Institute for Credentialing Excellence

# Background Information *ICE 1100* 2010 (E) – Standard for Assessment-Based Certificate Programs

Lenora G. Knapp, Ph.D.
James Kendzel, MPH

www.credentialingexcellence.org

*Established in 1977, the Institute for Credentialing Excellence (ICE, formerly the National Organization for Competency Assurance) is the leader in setting quality standards for credentialing organizations. Through its annual conference, webinars, and publications, ICE serves its membership as a clearinghouse for information on the latest trends and issues of concern to practitioners and organizations focused on certification, licensure, and human resource development.*

## ***ICE's MISSION***

*ICE promotes excellence in credentialing worldwide. We accomplish our mission through services such as:*

- *Education*
- *Research*
- *Advocacy*
- *Accreditation*
- *Standards*

Published by

Institute for Credentialing Excellence
2025 M Street, N.W., Suite 800
Washington, DC 20036



Printed in the United States of America

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# Background

Established in 1977, the Institute for Credentialing Excellence (ICE) is dedicated to promoting excellence in credentialing worldwide. It is the leader in setting quality standards for credentialing organizations and through its division, the National Commission for Certifying Agencies (NCCA), has provided more than 30 years of accrediting services to the credentialing industry. ICE is accredited by the American National Standards Institute (ANSI) as a developer of American National Standards.

The ICE Board of Directors recognized that assessment-based certificate programs, through the instruction and training they provide, play a valuable role in helping individuals to attain occupational or professional competence and thus, relate to ICE's mission of promoting excellence in credentialing. Furthermore, the Board noted that assessment-based certificate programs have some functions in common with professional or personnel certification, namely, identifying and evaluating the knowledge, skills, and competencies requisite to effectively performing occupational and professional roles. In January 2007, it established a Certificate Task Force, comprised of ICE members and other key parties, to:

- identify characteristics of quality certification and quality assessment-based certificate programs;
- outline the distinguishing features of each; and
- explore what ICE's future role might be with respect to assessment-based certificate programs.

This effort resulted in the publication of a document entitled, *Defining Features of Quality Certification and Assessment-Based Certificate Programs* (see Attachment A), which highlights the similarities and differences between the two types of programs.

Based on the recommendations of the Certificate Task Force, the ICE Board established the Main Committee for Assessment-Based Certificate Programs in January 2008. The charge of this committee was to develop a national standard for assessment-based certificate programs.

The 41-member Main Committee included representatives from the following key stakeholder groups:

- providers (organizations that provide assessment-based certificates);

- users (individuals or organizations that use assessment-based certificate programs in some capacity, such as individuals who participate in such programs, employers, public advocacy organizations, accrediting bodies, and organizations that award continuing education credit);

- government (any government agency having jurisdiction over assessment-based certificate programs or which uses assessment-based certificate programs in some capacity); and

- general interest (an individual or organization directly impacted by certificate programs, e.g., consultants or vendors who provide services to the certificate industry, but do not fall under any other category).

The Main Committee met in February 2008 to identify the essential elements of quality for assessment-based certificate programs. Three working groups were subsequently formed to discuss the essential elements further and develop specific requirements pertaining to these elements. These groups were: the Administration Working Group, focusing on program administration, quality management, and program evaluation; the Educational/Training Working Group, focusing on the content, design, and delivery of the education/training; and the Assessment Working Group, focusing on the design, conduct, and evaluation/scoring of assessment methods. Each working group consisted of 10-13 individuals from the Main Committee, as well as stakeholder representatives not serving on the committee. The groups were convened on an ongoing basis from March through June 2008 to develop the draft standard.

In July 2008, the preliminary draft standard was published on the ICE website, along with an invitation to all interested parties to participate in a series of web conferences to review and discuss the standard. Participating in the web conferences were the Main Committee members and other stakeholder representatives. This open review process was completed on July 29, 2008. A second open review period for the standard was initiated on September 11, 2008 and completed on October 10, 2008. On September 26, 2008, the Main Committee approved the draft standard by affirmative ballot. The ANSI public review period was completed on December 29, 2008 and the standard was approved as an American National Standard on March 25, 2009.

# I. Definitions and Terminology

*ICE 1100* pertains to assessment-based certificate programs. An assessment-based certificate program is a non-degree granting program that:

a) provides instruction and training to aid participants in acquiring specific knowledge, skills, and/or competencies associated with intended learning outcomes;
b) evaluates participants' accomplishment of the intended learning outcomes; and
c) awards a certificate only to those participants who meet the performance, proficiency, or passing standard for the assessment(s) (hence the term, "assessment-based certificate program").

The standard is NOT intended to cover classes, courses, programs, or events that award only a certificate of attendance or participation; nor is it intended to apply to professional or personnel certification programs.

## *A. Distinctions Between Assessment-Based Certificates and Certificates of Attendance or Participation*

Certificates of attendance or participation are provided to individuals (participants) who have attended or participated in classes, courses, or other education/training programs or events. The certificate awarded at the completion of the program or event signifies that the participant was present and in some cases that the participant actively participated in the program or event. Demonstrating accomplishment of the intended learning outcomes by participants is NOT a requirement for receiving the certificate; thus, possession of a certificate of attendance or participation does not indicate that the intended learning outcomes have been accomplished by the participant. These are key distinctions between a certificate of attendance or participation and an assessment-based certificate program.

## *B. Distinctions Between Assessment-Based Certificates and Professional or Personnel Certification Programs*

Professional or personnel certification is a voluntary process by which a non-governmental body grants 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. To retain the credential, certificants must meet requirements for renewal. The credential awarded by the certifier denotes that the participant possesses particular knowledge, skills, or competencies.

Whereas the primary focus of an assessment-based certificate program is on the provision of education/training, with assessment(s) being used to confirm that participants have achieved the intended learning outcomes, the primary focus of professional or personnel certification is on assessment. Moreover, the assessment conducted by a certification

program is independent of a specific class, course, or other education/training program and also independent of any provider of classes, courses, or programs. The assessments are NOT designed to evaluate accomplishment of the intended learning outcomes of a specific class, course, or other education/training program or event, and the certifier is NOT the sole provider of any education or training that may be required for certification. Defining features of professional/personnel certification programs which differentiate them from assessment-based certificate programs are the:

a) primary focus on assessment (as opposed to providing education/training);
b) independence of the assessment process from any education/training program or provider;
c) linkage of the assessment to predetermined standards for knowledge, skills, or competencies, rather than to the learning outcomes of a particular education/training program; and
d) the ability of certificants to use a credential or letters following their names to indicate they have satisfactorily met the requirements for certification.

In addition, this standard is not intended to cover quality guidelines for the issuance of continuing education units or other similar type programs; these types of programs are already covered under standards and guidelines such as ANSI/IACET 1 – 2007[1] or the International Learning Unit Guidelines.[2]

## *C. Types of Assessment-Based Certificate Programs and Providers*

Content and Design of Program

Assessment-based certificate programs may provide education/training and assessment relevant to any type of knowledge, skills, or competencies, whether related to occupational and professional roles or to general interest or leisure (e.g., first aid, sailing). Both instructor led and non-instructor led (e.g., independent study) programs are included in this standard.

Providers of Programs

A wide variety of entities offer assessment-based certificate programs. These entities include, but are not limited to, the following:

[1] The ANSI/IACET 1-2007 Standard for Continuing Education and Training provides a descriptive framework to assist organizations in adhering to quality practices for all types of continuing education and training programs. The Standard is available from the International Association for Continuing Education and Training, 1760 Old Meadow Rd., Suite 500, McLean, VA 22102.

[2] The Learning Unit (© LERN), or International Learning Unit- ILU (© LERN) is an outcome based measurement of learning designed for lifelong learning activities. The Guidelines are available from LERN, P.O. Box 9, River Falls, WI 54022**,** E-mail: info@lern.org, website: http://www.learningunit.org

- academic institutions;
- for-profit education and training providers;
- professional and trade associations;
- charitable organizations;
- employers; and
- governmental bodies.

