known continuing education measure. The American National Standards Institute's International Association for Continuing Education and Training (IACET) establishes the standards for CEUs and accredits authorized providers.<sup>6</sup> By its standards, one CEU is equivalent to 10 continuing education or training hours (IACET, 2012). The CEU is a nationally recognized unit of measurement of noncredit, postsecondary-level study. Existing IACET-authorized providers of CEUs include professional associations, colleges and corporate universities, and government agencies. CEUs allow noncredit participants to transport their education and training to multiple employers and providers, similar to academic credits (Ganzglass, Bird, & Prince, 2011; Voorhees & Milam, 2005).

Many certifying or licensing agencies do not list recognized continuing education providers, but instead issue guidelines. The individual is responsible for selecting continuing education training, submitting proof of participation, and seeking acceptance of hours toward the certifying or licensing agency's requirements. Also, as mentioned above, the certification/licensure requirements may not be for CEUs, but for "professional development hours" or other metrics similar to CEUs (e.g., see ABET, 2012). Some fields, such as law, social work, and health care, participate in continuing education for certification or licensing purposes, but the continuing education is regulated by various professional bodies that use their own metrics (Voorhees & Milam, 2005). Therefore, the term "CEU" does not encompass all continuing education and training hours that a comprehensive survey would measure.

### **Prevalence of noncredit occupational education**

Among Title IV postsecondary institutions, 61 percent reported providing noncredit occupational, professional, or technical training in 2004 (Bellis, 2004). Noncredit courses are offered by

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<sup>6</sup> Fields may also set their own standards for CEUs, and may use the term CEU or alternative terminology.

all types of institutions, but are more prevalent at community colleges. For example, noncredit courses accounted for 10 percent of all higher education courses in 2004 but a full 20 percent of community college courses (Voorhees & Milam, 2005). Similarly, the AACC estimates that 5 million—or roughly 39 percent—of community college enrollments in 2009 were for noncredit courses and programs (AACC, 2012). Among all noncredit courses, 42 percent were offered in a career and technical area in 2004; this number rose to 52 percent for community college noncredit courses (Voorhees & Milam, 2005).

### **Characteristics and goals of noncredit occupational participants**

Little is known about the adults who participate in noncredit education for work. However, in their case study research, Van Noy et al. (2008) note that several colleges reported an average age of 36 to 42 years among their noncredit occupational students. Pusser et al. (2007) reported a similar age range for adult learners in continuing education programs at 2- and 4-year institutions, based on their National Survey of Students in Continuing Education, although these authors did not restrict their sample to include only noncredit occupational participants.<sup>7</sup> According to Pusser et al. (2007), most of their respondents also reported being White (69 percent) or African-American (23 percent).

Participants in noncredit education for work are likely to vary in their reasons for participating, given the myriad purposes of noncredit education. These participants may engage in noncredit coursetaking to

- » obtain an occupational education diploma or certificate;
- » prepare for certification or licensure exams;
- » complete an apprenticeship program;

- » fulfill ongoing continuing education requirements to maintain a certification or license;
- » get short-term training to remain current in their field (e.g., getting certified to use a new technology); or
- » complete job training requested or required by an employer, which may also result in the above outcomes.

The ultimate goal of participation is generally to prepare for a new job, remain current in one's field, or advance within an existing job.

### **Content and structure of noncredit occupational education**

In interviews with state policymakers, most reported that noncredit education plays an important role in workforce and economic development by providing training on specific skills to meet the critical needs of industry (Van Noy et al., 2008). Noncredit education serves an important role in supporting the growth of local business, by providing a workforce with the required skills.

Because of its links to the local economy, noncredit programming offers training on an evolving range of topics to be responsive to emerging needs and trends, including courses that lead to state-of-the-art industry certification (Voorhees & Milam, 2005). For example, Van Noy et al.'s (2008) case study research with community colleges found that nearly all case study colleges offered a range of noncredit programs in fields with projected growth, and many of the programs led to certification. The colleges offered noncredit coursework in the areas of allied health, information technology, and business. These noncredit offerings included specialized courses to prepare for certification, as well as courses that did not lead to certification. Most schools offered training toward certification in allied health, including phlebotomy, EKG/ cardiovascular, nursing home medicine aide,

<sup>7</sup> In addition, it is not clear in what year the student data were collected; technical information is not available.

