



Standard Practice for Competency-based Workplace Learning Programs¹

This standard is issued under the fixed designation E3416; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This standard practice provides instruction to entities for developing and administering competency-based workplace learning (CWL) programs.

1.2 This standard practice provides guidance to stakeholders in determining the quality of CWL programs.

1.3 This standard practice does not contain instructions or guidance pertaining to certification of persons, certificate programs, or education or training programs in general, including those that issue certificates of participation or certificates of attendance.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

E2659 Practice for Certificate Programs

E2708 Terminology for Accreditation and Certification

2.2 Other Standards:

ANSI/ISO/IEC 17024 Conformity Assessment – General Requirements for Bodies Operating Certification of Persons, 2012³

ANSI/ISO 9000 Quality Management Systems, 2016³

ASAE Handbook of Professional Practices in Association Management, 2015⁴

IACET Guidelines for Competency Based Learning, 2018⁵

ICE Basic Guide to Credentialing Terminology, 2020⁶

ISO/IEC 17027 Conformity Assessment – Terminology Related to Competence of Persons used for Certification of Persons, 2014⁷

3. Terminology

3.1 *Definitions*—Many of the terms defined in this section are specific to the workplace learning context. Consequently, terms defined in other standards may vary slightly from those defined in the following.

3.1.1 *appeal, n*—written request made to the program provider for reconsideration of an adverse decision related to the CWL program.

3.1.2 *assessment, n*—instrument or method used to measure learner attainment of intended learning outcomes (including but not limited to oral or written tests, skill demonstrations, portfolios, or work products). **E2659**

3.1.3 *certificate program, n*—nondegree-granting education or training program consisting of (1) a learning event or series of events designed to educate or train individuals to achieve specified learning outcomes within a defined scope, and (2) a system designed to ensure individuals receive a certificate only after verification of successful completion of all program requisites including but not limited to an assessment of learner attainment of intended learning outcomes. **E2708 and E2659**

3.1.4 *competence, n*—ability to apply knowledge and skills to achieve intended results. **ISO 17024 and ISO 9000**

3.1.5 *competencies, n*—an individual's knowledge, skills, attitudes, and/or other characteristics (KSAOs) that are required to meet a specific standard/proficiency for success in a specified job or job role. **IACET**

¹ This standard practice is under the jurisdiction of ASTM Committee E36 on Accreditation & Certification and is the direct responsibility of Subcommittee E36.30 on Personnel Credentialing.

Current edition approved Nov. 1, 2023. Published November 2023. DOI: 10.1520/E3416-23.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

⁴ Available from American Society of Association Executives (ASAE), 1575 I St. NW, Washington, DC 20005, <https://www.asaecenter.org>.

⁵ Available from the International Accreditors for Continuing Education and Training (IACET), 45591 Dulles Eastern Plaza, Suite 132, P.O. Box 805, Sterling, VA 20166, <http://www.iacet.org>.

⁶ Available from Institute for Credentialing Excellence (ICE), 2001 K Street NW, 3rd Floor North, Washington, DC 20006, <https://www.credentialingexcellence.org>.

⁷ Available from International Organization for Standardization (ISO), ISO Central Secretariat, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland, <https://www.iso.org>.

3.1.6 *competency-based learning*, *n*—learning events with the goal of mastering specific predetermined individual knowledge, skills, attitudes, and/or other characteristics required to meet a specific standard/proficiency. **IACET**

3.1.7 *competency-based workplace learning program*, *n*—program of structured learning experiences that builds and assesses participant competencies in a real or simulated workplace setting resulting in the issuance of a credential when pre-determined criteria are met.

3.1.7.1 *Discussion*—Examples of CWL programs include apprenticeships, boot camps, career accelerators, clerkships, clinical experiences, cooperative education, externships, fellowships, internships, on-the-job training programs, pre-apprenticeship, residencies, reskilling programs, training-to-placement programs, and upskilling programs.

3.1.8 *complaint*, *n*—formal expression of dissatisfaction, other than appeal, by any person or organization to a program provider, relating to the program provider's CWL program activities where a response is expected.