## *D. Assessment Methods Used by Assessment-Based Certificate Providers*

This standard recognizes the diverse methods used by assessment-based certificate providers to evaluate participants' accomplishment of intended learning outcomes. In doing so, it supports the efforts of assessment-based certificate providers to align their assessment(s) with the varied needs of their stakeholders and the wide array of potential learning outcomes which may be identified for the program.

Examples of assessment methods that may be used include:

- observation of a participant demonstrating knowledge, skills, and/or competencies (e.g., performing a hands-on demonstration, delivering a presentation);
- evaluation of a product (e.g., an assembled automobile engine, a financial report);
- evaluation of a portfolio (e.g., a collection of evidence consisting of a videotaped class, a description of teaching methods used and their purpose, and examples of student work for the purpose of demonstrating a teacher's competencies);
- conduct of an oral examination (e.g., querying a participant about a case study he/she has prepared); and
- conduct of a written examination of any type (e.g., short answer, essay, multiple choice).

Although both formative and summative assessments may be used in an assessment-based certificate program, the assessment requirements in *ICE 1100* pertain only to summative assessments.

## *E. Provisions for High-Stakes, Assessment-Based Certificate Programs*

Some assessment-based certificate programs may be high stakes in nature (i.e., they may be required for regulatory purposes or for hiring, promotion, and other key employment-related outcomes, such as hospital privileging for physicians). In one instance, the requirements of *ICE 1100* differ for high-stakes vs. mid- or low-stakes certificate programs. It is important to note that for purposes of this standard, the level of stakes for an assessment-based certificate program is defined by the statements made by the provider about the purpose of the program and the claims it makes about the uses of the certificate.

It is conceivable that although a provider may not have designed or promoted its assessment-based certificate program as appropriate for high stakes use, the market or a particular stakeholder group may treat it as such. Under this standard, such a program

would NOT be considered high stakes, as the certificate is being used for purposes other than those defined by the provider, and it would not be appropriate to hold the provider responsible for uses it has not sanctioned.

# II The Standard Development Process

## *A. Representative and Qualified Consensus Body*

The composition of a standards development consensus body and the qualifications of its participants are critical to the creation of a quality standard that meets stakeholders' needs. The consensus body which developed *ICE 1100* consisted of a balanced group of stakeholder representatives as follows: 39% providers, 27% users, 24% general interest, and 10% government. The consensus body participants represented diverse industries and occupations and professions and less than half were ICE members. Nearly the entire consensus body had experience with developing standards, accrediting to standards, and/or ensuring that their organizations conform to third-party standards. There was substantial certificate program expertise within the group, with approximately half of the participants having had experience with developing, managing, and/or evaluating certificate programs. Of note is the fact that the consensus body included representatives of organizations that themselves represent large numbers of certificate program stakeholders. These organizations were as follows:

- Society for Human Resource Management (users) - human resource professionals
- International Society for Performance Improvement (users and general interest) - performance technologists, training directors, human resources managers, instructional technologists, human factors practitioners
- American Society of Association Executives & The Center for Association Leadership (providers and users) - executive and staff professionals of professional and trade associations and philanthropic organizations

## *B. Active Stakeholder Involvement*

One of the unique aspects of the process used to develop *ICE 1100* was that the consensus body played a hands-on role in crafting the standard and did so through real-time, interactive discussion and deliberation. What makes this process different? Standard developers often rely on a technical lead or small task groups to draft the standard, which is then sent out to the full committee for ballot and comment. The standard is then revised (or not), based on the opinion of the technical lead or task group and sent out again to the committee for further balloting and comment. While this process incorporates a two-way feedback loop, it is a closed loop, with the feedback taking place between each individual member of the consensus body and the technical lead or the task group. Thus, active deliberation among consensus members does not take place (or is limited), and one could develop the standard without ever having had a "live" discussion of

the full committee. The ICE process also included active deliberation among the public and the consensus body through the use of interactive technology.

Active and interactive deliberation amongst consensus body members and the general public facilitates genuine consensus building by providing the opportunity for members to present their viewpoints to the group, to clearly hear and fully understand the opinions of other stakeholders, to engage in in-depth evaluation of the impact of various options, etc. These interactions enable the standard developer to better understand the sentiments of the consensus body members and better gauge the strength of the convictions of the group as a whole regarding each requirement of the standard. In addition, the interaction between diverse stakeholders serves as a catalyst for new ideas and solutions. Finally, a more intensive level of engagement enhances the credibility of the standard and can help to facilitate acceptance by the larger stakeholder community.

Given the diverse stakeholders groups impacted by certificate programs, it was critical that the standard be the product of an open and interactive consensus-building process, rather than a closed-looped system of written communications and iterative balloting. We also were concerned about placing the responsibility for determining: (a) the disposition of comments received and (b) whether and what revisions to make on the shoulders of a single technical lead or small task group, however knowledgeable, they might be.

The approach utilized to engage stakeholders in the development of *ICE 1100* was based on three, interrelated consensus-building processes involving the consensus body, three working groups, and the larger community of stakeholders. The process began with a face-to-face meeting of the consensus body, during which members of the body and other interested parties had the opportunity to express their (often diverging) opinions on what would constitute the essential elements of a quality certificate program. Following the meeting, three working groups were formed to discuss the essential elements further and develop specific requirements pertaining to these elements. These groups were: the Administration Working Group, focusing on program administration, quality management, and program evaluation; the Educational/Training Working Group, focusing on the content, design, and delivery of the education/training; and the Assessment Working Group, focusing on the design, conduct, and evaluation/scoring of assessment methods. Each working group consisted of 10-13 individuals from the consensus body, as well as stakeholder representatives not serving on the consensus body. The groups were convened on an ongoing basis from March through June 2008 to reach consensus on, and draft, the required elements for the areas they had been assigned.

Once the working groups reached consensus on the required elements for their areas, the work of the three groups was compiled into the full draft standard and forwarded to the consensus body in June 2008. The consensus body met for a series of web conferences to review, discuss, and reach consensus on the full standard document. During this time, the third layer of consensus building based on public comment from the larger stakeholder community occurred. A 30-day open review period was initiated and an invitation was issued to all interested parties to participate in the consensus body web conferences in which the full standard document was discussed. As noted in previous Sections, ICE also engaged other organizations in a comprehensive outreach effort designed to ensure broad participation by stakeholders.

Following the open review period and the consensus body review, the working groups reconvened in August 2008 to address the recommendations and comments received. A second open review period for the revised standard was initiated on September 11, 2008 and completed on October 10, 2008. During this period, ICE also hosted a public forum via web conference to solicit comment from stakeholders and foster further discussion of the requirements of the standard.

In conclusion, the ICE consensus body, which was a balanced group of stakeholders, took an active role in crafting *ICE 1100* using an approach that involved three, interrelated consensus-building processes with stakeholders. Throughout the standard development process, the consensus body was diligent in reaching out beyond its own members to obtain feedback from other stakeholders and interested parties. As part of this outreach, the consensus body also engaged other organizations, which represented large groups of stakeholders, to disseminate information and solicit feedback.

## *C. Protection Against Bias and Conflict*

Bias is a function of both experience and hard-wired cognitive processes. It is inevitable and unavoidable. Members of a consensus body will naturally bring their biases to a standard development process. The key is to ensure that a particular bias does not predominate or control the process and that members' biases do not influence the standard development process or the product of this process such that it is prejudiced and partial.

The *ANSI Essential Requirements* specify three essential requirements for due process: openness, lack of dominance, and balance. These three key elements are addressed in the ANSI approved, ICE Standards Development and Maintenance Policies (refer to Attachment B) as follows:

*Openness*. Participation in the ICE standards process shall be open to all persons who are directly and materially affected by the standard. Participation is available through membership on committees and task groups, by meeting invitation, or by public review and comment.

Unlike some ANSI-approved standard developers, which require membership in their organization to obtain voting rights on the consensus body, voting rights on the ICE consensus body were NOT conditional upon membership in ICE. This ICE policy is in accordance with Paragraph 1.1 of the ANSI Essential Requirements: Due process requirements for American National Standards which states that, "Voting membership on the consensus body shall not be conditional upon membership in any organization, nor unreasonably restricted on the basis of technical qualifications or other such requirements." Fewer than half of the members of the ICE consensus body were ICE members.