MRI, and health care license renewal. Another common area of training for certification was information technology, including Microsoft, CompTIA, CISCO, and Oracle certification.

Anecdotal evidence suggests that participation in noncredit occupational education tends to be short term, with open entry and exit schedules (Van Noy et al., 2008). However, the length and schedule of participation is likely to vary by type of coursework or program. Participation in individual courses can be expected to be shorter term and more flexible than programs that lead to a credential such as a certificate, although longer term programs may also be designed to be flexible. For example, in the Van Noy et al. study, some colleges offered courses customized to specific business or industry needs in small course modules. To create these modules, faculty organized their noncredit courses into workforce development programs with multiple entry and exit points and embedded certificates of completion.

The format of noncredit occupational education varies as well. Courses may be delivered in person at a college or other site, online, or through a combination of both. Continuing education may also be self-paced and self-directed, which would not necessarily involve any form of coursetaking (IACET, 2012). No statistics are available on participation in various noncredit modalities, however.

### ***Providers of noncredit occupational education***

In the HigherEd.org survey, all types of Title IV postsecondary institutions reported offering noncredit courses of some type (Voorhees & Milam, 2005). Estimates of the percentage of institutions offering noncredit *occupational* education are not clearly provided by institution type, however.

Within postsecondary institutions, noncredit occupational courses may be offered in different departments, depending on how the institution is organized. They may be administered within the continuing education or academic departments, the noncredit department, the workforce development office, or outside of these departments, as may be the case with contract training.

## **Formal Work-Related Training**

Reasons for participating in formal work-related training outside of postsecondary education are similar to those for pursuing noncredit occupational education—participants may wish to prepare for a certification or licensure exam, earn continuing education credit to maintain a certification or license, update skills (e.g., get a short-term “extension” certificate in a new technology), or complete formal training offered or required by employers. Adults may seek out formal work-related training independently of an employer, outside the workplace but with the support of the employer, or at their place of employment. The remainder of this section describes the characteristics and prevalence of formal work-related training provided outside the postsecondary environment, including on-the-job training.

Several federal surveys have sought to capture the work-related training that adults participate in, including the formal work-related courses and training discussed in this section, and on-the-job training, such as apprenticeships. These surveys generally fall into two categories (1) primarily household surveys that provide data on work-related training, regardless of location or provider (i.e., including data from postsecondary, employer, and other sources of training);<sup>8</sup> and (2) establishment surveys that provide data on employer training or employer-financed

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<sup>8</sup> The survey data used most commonly in this category come from the National Household Education Survey (NHES)—Adult Education Survey, administered by NCES, and the National Longitudinal Surveys (NLS), administered by the Bureau of Labor Statistics. The most recent NHES data available are for 2005; data collection is ongoing for the most recent NLS cohort (NLSY97). Data are also available for the prior cohort (NLSY79). Additional data are available from the Survey of Income and Program Participation (SIPP), and the Current Population Survey (CPS), which are both administered by the Census Bureau.

training—which could also include training through postsecondary institutions.<sup>9</sup> Where possible, however, we provide information on work-related training that does not include postsecondary participation.

### **Characteristics and definitions of formal work-related courses and training**

Multiple definitions of formal work-related or job training exist. Definitions are typically determined by the agency collecting the data, and leave room for respondent interpretation. For example, NCES defines work-related courses and training in their NHES program as any formal courses or trainings that had an instructor present and were related to one’s job or career, but were not part of a degree or diploma program. This could include work- or career-related courses, seminars, training, or workshops (O’Donnell, 2006). The National Employer Survey (NES) provides the following introduction to a set of employer-provided or employer-supported training items:

“The next set of questions asks about structured or formal training. This may be offered at your establishment or at another location and may occur during working hours or at other times. Formal training includes all types of training activities that have a pre-defined objective as opposed to informal, on-the-job training.

[READ IF NECESSARY: Examples of structured or formal training include seminars, lectures, workshops, audio-visual presentations, apprenticeships, and structured on-the-job training.]” (extracted from Lerman, McKernan, & Riegg, 1999).

Both surveys then include follow-up questions on specific types of formal training (e.g., coursework, apprenticeships, etc.), but do not always include definitions for the specific types.