3.1.9 *credential*, *n*—recognition of qualification or competence issued to a person by an organization qualified to do so. **ISO 17027**

3.1.10 *credentialing*, *n*—process by which an entity qualified to do so, grants formal recognition to, or records the recognition status of persons, organizations, institutions, programs, processes, services, or products that meet predetermined and standardized criteria. **E2708 and ASAE**

3.1.11 *cut score*, *n*—specific score on an assessment where candidates who obtain that specific score or a higher score pass the assessment, and candidates who obtain a lower score fail the assessment.

3.1.11.1 *Discussion*—Also known as passing score, pass-fail standard, and pass mark.

3.1.11.2 *Discussion*—A criterion-referenced cut score is determined by evaluating an individual's assessment score in relation to a pre-determined benchmark. A norm-referenced cut score is determined by comparing an individual's assessment score to the scores of others taking the same assessment.

3.1.12 *experiential learning*, *n*—method of instruction in which learning occurs by performing skills or tasks and reflecting on the performance.

3.1.12.1 *Discussion*—Also called on-the-job learning.

3.1.13 *formative assessment*, *n*—assessment intended to promote learning rather than render a score or pass-fail judgment. **ICE**

3.1.14 *job analysis*, *n*—method(s) used to identify the tasks and the associated competence. **ISO 17027**

3.1.14.1 *Discussion*—Also called practice analysis, job task analysis, and role delineation.

3.1.15 *learning outcomes*, *n*—statement(s) of what a person is expected to know, understand, or be able to do at the end of a training program, course, or module. **ISO 17027**

3.1.16 *needs assessment*, *n*—method by which one determines the requirements, needs, or expectations of learners and other stakeholders to inform a program's design.

3.1.17 *policy*, *n*—a written statement of defined expectations that guide, influence, and determine decisions or actions.

IACET

3.1.18 *primary stakeholders*, *n*—persons, groups, or organizations, or combination thereof, for which the CWL program is targeted, or for which intended outcomes are directed or both.

3.1.19 *prior learning assessment*, *n*—assessment of an individual's existing skill sets, knowledge and experience gained prior to entering an education or credentialing program.

3.1.20 *procedure*, *n*—a specified way to carry out an activity or a process. **E2708**

3.1.21 *professional or personnel certification*, *n*—voluntary process by which a nongovernmental agency grants a time-limited recognition and use of a credential to individuals who have demonstrated that they have met predetermined and standardized criteria for required knowledge, skills, or competencies. **ASAE**

3.1.22 *program completer*, *n*—individual who has fulfilled the requirements of a CWL program.

3.1.23 *program participant*, *n*—individual who is working to complete the CWL program.

3.1.24 *program provider*, *n*—entity responsible for implementation of the CWL program scheme, oversight of the program, and issuance of credentials to program completers.

3.1.25 *scheme*, *n*—the framework that defines the elements and criteria necessary to fulfil the CWL program requirements and earn the credential.

3.1.26 *scheme scope*, *n*—description of the extent and boundaries of a CWL program scheme.

3.1.27 *scheme owner*, *n*—entity responsible for developing and maintaining a CWL program scheme.

3.1.28 *summative assessment*, *n*—assessment that is primarily intended to render a score or pass-fail judgment at the end of training or education. **ICE**

3.1.29 *target population*, *n*—the entire group of individuals considered eligible or suitable to participate in a CWL program.

3.1.30 *theoretical learning*, *n*—method of instruction that conveys knowledge and understanding of concepts, principles, and theories without necessarily having a practical application or direct experience.

3.1.30.1 *Discussion*—Also called didactic learning.

3.1.31 *workplace learning*, *n*—type of learning that takes place in a real or simulated workplace setting.

4. Significance and Use

4.1 Today's labor shortages demand competency-based workplace learning (CWL) programs that are validated by industry. A standard practice relative to CWL programs formalizes this important type of skill-based, workforce preparation by offering industry a framework for success. CWL programs that result in a credential increase the total number of