*Committee Selection*. In reviewing the application, the Chair of the applicable committee or group shall consider the following:

- need for active participation by each interest category;
- potential of dominance by a single interest category;
- extent of organization or company support on behalf of the applicant; and
- committee size.

Participation on the ICE consensus body was open to all individuals directly and materially affected by the development of a certificate standard. No individual who completed a volunteer interest form was denied membership on the consensus body.

Even with appropriate policies in place, an active effort is required on the part of the standard developer to ensure due process and minimize bias. The actions taken to minimize the impact of bias on the development of the ICE Standard are described below.

*Balance*. The consensus body which developed *ICE 1100* was balanced with respect to the interest categories defined by ANSI, as well as other categories pertinent to the content and purpose of a certificate standard. The representation of interest categories on the consensus body was as follows: 39% providers, 27% users, 24% general interest, and 10% government. Diverse industries, occupations, and professions also were represented on the committee. No single group constituted a majority of the membership of the consensus body.

*Open participation and full voting rights*. Participation on the ICE consensus body was open to all individuals directly and materially affected by the development of a certificate standard. No individual who completed a volunteer interest form was denied membership on the consensus body.

Unlike some ANSI-approved standard developers, which require membership in their organization to obtain voting rights on the consensus body, voting rights on the ICE consensus body were NOT conditional upon membership in ICE. In fact, a majority of the committee members were not members of ICE. This ICE policy is in accordance with Paragraph 1.1 of the ANSI Essential Requirements which states that, "Voting membership on the consensus body shall not be conditional upon membership in any organization, nor unreasonably restricted on the basis of technical qualifications or other such requirements."

*Lack of dominance*. Balance, open participation, and full voting rights are not sufficient to prevent dominance from influencing the standard development process. Paragraph 1.2 of the ANSI Essential Requirements notes that dominance is defined not simply by representation, but also by means of "… a position or exercise of dominant authority, leadership, or influence by reason of superior leverage, strength or representation to the exclusion of fair and equitable consideration of other viewpoints." It can be argued that a technical lead, chair or task group can potentially exert dominance over the larger consensus body if they are granted the authority to independently draft the standard, determine the disposition of comments and negative ballots received, and/or conclude whether and how to revise the standard. Clearly, this would violate the spirit of a

consensus-driven standard development process. To avoid this situation, three substantive actions were taken ICE:

(1) There was no technical lead for the project. Nor was a technical lead needed, as there was substantial depth of expertise on the consensus body, which included multiple subject matter experts in each of the following areas: a) education/training [with participation from academia (both public and private institutions), corporate training, and government]; b) measurement and assessment in academic, corporate training, credentialing and regulatory contexts; and c) program evaluation and quality management systems.
(2) The consensus body itself, assembled in three working groups, created the initial draft standard.
(3) The consensus body itself, as a full group, met via web conferences to determine what revisions should be made in the draft standard.

Lack of dominance also was achieved through skilled facilitation of consensus body meetings and discussions. The chair of the consensus body, an experienced group facilitator, ensured that discussions were balanced, by supporting the exploration of minority and alternative viewpoints and encouraging the consideration of both majority and minority viewpoints in deliberations.

The question may arise as to whether ICE, which has historical ties to the certification community, can serve as an unbiased standards developer. Perhaps ICE might seek to protect certification programs at the expense of certificate programs. Besides the already stated ICE policies related to participation, balance and lack of dominance, there are several facts that belie such an idea.

(1) The broadened mission which ICE adopted in 1998 includes certificate and certification programs, as well as other programs related to occupation/professional credentialing. Indeed, since 2007, ICE has sponsored a variety of educational sessions, publications, and public forums on not only certificate program standards, but also how to develop quality certificate programs.

(2) After designating the chair of the consensus body, ICE served as the non-voting Secretariat for the standard development process, as specified in the ICE Standards Development and Maintenance Policies:

*ICE shall be the Secretariat and shall be responsible for:*

- overseeing compliance with these Policies;
- maintaining a roster of Main Committee membership and maintaining a list of standards assigned to each Main Committee;
- providing administrative services to the Main Committee Chairs in assisting them in performing their duties;
- nominating officers for the initial formation of Main Committees;
- submitting documentation to ANSI, when required;
- documenting actions and decisions made by the Main Committee;

- distributing documents relevant to the business of the Main Committee; and
- performing other functions as required by these Policies.

Further review of the policies reveals that no actions of the consensus body require approval or consent from ICE. In addition, neither the ICE Board nor staff made proposals or recommendations regarding the membership of the consensus body or the content of the standard. Nor were such proposals or recommendations ever sought by the consensus body.

(3) Whereas some standard developers, require that their full membership – which may or may not include subject matter experts and interested parties – review all standards prior to adoption, the ICE Standards Development and Maintenance Policies do NOT include such a requirement.

(4) The content of the standard clearly is aligned with best practices in education/training, assessment, and program oversight and management.

No single interest category, individual, or organization – including ICE itself – dominated the standard development process. The process placed the responsibility for the development of the standard in the hands of those most knowledgeable on the subject – the consensus body – without any approval being required by the ICE Board or membership.

Those unfamiliar with standards development and conformity assessment processes might wonder whether there would be a conflict of interest if ICE should serve as both the developer of *ICE 1100* and an accreditor to the same standard. In fact, this has been a long standing accepted practice in the standards and conformity assessment industry as shown through the ANSI's accreditation of standards developers who also provide certification or accreditation services. However, it is important that a standards developer provides protection in its processes to ensure no undue influence can be placed on the process. As noted above, ICE has provided such protection through its policies. In addition, ICE does not serve as a voting member on the *ICE 1100* consensus body, thus avoiding any perceived undue influence. Furthermore, ICE has encouraged the use of *ICE 1100* in <u>all</u> relevant accreditation programs and encourages other accreditation bodies to serve on the ICE Main Committee as voting members, even though ICE, through its policies, may not serve as a voting member.

## *D. Transparency*

The transparency of the ICE standard development process was first evidenced in the initial stakeholder discussions on whether a certificate standard should be developed and whether ICE should serve as the standard developer. ICE approached ANSI in early 2007 to advice of ICE's intent to develop a standard and expressed a strong interest in working with ANSI, given ANSI's interest in developing an accreditation program. For a period of

time, ICE served on the ANSI Certificate Accreditation Advisory Panel in an effort to serve as a liaison between the standards development process and the ANSI Panel.

On October 11, 2007, ICE held a public forum to discuss these issues and solicit feedback on the requisite features of a quality certificate program. The forum was conducted simultaneously face-to-face and via web conference to facilitate participation by all interested and affected parties. One hundred twelve (112) individuals representing eighty-six (86) different organizations participated in the forum; only 56% of these organizations were ICE members. During the forum, ICE's Executive Director, Jim Kendzel, explained the standard development process as specified in the ANSI Essential Requirements and indicated that ICE's goal was to become an ANSI-approved standard developer and ultimately, if a certificate standard was developed, it would be designated as an American National Standard. Based on feedback received from this forum and other sources, ICE elected to proceed with developing a standard for certificate programs and to engage in discussions with ASTM International regarding the development of a joint certificate standard.

Once the development of *ICE 1100* was underway, the transparency of the process used by the consensus body was evident throughout its work, and the actions taken by ICE as a standard developer to promote and ensure transparency exceeded those specified in the *ANSI Essential Requirements*. Specifically, the following actions were taken:

- Updates on the development of the standard were provided to the public throughout the process.
- All relevant documents were freely available to the public.
- Participation on the three working groups which created the original draft of the standard was open to all interested parties.
- Meetings and deliberations of the full consensus body which took place during the drafting of the standard were open to the public and advertised as such.
- The process used to develop the standard was described in all published drafts and in the final standard.
- Interested parties and organizations representing large numbers of stakeholders were invited to participate in the standard development process and kept apprised of progress.
- ICE engaged other organizations to assist in the outreach effort and disseminate information about the standard development process.

Below we have provided further detail on the transparency of the standard development process and a few illustrative examples of how it was manifested, particularly with respect to key milestones.