### **Prevalence of participation in formal work-related courses and training**

Because of the variation in definitions and approaches across surveys, there is little consistency in estimates of participation in formal work-related training. For example, in 2004–05, 27 percent of adults reported participating in some type of formal work-related *courses* in the past year that did not include basic skills courses or participation in a diploma, certificate, degree, or apprenticeship program, and 1 percent reported participating in an *apprenticeship program* (NCES, 2012a). Among a longitudinal cohort of adults (NLSY79; data from 1988–2000) who were asked about participation in *training programs* in general over the last one to two years, 16 percent reported participating (Frazis & Spletzer, 2005). The most common types of training programs that adults in this cohort reported participating in were formal company training run by the employer or military (38 percent) of participants.

### **Characteristics and goals of participants in formal work-related courses and training**

The most recent data on participants in formal work-related courses and training comes from NCES’s NHES Adult Education Survey of 2004–05. According to these data, respondents who reported participating in formal work-related courses in the past year were fairly diverse in terms of gender, race/ethnicity, and age, but tended to be (compared to nonparticipants) more highly educated, employed, and working in professional and managerial positions (table 2; NCES, 2012a). Notably, respondents with “some college or an associate’s degree” reported taking more work-related courses than did those with a high school education (31 percent compared to 17 percent). The highest participation was reported by those with a bachelor’s degree or graduate-level degree (44 percent and 51 percent, respectively).

<sup>9</sup> This latter group of surveys include the National Employer Survey (NES), conducted by the Census Bureau, and the Survey of Employer Provided Training (SEPT95), administered on behalf of the Bureau of Labor Statistics. The most recent training year for which data are available from these surveys is 1995.

The high participation rate among those with a graduate-level education in part reflects a greater participation in continuing education to maintain a certification or license at that level; a higher percentage of participants who held a graduate-level degree reported taking courses for the purpose of earning continuing education credits than did participants with some college or an associate's degree (table 3; 49 percent compared to 31 percent). There was less of a difference in participation between these two groups for the purposes of obtaining or keeping a license or to earn college credit (outside of a degree program).

Among the 1 percent of respondents who reported participating in an apprenticeship on the NHES Adult Education Survey of 2004–05, only 16 percent reported holding a bachelor's degree or higher, and approximately half reported holding a high school diploma or below (NCES, 2012b).<sup>10</sup> This likely reflects the lower overall educational attainment in the skilled trade fields, such as construction, in which this form of on-the-job training is the most common (U.S. Department of Labor, 2012a; Lerman, 2009, 2010).

### ***Content and structure of formal work-related courses and training***

As implied by the example definitions provided earlier, the content and structure of formal work-related courses and training can vary substantially. The content of the training reported varies by the type of categories included in the surveys on the topic. For example, NHES reports on participation in formal work-related courses in:

- » basic education
- » business
- » computer science
- » education
- » health
- » science

- » social sciences and services
- » vocational trades

NHES also reports on participation in apprenticeships in:

- » business and marketing
- » communications and design
- » computer science and engineering
- » health
- » public and consumer services
- » trade and industry

While others use the Bureau of Labor Statistics' Survey of Employer Provided Training to report on employer-provided training in the following categories:

- » management
- » professional and technical skills
- » computer skills
- » clerical and administrative support
- » sales and customer relations
- » service related
- » production and construction-related
- » basic or remedial skills
- » occupational safety
- » communication
- » development and quality
- » employee wellness
- » orientation
- » awareness

Based on these categories, the most common content areas reported among participants for formal work-related course participation (regardless of provider) were business (35 percent), health (32 percent), and computer science (15 percent; NCES, 2012c), whereas apprenticeship participants most commonly reported training in

<sup>10</sup> However, note that Lerman (2009) reported a somewhat more highly educated apprentice population based on the 2007 Survey of Sponsors of Registered Apprenticeships.

**Table 2. Percentage of adults and of labor force members who participated in formal work-related courses, by selected adult characteristics: 2004–05**

<b>Characteristic</b>	<b>Percent of adults who participated in work-related courses</b>	<b>Percent of labor force members who participated in work-related courses</b>
Total	26.9	37.1
Sex		
Male	24.5	30.7
Female	29.2	44.1
Race/ethnicity <sup>1</sup>		
White	29.1	40.2
Black or African American	27.0	35.9
All other races	23.8	34.2
Hispanic or Latino	16.8	22.3
Age as of 2004		
16–24 years	21.2	23.4
25–34 years	31.7	37.1
35–44 years	33.7	39.3
45–54 years	36.5	43.2
55–64 years	27.0	40.9
65 years or older	5.2	21.3
Highest level of educational attainment		
Less than a high school diploma or equivalent	4.2	7.3
High school diploma or equivalent	16.5	22.7
Some college/vocational/associate's degree	31.4	42.0
Bachelor's degree	43.8	52.7
Graduate or professional degree	50.7	61.6
Employment status in past week		
Employed	38.8	38.8
Full-time	40.5	40.5
Part-time	32.1	32.1
Not employed	6.7	13.7
Unemployed and looking for work	13.7	13.7
Not in the labor force	5.7	†
Occupation <sup>2</sup>		
Professional and managerial	56.3	58.0
Sales, service, and clerical	30.6	32.7
Trades and labor	18.7	19.7

† Not applicable.

<sup>1</sup> All other races includes Asian/Pacific Islander, Native Hawaiian, American Indian, Alaska Native, those of more than one race, and those of other (unspecified) race. Race categories exclude those of Hispanic origin.

<sup>2</sup> Includes only adults who worked in the past 12 months.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Education Survey of the 2005 National Household Education Surveys Program.

**Table 3. Percentage of postsecondary institutions that use each criterion to define noncredit courses**

<b>Institution type</b>	<b>To obtain or keep a state, industry, or company license</b>	<b>To earn college credit</b>	<b>To earn continuing education credit</b>
Total	41.6	11.0	33.2
Highest level of educational attainment			
Less than a high school diploma or equivalent	56.5	2.6!	10.8
High school diploma or equivalent	47.3	12.9	24.7
Some college/vocational/associate's degree	44.3	12.4	30.7
Bachelor's degree	35.0	10.0	33.3
Graduate or professional degree	39.3	9.3	49.0

trade and industry (which includes manufacturing, construction, repair, and transportation; 54 percent), business and marketing (16 percent), and communications and design (9 percent; NCES, 2012d). For employer-provided trainings, employees most commonly reported participating in occupational safety (43 percent), computer skills (24 percent), communication (23 percent), and professional and technical skills training (21 percent; Lerman, McKernan, & Riegg, 1999).

Formal work-related training, depending on how it is defined, can be delivered through a diverse array of formats, such as seminars, lectures, workshops, and other structured on-the-job training, such as apprenticeships, internships and externships. Some training may also be provided through distance education. For example, the NHES Adult Education Survey collected data specific to coursetaking via distance education and found that, among those who participated in formal work-related courses in the prior 12 months, 32 percent participated through distance education (NCES, 2012e). Training can also involve a combination of formats, such as apprenticeships, which often include a combination of on-the-job training and coursework.

As may be inferred from the variety of training formats used to provide formal work-related training, there is also variation in the length of trainings that adults report participating in. In 2004–05, for example, 33 percent of adults enrolled in formal work-related courses or trainings

reported a training period of 10 hours or fewer in the past year, while 24 percent reported 11 to 25 hours of courses or training, another 20 percent reported 26 to 50 hours of courses or training, and 22 percent reported participating in 51 or more hours of courses or training (O'Donnell, 2006). Among those who reported participating in an apprenticeship, the average program length reported was 22 months (NCES, 2012f).

### ***Providers of formal work-related courses and training***

Providers of work-related training include businesses and industries (Cisco, Microsoft, etc.), professional associations, labor unions, government agencies, community-based organizations, and other nonprofit and private-sector organizations (Ganzglass, Bird, & Prince, 2011; Voorhees & Milam, 2005). Data from the NHES indicate that the most frequently reported providers of formal work-related courses in 2004–05 were employers (45 percent) and business or industry (26 percent; NCES, 2012g). Less frequently reported were postsecondary institutions (16 percent), professional associations or organizations (15 percent), government agencies (8 percent), and other types of providers (11 percent). Some of these providers, such as professional associations or organizations, played a larger role for participants taking formal courses to receive some type of continuing education credit or a certification, based on the 2002–03 NHES (table 4).