*On-going status updates and public access to all documents*. Throughout the standard development process, there was a public page on the ICE website which apprised stakeholders of the progress of the consensus body. This page included at all times a downloadable copy of the *ICE Standards Development Policies and Procedures*, the draft standard (once the original draft was created), and the ICE publication, *Defining Features of Quality Certification and Assessment-Based Certificate Programs*. Whereas some standard developers require that interested parties request a copy of these

documents, any individual or organization could immediately and directly obtain these documents from the ICE website. No site registration or contact with ICE representatives was required to receive the documents. Nor, as is the practice of some standard developers, did the draft standard document contain a statement prohibiting readers from circulating the document. In addition to the public page devoted to the certificate standard project, the ICE website main page contained announcements and information about the project throughout most of the time period during which the standard was developed.

*Examples of outreach with interested parties and organizations representing stakeholders*. On January 8, 2008, the ICE consensus body was formed and a notice announcing the first meeting date of this body was published. All interested parties were invited to attend. On January 9, ICE sent the announcement of the consensus body meeting to the ANSI Advisory Panel on Certificate Accreditation and to interested standards developers, such as ASTM with an invitation to attend.

ICE announced the July publication of the draft standard and the first, 30-day open review period on the main page of its website. In addition, this information was published in the ICE News, a publication with a circulation of 4,000, including both ICE members and nonmembers. To ensure adequate notification of stakeholders, ICE also requested, and was granted, announcements regarding the publication of the draft standard and the open review period in the following sources:

- the main page of the website of the American Society for Training & Development;
- the weekly newsletter of the American Society for Association Executives & The Center for Association Leadership (ASAE & The Center);
- the Professional Development list serve of ASAE & The Center (the list serve targets association professionals responsible for education/training);
- the International Society for Performance Improvement member newsletter; and
- the Certified Performance Technologist newsletter.

ICE also notified the American Association of Community Colleges, ANSI, IACET, and ASTM.

*Examples of open participation by the public and interested parties*. The first working meeting of the consensus body was held on February 20, 2008 and was attended by approximately 30 individuals, only one-third of which were ICE members. As mentioned previously, this was a public meeting which included both consensus body members and other interested parties. Nearly one-third of the attendees were interested parties and members of the public who were NOT part of the consensus body.

On June 19, 2008, the full draft standard was simultaneously distributed to the consensus body and published for open review. Prior to this time, three working groups had been convening to develop their respective sections of the standard. These sections were compiled into the full draft standard published on June 19, 2008 Thus, the consensus body saw the full draft standard for the first time at precisely the same time that it was made public.

Announcements regarding the July open review period included a notification that all interested parties could participate in the series of web conferences in which the consensus body reviewed and deliberated on the draft standard. As is evident from this description, the deliberation process was completely open and transparent and permitted the opportunity for input from outside the consensus body.

The draft standard was revised based on the consensus body and open review comments and on September 11, 2008, a second, 30-day open review period was held for the revised draft standard. Once again, announcements of the open review period were made and key interested parties were notified. In addition, on October 2, 2008, ICE hosted a public forum web conference to solicit additional comments and discussion on the revised draft standard. The forum was attended by approximately 35 individuals. Participation was open to all interested parties. A subsequent 45-day ANSI public review period was completed on December 29, 2008.

## *E. ANSI Approval*

Following the consensus bodies (ICE Main Committee) approval of a standard there are two steps that must be followed in order to obtain from ANSI an approval of the standard as an American national standard. The first step is to provide the standard for public review through the ANSI public review process which was completed on December 29, 2008. The second step is to have the draft standard reviewed by the ANSI Board of Standard Review (BSR) to determine if all requirements of the ANSI Essential Requirements were followed by the standards developer. The BSR is comprised of individuals with extensive knowledge and experience in the development of standards. The BSR approved *ICE 1100* as an American National Standard as an American National Standard on March 25, 2009. *ICE 1100* is the first American National Standard covering certificate programs.

## *F. Consensus Body Participants*

Thanks to the following organizations for helping to support this project by providing staff to serve on the consensus body for *ICE 1100*:

Alberta College of Paramedics
The American College
American Academy of Personal Training
American Hospital Association Certification Center
American Institutes for Research
American Nurses Credentialing Center
APICS – The Association for Operations Management
ASAE & The Center for Association Leadership
CASTLE Worldwide, Inc.
Cisco Systems, Inc.
Competency and Credentialing Institute

Consulting Measurement Group
Defense Acquisition University
Dental Assisting National Board
Global Skills X-change
Hale Associates
Healthcare Information and Management Systems Society
HumRRO
International Society for Performance Improvement
J. Garza Consulting & Associates
Knapp & Associates International, Inc.
Learning Resources Network
Lamaze International
LERN
Microsoft Corporation
Motorola
National Board for Certification in Occupational Therapy
National Strength and Conditioning Association Certification Commission
NSF International, The Public Health and Safety Company
Oncology Nursing Society
Practice Transformation Institute
PSI Services, LLC
Seacrest Company
Security University
Society for Human Resource Management
Society of Manufacturing Engineers
Training Education Management
U.S. Department of Defense
U.S. Department of Homeland Security, Federal Emergency Management Agency
U.S. Green Building Council
U.S. Office of Personnel Management
The Wharton School of the University of Pennsylvania

# III. Alignment of Standard with Industry Best Practices

## *A. Design of Education/Training*

Best practices are identified through professional consensus and empirical research, and are reflected in industry standards and guidelines and the peer-reviewed professional/technical literature of the field. To ensure that *ICE 1100* was aligned with best practices in education/training, the consensus body relied on the substantial depth of subject matter expertise represented within the group. We were fortunate to have serving on the consensus body a number of educators, instructors, and trainers with graduate

degrees in instructional design and adult education. These individuals also were highly experienced practitioners, having served in academic (both public and private), corporate, not-for-profit, and government settings. In addition, approximately half of the consensus body members had experience with developing, managing, and/or evaluating certificate programs. Throughout the standard development process, the subject matter experts on the consensus body contributed their expertise and their knowledge of the professional literature and industry standards and guidelines to ensure that the requirements of *ICE 1100* were consistent with what the Training and Education community considers essential to providing a quality learning experience.

Attachment C presents a matrix cross-walking *ICE 1100* with a variety of technical guidelines, standards, and accreditation requirements. It also should be noted that the processes for developing, evaluating, and managing education/training that are outlined in *ICE 1100* are consistent with: (a) the professional competencies outlined in *The ASTD Competency Model*™[3], which serves as the basis for the ASTD CI Certified Professional in Learning and Performance™ (CPLP) credential and (b) the International Board of Standards for Training, Performance and Instruction's *Instructional Design Competencies*[4].

The Training and Education community recognizes many different models for training and instructional systems design. Most of these models are founded on a generic model for training and instructional design – the ADDIE model. The five steps in this widely cited model are as follows:

**A**nalyze needs
**D**esign the learning
**D**evelop the program
**I**mplement the design
**E**valuate performance

The ADDIE model has been prominent in the field since the introduction of instructional systems design during Word War II and is accepted as best practice in the field. The alignment of *ICE 1100* with each element of the ADDIE[5] model is outlined below.

*Analyze needs*. The first step of instructional/training design involves identifying the target audience, conducting a needs assessment and identifying the gaps between the knowledge, skills, competencies which currently exist and those that are required for a specific purpose or in a specific context. *ICE 1100* requires that certificate providers conduct such an assessment and explicitly states that:

[3] American Society for Training & Development, 1640 King Street, Box 1443 Alexandria, VA 22313-1443
[4] Richey, Rita C.; Fields, Dennis, C.;Foxon, Marguerite; ERIC Clearinghouse on Information & Technology, Syracuse University, 621 Skytop Rd., Suite 160, Syracuse, NY 13244-5290
[5] Perhaps not surprisingly given its status as a "generic" model, authors in the training field differ slightly in their interpretation of some of the nuances of each step of the ADDIE model (e.g., some include items in the analysis step that others assign to the design step), thus it should be noted we have used the conceptualization of ADDIE contained in ASTD's *Basics of Instructional Systems Development* (2005).

> ***6.6*** *The intended learning outcomes and the knowledge, skills, and competencies to be addressed in the education/training shall be determined systematically based on an analysis of the needs of the:*
>
> *a) participants;*
> *b) industry (as appropriate);*
> *c) consumers (as appropriate); and*
> *d) other identified stakeholders (as appropriate).*
>
> *The procedure used to conduct this analysis shall be consistent with the published purpose of the program. The procedure for selecting content for the education/training shall include an analysis of participant and stakeholder needs appropriate to the purpose, scope, and stakes of the certificate program.*

The standard also specifies that certificate providers must publish a statement describing the target audience for the certificate program (Requirement 2.4)

*Design the learning*. This step of the ADDIE model centers on identifying the goals of the instruction/training. The design process should include a description of the high-level goals of instruction/training (including purpose and scope) as well as specification of the intended outcomes, which describe the performance that is expected upon completion of the training. *ICE 1100* requires that "The content of the education/training shall be consistent with the purpose and scope of the certificate program and the intended learning outcomes" (Requirement 6.4).

The ICE consensus body believed it was important not just that the design of the education/training be based on an identified purpose and scope and explicit learning outcomes, but also that stakeholders have access to this information when selecting a program. Thus, in Section 2 of the standard, under the subheading "Responsibilities to Stakeholders," ANSI/ICE 1100 states certificate providers must publish the purpose and scope of the certificate program and the intended learning outcomes (Requirement 2.4)

*Develop the program*. In the development phase, the trainer or instructional designer creates the framework and tools for accomplishing the goals of the program. Activities include structuring the content to ensure the most effective sequencing of material, selecting the appropriate instructional method and media, developing the materials (e.g., handouts), planning the assessment of learners' accomplishment of the intended learning outcomes, and creating a mechanism for evaluating the program. Some experts also suggest that this step should include a review of content by subject matter experts to ensure accuracy. In some cases, prototyping of the design elements also may occur during this step.

The following requirements of *ICE 1100* relate to the development phase:

> ***6.1*** *The certificate provider shall ensure that the education/training is developed, delivered, and reviewed by subject matter experts and qualified individuals.*

***6.4*** *The content of the education/training shall be consistent with the purpose and scope of the certificate program and the intended learning outcomes.*

***6.5*** *The intended learning outcomes, content and design of the education/training, delivery method, and assessment(s) shall all be in alignment [i.e., the content, design, and delivery of the education/training shall be appropriate for accomplishing the intended learning outcomes, and the assessment(s) shall be appropriate for assessing participants' accomplishment of the intended learning outcomes].*

***6.8*** *The design of the education/training shall be consistent with generally accepted instructional design principles and appropriate for the intended learning outcomes.*

***6.10*** *The certificate provider shall specify the methods for delivery of the education/training (e.g., classroom, online synchronous, online asynchronous). These methods shall enable accomplishment of the intended learning outcomes and be consistent with the purpose and scope of the certificate program.*

***7.2*** *The assessment(s) shall be appropriate for measuring participants' accomplishment of the intended learning outcomes and consistent with the published purpose of the certificate.*

A key instructional design principle that is especially pertinent to the development phase is the concept of alignment. The effectiveness of training is impacted by the congruence of the intended outcomes, the instructional processes, and the assessments. Thus, alignment is strongly emphasized in the standard.

*Implement the design*. Implementation involves conducting the program, including selecting and training facilitators/instructors, and adjusting the program, as necessary, to ensure the needs of the learner are met. The following requirements of *ICE 1100* are pertinent here:

***6.1*** *The certificate provider shall ensure that the education/training is developed, delivered, and reviewed by subject matter experts and qualified individuals.*

***6.2*** *The certificate provider shall document and ensure that facilitators/instructors possess the qualifications and skills to deliver the education/training as designed.*

***7.4*** *Individuals who develop or conduct the assessment(s) or who evaluate/score participants' performance shall have the required knowledge and skills for their role.*

***6.3*** *The certificate provider shall provide facilitators/instructors with feedback on their performance.*

***6.9*** *The design of the education/training should be modified as needed to ensure that it incorporates changes in the purpose, scope, or content of the certificate program and reflects current, generally accepted instructional design principles.*

***7.6*** *The certificate provider shall ensure that the assessment is revised as necessary to reflect changes in the scope or purpose of the program (e.g., changes in the intended learning outcomes, changes in the education/training).*

The standard includes additional requirements relating to collecting data (including feedback from learners) which may be relevant to implementation. These requirements are described in the *Evaluate Performance* section below.

When the delivery of the education/training takes place in multiple sites and involves multiple facilitators/instructors/assessors, it is incumbent on the certificate provider to ensure consistent quality and standardization (as appropriate). Consequently, *ICE 1100* includes the following requirements:

***3.1*** *The certificate provider is responsible for monitoring, assessing, and assuring the quality of all activities performed on its behalf in accordance with documented procedure. This responsibility includes activities performed by employees, committees, contractors, and/or other individuals.*

***3.2*** *The certificate provider shall employ or contract a sufficient number of people with the necessary education, training, technical knowledge, and experience to perform functions relating to the type, range, and volume of work performed, under a responsible management.*

.

*Evaluate performance*. Evaluation gauges whether the intended learning outcomes have been accomplished and examines the quality and effectiveness of all aspects of the education/training program (e.g., content, design, delivery, facilitator/instructor) to inform future improvement. Evaluation of the intended learning outcomes centers on the assessment of learners' knowledge, skills, and/or competencies. The requirements of *ICE 1100* focus on ensuring that such assessments take place and that these assessments are of sufficient quality to warrant the inferences that will be drawn from them. The elements of *ICE 1100* which contribute to a quality assessment are described in Section II.A. Below are the requirements in the standard which specifically relate to the need to conduct the assessment and how the information gleaned from the assessment should be used to support learners.

***7.1*** *The certificate provider shall conduct one or more assessments of participants' accomplishment of the intended learning outcomes and the effectiveness of the education/training.*

***7.2*** *The assessment(s) shall be appropriate for measuring participants' accomplishment of the intended learning outcomes and consistent with the published purpose of the certificate.*

***7.3*** *The certificate provider shall adhere to generally accepted measurement principles in the development of the assessment(s) and the evaluation/scoring of participants' performance.*

***7.12*** *The certificate provider shall report the results of the assessment(s) to participants in a consistent format that is appropriate to the type of assessment. At a minimum, participants shall be informed as to*

*whether they have accomplished the intended learning outcomes. A report of participants' relative strengths and weaknesses also may be provided.*

***7.13*** *The certificate provider shall prepare reports of assessment results in aggregate form (e.g., results based on the performance of an entire class) to support program evaluation and address other stakeholder interests.*

***7.14*** *The certificate provider shall supply participants and stakeholders with guidance on interpreting and using the results of the assessment(s), including what inferences can appropriately be drawn from the results.*

Comprehensive program evaluation and continuous improvement are addressed in the *ICE 1100* as follows:

*Quality Assurance*

***5.1*** *The certificate provider shall have a documented quality assurance procedure in place for all administrative, educational/training, and assessment processes. The quality assurance procedure shall specify the:*

*a) quality criteria for operational procedures and the products and services offered by the certificate provider;*
*b) procedures used to ensure that the quality criteria are met;*
*c) procedures for identifying products, services, and/or processes that do not conform to quality criteria;*
*d) procedures for correcting identified deficiencies;*
*e) procedures for evaluating the effectiveness of corrective actions; and*
*f) title of the person responsible for managing the quality assurance procedure.*

*Program Evaluation*

***5.2*** *All components of the certificate program shall be reviewed periodically (at least annually) by subject matter experts and other qualified individuals to ensure that the:*

*a) content of the education/training and assessment(s) is current and accurate;*
*b) design and delivery of the education/training are consistent with generally accepted instructional design principles and appropriate for the intended learning outcomes; and*
*c) development of the assessment(s) and the evaluation/scoring of participant performance on the assessment(s) are consistent with generally accepted measurement principles and appropriate for assessing accomplishment of the intended learning outcomes.*

***5.3*** *The certificate provider shall conduct periodic program evaluations to assess program quality and effectiveness and implement future improvements. At a minimum, program evaluations shall include the evaluation of the:*

a) *participants' performance and their accomplishment of the intended learning outcomes by the certificate provider;*
b) *facilitators/instructors by participants and the certificate provider;*
c) *certificate program [content, design, delivery method, assessment(s)] by facilitators/instructors and certificate providers; and*
d) *certificate program [content, design, delivery method, assessment(s)] by participants.*

Evaluation of the certificate program by other stakeholders also may be included.