**Table 4. Percentage of participants in formal work-related courses who received or will receive continuing education credits, and percentage by certification status, by type of instructional provider: 2002–03**

Type of institution provider	Received or expect to receive continuing education credits	Certification status		
		Received	Not yet received	Did not receive
Total	41.2	22.7	6.1	83.6
Type of instructional provider	37.4	18.2	4.3	86.6
Employer	41.2	20.3	8.7	75.2
Postsecondary institution	35.8	20.4	4.5	79.8
Business or industry	39.6	26.5	6.5	70.7
Government agency	52.9	32.8	5.5	67.6
Professional association or organization	41.4	18.9	6.0	78.3
Other	45.7	28.5	30.3	26.5

NOTE: The estimates in this table were based on the responses given for up to four courses by each participant.  
SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Education for Work-Related Reasons Survey of the 2003 National Household Education Surveys Program.

## Other Types of Education and Training to Increase Skills

Although not the focus of this paper, it is important to recognize that there are other forms of noncredit education and training that may be difficult to differentiate from occupational education and formal work-related training when participation data are collected via a household survey. These include basic skills instruction, developmental education, youth preparation programs, and informal on-the-job training.

Basic skills instruction and developmental education are often offered by the same postsecondary education providers as the noncredit courses described previously, and participants may not be aware of the difference between those courses and what is referred to in this paper as noncredit occupational education. It is also possible that participants in these types of instruction have the same ultimate goals as those in occupational programs—obtaining skills, credentials, and good jobs. The difference is in the skills targeted by the instructional program; basic, remedial or developmental education focuses on basic academic skills that are considered “general” or “generic” while occupational programs focus on

postsecondary-level academic and/or technical skills that are linked to an occupational area.

Similarly, it may be difficult to differentiate formal on-the-job training models such as apprenticeships from other programs that involve on-the-job training. Many youth job preparation programs are referred to as “pre-apprenticeships” and share some of the characteristics of full apprenticeships. In fact, the Employment and Training Administration maintains a registry of pre-apprenticeships, just as it does the longer term apprenticeships (U.S. Department of Labor, 2012b). However, these programs tend to be much shorter than formal apprenticeships.

Informal on-the-job training may also present difficulties for measuring noncredit education and training with reasonable accuracy (Frazis & Loewenstein, 2006). This type of training includes a wide range of activities that are either central or incidental to one’s job. Actual job experience could be considered on-the-job training, although it is unlikely that most survey respondents would report time on the job as training. However, respondents might report other activities that might be outside the domain of NCES measurement, such as attending required corporate training on a

new human resources policy, or instruction from a colleague on how to use a new software program.

## Conclusions

Limited information is available on noncredit occupational education and formal work-related training, but some conclusions can be drawn about its characteristics and participants that may be useful in developing household survey measures of participation. Characteristics that may be important to consider, as inferred from the definitions of noncredit workforce education provided by Van Noy et al. (2008) and Voorhees and Milam (2005), and from the descriptions provided by Lerman (2009, 2010), include the following:

- » Whether or not individuals participate in coursetaking beyond high school. If so:
  - » Does it convey institutional credit?
  - » Is it applicable toward a degree?
  - » Does it result in other types of credentials?
  - » What type of institution and program provide the coursework?
  - » What is the content of the coursework?
  - » Does the coursework result in some type of continuing education credit?
  - » Is the coursework job related? Is it required by an employer?
- » Whether or not individuals participate in formal on-the-job training. If so:
  - » What terms do participants use to describe the training (apprenticeship, externship, etc.)?
  - » Does the training include a combination of on-the-job experience and coursework?
  - » How long is the training?
  - » Does the training result in a credential? Can that credential be used to get a similar job with another employer?
  - » What type of institution and program provide the coursework?
  - » What is the content of the coursework?

Taken individually, many of these characteristics will not have significant diagnostic value. Taken together, however, it may be possible to identify the types of education and training that we are most interested in measuring—those that provide skill development and/or enhancement for adults who are no longer in compulsory education. For example, knowing only that an individual participated in community college coursework is not very meaningful. However, we can be reasonably sure that the individual participated in occupational education if we know that (1) the coursework was taken at a community college; (2) it did not result in institutional credits; however, (3) it did result in some type of continuing education credits. Similarly, knowing that someone participated in formal on-the-job training would not be as useful as knowing that someone participated in that type of training for a period of one to three years and that the training resulted in a credential.

The next step in this work will be to get input from experts in occupational education and survey measurement and to conduct focus groups with workers to learn more about the language they use to describe their education and training—both credit and noncredit. From this early work, draft measures designed to capture the full range of work-related education and training will be developed and tested.

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