***6.7*** *The content of the education/training shall be reviewed periodically (at least annually) to ensure that it remains current and accurate. The certificate provider shall specify the procedures to be used for updating the content as well as the circumstances under which updating should occur.*

***7.15*** *The certificate provider shall assess the effectiveness of the assessment(s) on a regular basis to ensure ongoing utility for measuring participants' accomplishment of the intended learning outcomes.*

## *B. Assessment Development and Scoring*

*NOTE: The text below features quotes containing the term "test." The sources of these quotations intend the term to refer to ALL forms of assessment.*

The concepts of reliability and validity form the foundation of all quality assessments, regardless of type of assessment, intended audience, setting, or purpose. Reliability is defined as the consistency of the measurement or the degree to which the results of an assessment are free of measurement error. It quantifies measurement precision. "Although reliability is a necessary feature that a test must have to be useful for decision making, it is not the most important characteristic." [*Measurement and Evaluation in Psychology and Education*, 1999, p. 123] An assessment can be reliable, yet not valid. That is, it may be measuring something very accurately, but the "something" is not what the developer intended to measure.

Validity is the degree to which an assessment measures what it purports to measure and thus, the degree to which the interpretations of the assessment results and the inferences drawn from them are appropriate. "The foremost question to be asked with respect to any testing procedure is: How valid is it? When we ask this question, we are inquiring whether the test measures what we want to measure, all we want to measure, and nothing but what we want to measure." [*Measurement and Evaluation in Psychology and Education*, 1999, p. 123]

Thus, ensuring that assessments are both reliable and valid is critical to maintaining quality, ensuring fairness to learners, and meeting stakeholder needs.

It has sometimes been suggested that the rigorous application of the concepts of reliability and validity to assessments used in education/training programs is too onerous for the providers of these programs and thus, unrealistic. Proponents of this view also may argue that these concepts are intended for more high-stakes assessments, such as certification and employment testing. Quotes from experts in the area of training-related assessment refute this argument:

> "Reliability and validity are the two most important characteristics of a test." [*Criterion-Referenced Test Development: Technical and Legal Guidelines for Corporate Training and Certification* (2000), p. 16]
>
> "Reliability and validity describe the qualities that any good test must possess." [*Criterion-Referenced Test Development*, p. 203]
>
> "If you are going to judge people using a test, you have a responsibility to evaluate the test and what it represents." [*Tests That Work: Designing and Delivering Fair and Practical Measurement Tools in the Workplace* (1999), p. 287]
>
> "Good assessment throws light in every direction, informing workers, training and performance staff, and management at every level. It is very costly to stay in the dark. If you are doing so, at least consider that an invalid test is not worth anything to anybody, at any time, for any purpose. So you might as well light the candle and do level 2 evaluation right!" [*ASTD Handbook for Workplace Learning Professionals* (2009), p.520 ]

<u>Reliability</u>

With respect to reliability, *ICE 1100* specifies:

***7.15*** *The certificate provider shall assess the effectiveness of the assessment(s) on a regular basis to ensure ongoing utility for measuring participants' accomplishment of the intended learning outcomes. This procedure may include the collection of data pertaining to the … measurement precision of the assessment(s), that is, the degree to which the results obtained are free from measurement error (e.g., a measure of inter-rater agreement on the assessment of a product produced by a participant).*

Subjectively evaluated/scored assessments (e.g., essays, work products, portfolios, demonstrations, presentations) pose a particular challenge to ensuring reliability. In general, it is more difficult to attain adequate reliability for a subjectively evaluated/scored assessment than for an objectively scored assessment (e.g., multiple choice). However, stakeholders often find subjectively evaluated/scored assessments more appealing and meaningful and view them as more face valid. As stated in the introduction to *ICE 1100*, the consensus body strove to support the efforts of certificate providers to align their assessments with the varied needs of their stakeholders and the wide array of potential learning outcomes which may be identified for the program. Thus, the standard includes requirements specifically designed to enhance the reliability of subjectively evaluated/scored assessments and consequently, their fairness and accuracy:

***7.10*** *For subjectively evaluated/scored assessment(s) (e.g., essays, work products, portfolios, demonstrations, presentations), the certificate provider shall:*

*a) supply raters with rating or scoring scales, performance evaluation checklists, rubrics, and/or other appropriate guidelines to be used to evaluate participant performance;*

*b) train raters in the use of the rating or scoring scales, performance evaluation checklists, rubrics, and/or other appropriate guidelines;*

*c) establish procedure(s) by which raters can be calibrated periodically (if multiple raters are used);*

*d) conduct analyses of the consistency and/or agreement in the raters' evaluation/scoring as appropriate for the type of assessment and its intended use; and*

*e) establish procedure(s) by which significant differences between raters can be discussed and/or remedied (if applicable).*

As noted by Westgaard, "Assuming reliability can cause problems. If you assume the test is reliable, you (or someone else) will make decisions based on the results. Your decisions may be very important to people who have taken the test. Two circumstances make establishing reliability important: (1) The test is used more than once and/or in more than one location; (2) The results of the test are used to make critical decisions about people or situations. If these conditions pertain, you want a reliable test." [*Tests That Work: Designing and Delivering Fair and Practical Measurement Tools in the Workplace* (1999), p. 294 ]

Validity

Validity is a more complex and multi-faceted concept as compared to reliability. It is commonly assumed that validity is established simply by mapping the content of the assessment to the intended learning outcomes. In fact, validity relies on a collection of evidence relevant to the quality of the assessment. As noted in the *Standards for Educational and Psychological Testing*[6] (commonly referred to as the "Joint Technical Standards"), "This includes evidence of careful test construction; adequate score reliability; appropriate test administration and scoring; accurate scale scoring, equating and standard setting; and careful attention to fairness for all examinees …" [*Standards for Educational and Psychological Testing*, p. 17 ]. The goal of the ICE consensus body was to ensure that certificate providers have sufficient evidence to support the validity of their assessments, and accordingly, the inferences to be drawn from them.

[6] *Standards for Educational and Psychological Testing*, American Educational Research Association (AERA), American Psychological Association (APA), National Council on Measurement in Education (NCME), 1999, AERA Publications Sales, Washington, DC 20005

Below are sources of validity evidence for assessments of learners and a reference to the requirement(s) in *ICE 1100* which pertain to each source of evidence.

- Careful construction of the assessment – Requirements 7.2, 7.3, 7.4, 7.5, 7.6
- Adequate score reliability – Requirements 7.9, 7.10, 7.15
- Appropriate administration/conduct of the assessment – Requirements 7.4, 7.7
- Equivalency of different forms of the assessment – Requirement 7.11
- Appropriate standard setting – Requirement 7.8
- Careful attention to fairness – Requirement 7.12

Westgaard summarizes the importance of validity: "Validity is critical to the success of a test. If a test isn't valid, it's probably a waste of time and energy at best. At most, it could destroy morale and work relationships. So I urge you to ensure validity for your tests. At the same time though, I ask you not to misuse this tool. Claiming a test is valid when it isn't can lead to big problems." [*Tests That Work*, p. 288 ]

If the certificate provider does not or cannot confirm the reliability and validity of an assessment, neither certificate providers nor stakeholders can have confidence that the assessment findings are appropriate and accurate measures of learners' achievement of the intended learning outcomes. In these circumstances, it would not be appropriate or ethical for certificate providers to claim that those who earn the certificate have achieved the intended learning outcomes; as such claims would imply a level of confidence in the assessment that is not supported by fact. As noted by measurement experts in the training field, without reliability and validity, the assessment is meaningless for purposes of decision making. The certificate awarded then becomes no different from a certificate of attendance (in terms of its value in confirming the accomplishment of the intended learning outcomes). To claim otherwise to stakeholders would be to "sell them a bill of goods."

# IV. Value of ICE 1100 to Stakeholders and Certificate Program Providers

## *A. Assistance in Identifying Quality Programs*

*Alignment of the standard with best practices*. The requirements of *ICE 1100* are aligned with best practices in program oversight, management, and evaluation; education/training; and assessment. Consequently, the standard provides stakeholders with effective criteria for identifying quality certificate programs. A detailed explanation of the alignment of *ICE 1100* with best practices in the areas of education/training and assessment has been provided in Section III. With respect to program oversight, management and evaluation, the requirements of the standard are aligned with best practices; existing standards, guidelines, and principles; and accreditation/approval processes related to specific management processes (e.g., ISO 90001 for quality assurance) and to the administration of educational and training programs (e.g., the Council on Occupational Education *Accreditation Standards*, the Kirkpatrick model of

evaluation). Attachment C contains a matrix which cross-walks *ICE 1100* to relevant standards, guidelines, and principles and accreditation/approval processes.

*Accessibility of standard to a variety of audiences*. The existence of a standard and criteria for quality certificate programs is not, in itself, sufficient to secure the use of these requirements by stakeholders in their search for an appropriate program. To facilitate usage, the standard must be both technically sufficient to be properly implemented by a knowledgeable practitioner in the field and also written in a manner to be understood by, and accessible to, a lay audience. This was one of the first issues discussed by the ICE consensus body when it began the standard development process. In its initial face-to-face meeting, the consensus body addressed the question, "What is the goal of creating a certificate program standard?" Recognizing that the goal would influence the content of the standard and how this content was presented (e.g., organization, terminology used), the group sought to reach consensus on this point. They decided that the standard should be not "just" a standard or list of "rules and regulations." It also should provide guidance to stakeholders seeking to identify quality certificate programs and to providers seeking to develop such programs. To that end, the consensus body strove to make the standard as user-friendly and as unintimidating as possible..

Another example of the consensus body's consideration of the usage of *ICE 1100* by stakeholders was the group's focus on ensuring the clarity of the text of the standard. The consensus body purposefully erred on the side of including more, rather than less text when specifying the requirements of the standard. The consensus body wanted to ensure that there was sufficient clarifying language in each requirement to minimize the possibility that the intent or content of the requirement would be unclear or misunderstood.

*Encouraging use of the standard*. The consensus body was diligent in its efforts to create an accessible standard for stakeholders, but ICE also recognizes that stakeholders often do not read standards. Rather, they look for an indicator that standards have been met (e.g., accreditation, certification). Stakeholders then use the presence or absence of this indicator to guide their decision making. For example, many individuals seek to purchase certified organic products and use the "USDA Certified" symbol on the package to identify these products. It is the rare consumer though, who will have read the standards on which this certification is based. Given this reality, ICE has publicly supported the concept of accreditation for certificate programs and endeavored to educate and keep stakeholders informed of all such activities since 2007.

Although stakeholders may not always be inclined to read the original text of a standard, there are a variety of mechanisms through which the valuable information contained in the standard can be conveyed to them in a manner which will encourage them to more readily incorporate this knowledge in their decision-making. One example is a checklist stakeholders can utilize to assist them in identifying quality programs. Another might be a document that highlights the key elements of the standard and succinctly explains why such elements are critical to quality. This document is one example of how ICE is providing background information to stakeholders of the standard to assist them in understand its relevance to a quality certificate program. ICE is exploring the creation of other communication vehicles and tools which will better enable stakeholders to benefit from *ICE 1100*. In September 2008, ICE published an updated version of a document

entitled, *Defining Features of Quality Certification and Assessment-Based Certificate Programs* (originally published in May 2007). This publication (see Attachment A of this report) was specifically designed to provide a lay-friendly summary of the distinctions between the two types of programs and what constitutes quality for each. To facilitate dissemination to stakeholders, the document is readily available to the public on the ICE website, where it can be downloaded for free.

ICE is committed to continuing to provide educational opportunities for stakeholders on the purpose and use of the standard. These educational/marketing opportunities will be used to promote the acceptance of *ICE 1100*, which in turn, will benefit all stakeholders including accreditation bodies that choose to use the standard as the basis for their accreditation programs. In addition, it is ICE's hope that accreditation bodies using *ICE 1100* will partner with ICE to implement joint educational/marketing programs related to the standard. By working together to promote the standard and educate stakeholders, we can ensure the successful implementation of the standard.

## *B. Distinguishing Certification from Certificate Programs*

The confusion among the general public, and even providers, regarding certificate and certification programs generally centers on the primary purpose of each program and what holding a certificate or certification signifies (or does not signify). The introduction to *ICE 1100* begins with a succinct description of what a certificate program is and a brief explanation of the distinctions between certificate and certification programs. Beginning the standard with this information alerts readers' to the distinctions and their importance. The definition and descriptions provided can be excerpted from the standard and used in a variety of other communication vehicles aimed at educating the general public and other stakeholders about the differences between certificate and certification programs.

Within *ICE 1100* there are several requirements aimed at helping to reduce confusion among stakeholders regarding certificate and certification programs. Included among these are requirements specifying what information providers must publish and/or provide to participants, specifically:

> ***2.4*** *The certificate provider shall publish: a) the purpose and scope of the certificate program …*
>
> ***2.5*** *The certificate provider shall publish and provide to certificate holders a statement explaining what inferences can properly be made regarding individuals who hold the certificate. These inferences shall be consistent with the stated purpose of the certificate and the assessment(s) and also other information the certificate provider makes public about the certificate and the assessment(s).*
>
> ***8.5*** *The certificate document shall contain the following information: … c) scope of the certificate…*

Requirements 2.4 and 8.5 are directed toward elucidating and reinforcing the purpose of certificate programs; Requirement 2.5 is designed to clarify what a certificate does or does

not signify. The intent of these three requirements is to ensure that stakeholders receive adequate and accurate information regarding what the certificate represents.

In addition to the above requirements, *ICE 1100* contains requirements pertaining to the use of certificates (8.9 -8.11). These requirements are especially instrumental to highlighting the fact that a certificate and a certification are two different offerings. It is believed by many in the credentialing community that there are two major factors contributing to the confusion of the general public and other stakeholders. The first is the lack of precision in the terminology providers use to describe their programs (i.e., many certificate providers refer to their programs "certification programs" and award a "certification" upon completion). The second is that some certificate providers award an acronym or letters to certificate holders for use after their names.

Requirements 8.9-8.11 address these contributing factors as follows:

> ***8.9*** *The certificate provider shall not award an acronym or letters to certificate holders for use after their names upon completion of the certificate program.*
>
> ***8.10*** *The certificate provider shall publish and provide to certificate holders a statement defining the appropriate ways in which to reference the certificate. This statement shall specify that certificate holders:*
>
> *a) may state that they hold a "Certificate in …."*
> *b) shall not say that they are "Certified in …"*
> *c) shall not use acronyms or letters after their names to reference the certificate they hold.*
>
> ***8.11*** *The certificate provider shall publish and provide to certificate holders a statement defining the purpose and scope of the certificate. This statement shall specify that certificate holders shall not make:*
>
> *a) claims or imply that the certificate is a professional certification or that its purpose and scope are beyond that specified by the certificate provider; or*
> *b) any other statement regarding the certificate which the certificate provider may consider misleading or unauthorized.*

It should be noted that requirement 8.11 also recognizes that providers are not the only group that may contribute to the confusion among the general public and other stakeholders. Certificate holders themselves may unintentionally misrepresent what their earned certificate implies. Requirement 8.11 creates a vehicle through which providers can: (a) alert certificate holders to the fact that a certificate and certification are distinct and (b) supply guidance to them as to how to appropriately represent their certificate. Engaging the provider in helping to educate certificate holders is especially critical, given that they have direct access to this group, whereas standard developers and accrediting bodies typically face substantial logistical challenges to directly communicating with this population.

If providers do not publish the information specified in the above requirements, an information void will be created. The absence of information will do nothing to rectify the current confusion and may even serve to exacerbate the problem. Moreover, the absence of requirements would give uninformed or unscrupulous providers the latitude to make ambiguous, misleading, or incorrect statements regarding their certificate programs. *ICE 1100* requires that providers be responsible and accountable for disseminating instructive and accurate information to the general public and other stakeholders.

The publication and use of the standard is only one step toward resolving the current confusion about certificate and certification programs. To make substantial progress toward eliminating confusion, a communication plan aimed at heightening awareness of the requirements of the standard and of the distinctions between certificate and certification programs is needed. This plan should focus on distilling the information included in the standard into a readily understandable and usable form, tailoring it to meet the unique needs of each stakeholder group.

ICE has made the commitment to implement a communication plan to educate stakeholders regarding certificates and certification and related standards and accreditation processes. Indeed, in the last several years, ICE has produced more publications, sponsored more educational sessions, and hosted more public forums on these topics than any other organization. Since January 2007, when ICE began its work in defining the features of quality certificate programs, it has:

- hosted two public forums on the certificate standards and the distinctions between certificate and certification programs (October 2007 and October 2008);
- sponsored an annual meeting session on the defining features of quality certificate and certification programs (November 2007);
- participated in a panel discussion on what constitutes quality for a certificate program (June 2008);
- sponsored a webinar which covered the ICE Standard, the distinctions between certificate and certification programs, and the business aspects of developing a certificate program (October 2008);
- sponsored an annual meeting session on developing certificate programs (November 2008);
- sponsored an annual meeting session on the development of the ICE standard (November 2008);
- included content on the distinctions between certificate and certification programs in its Certification 101 and 201 pre-conference workshops (November 2008); and
- sponsored a roundtable discussion on certificate programs (November 2008).

Of particular note with respect to educating the general public and stakeholders is ICE's publication entitled, *Defining Features of Quality Certification and Assessment-Based Certificate Programs* (see Attachment A). ICE created this publication in response to the confusion that exists among stakeholders regarding certificate and certification programs. The publication was specifically designed to provide a lay-friendly summary of the distinctions between the two types of programs and explain what constitutes quality for each. Initially published in May 2007, *Defining Features* was subsequently updated in September 2008 to incorporate new content from *ICE 1100*. To facilitate dissemination to

the general public and other stakeholders, the document is, and has been, readily available to the public on the ICE website where it can be downloaded for free.

Prior to 2007, ICE published *The ICE Guide to Understanding Credentialing Concepts* (2005), which includes a discussion of certificate programs and how they differ from certification programs. In addition, *The ICE Basic Guide to Credentialing Terminology* (2006) contains definitions which distinguish certificate programs from certification programs. Like the *Defining Features* document, both publications are available as free downloads from the ICE website (www.credentialingexcellence.org).

# V. The Use of Professional Designations

The question of whether certificate providers should award professional designations (i.e., an acronym or letters to use after one's name) is one of the most controversial issues to be addressed when developing a certificate program standard. In truth, there may be no inherently "right" answer to this question. If there were one, this matter would perhaps have been resolved long ago. The reasoning by which the consensus body (comprised of a balanced representation of stakeholders which included certificate providers) arrived at its conclusions is outlined below.

Although the awarding of designations does not have a direct bearing on the quality of a certificate program, the consensus body believed it did relate to another purpose of *ICE 1100*, namely to aid stakeholders in gaining a better understanding of the distinctions between certificate and certification programs and thereby, reduce the confusion which exists regarding these two types of programs. The consensus body had heard from stakeholders outside the body that educating stakeholders would be an uphill battle. The opinion of the consensus body (and likely many individuals in the fields of certification and education/training) was that even under the optimal conditions of unlimited access and resources, the task of educating stakeholders regarding the distinctions between certificate and certification programs would be a challenging, long-term effort. The distinctions between these programs are not yet well understood by all certification and certificate providers, much less by the stakeholders they serve. Whether due to a simple lack of information, a historical lack of standardization in the terminology used, or the fact that there are many similarities between the two types of programs, the bottom line is that considerable confusion exists.

Taking all these factors into consideration, the consensus body concluded that the most effective and expeditious approach to helping stakeholders distinguish between certificate and certification programs was to provide them with a clear, unambiguous, and salient indicator of which was which. Reality seemed to dictate that a clear and salient indicator would be needed to facilitate the process of educating stakeholders. The awarding of professional designations was seen as a possible way to accomplish this.

As was the case when they developed the other requirements of the standard, the consensus body next sought to explore the potential advantages and disadvantages of permitting or prohibiting the awarding of professional designations. They looked at this

matter from the perspective of *each* stakeholder group (e.g., what would be the advantage to the stakeholder of receiving a designation, what would be the disadvantage to the certificate provider of not awarding a designation). These deliberations were given due consideration and were not taken lightly.

If a designation could serve as an unambiguous, salient indicator of whether an offering was a certificate or certification program, permitting certificate programs to award a designation would continue to contribute to the confusion about certificates and certification. Further analysis suggested that such confusion had the potential to negatively impact all stakeholders. The confusion could lead to:

- a learner wasting time and money on a program that does not meet his/her needs;
- an employer believing that a program will deliver something it will not (and thus wasting resources);
- a regulator selecting an ineffective vehicle to accomplish his/her purpose; and
- a certificate provider obtaining less business because the market does not understand the unique value proposition a certificate program vis a vis certification.

Should certificate providers be prohibited from awarding designations, there would be a clear way for stakeholders to distinguish between certificate and certification programs. The above cited problems related to stakeholder confusion would be diminished. However, there could be disadvantages to prohibiting the awarding of designations. All things being equal, will a certificate holder receive the same value from a certificate program that awards a designation vs. one that does not? Also, there are certificate providers that currently offer designations and believe them to be of value in promoting their programs. If this is true, they would be disadvantaged by not being able to award a designation.

The consensus body reviewed the advantages and disadvantages of each option and ultimately concluded that the potential benefits of the prohibition against awarding a designation outweighed the potential negative impact. Having an unambiguous, salient way to distinguish between certificate and certification programs would reduce confusion, which in turn, would positively impact most stakeholders. Although there could be some negative consequences associated with prohibiting the awarding of designations, these consequences are limited primarily to just two stakeholder groups (certificate holders and certificate providers), and there are alternatives available to each of these groups to mitigate negative impact. Certificate holders can specify on resumes, business cards, stationary, etc. – in the same locations where they would have inserted a designation – a phrase such as “Certificate in XYZ.” The phrase serves the same purpose that a designation would, namely, to indicate that the holder has successfully completed the certificate program. Some might suggest that having letters after one’s name is of greater value than a phrase describing the certificate. The question though is where does this value come from? Does it derive from the misconception that the designation implies a certification?

In terms of mitigating potential negative impact on certificate providers, the consensus body identified a number of remedies available to this stakeholder group. For example, certificate providers could offer suggestions to their certificate holders as to how to

effectively promote their certificates through prominently featuring the phrase, “Certificate in XYZ,” on resumes, business cards, stationary, etc. They also can provide talking points to certificate holders to be used to convey the value of the certificate to employers, customers, etc. In addition, certificate providers could successfully position their certificates against certification programs by emphasizing the unique value proposition offered by their program.

In understanding the reasoning of the consensus body, it may be helpful to explain two of the guiding philosophies the group adopted during the standard development process. The first guiding philosophy was that current practice is not necessarily best practice. In other words, the fact that one could point to examples of a particular practice is not sufficient to categorize the practice as desirable or “best.” Nor does the fact that something has been done, in and of itself, indicate that the practice is associated with quality. Thus, the fact that some certificate providers currently award designations does not mean that this practice is best practice or desirable practice or consistent with the purpose of the standard. This philosophy regarding current vs. best practice guided the group in all of its deliberations, not just those related to the awarding of designations. For example, when discussing other requirements of the standard, the consensus body noted that many certificate providers do not have bona fide quality assurance programs in place and do not utilize valid and reliable assessments to evaluate achievement of the intended learning outcomes, but it was believed that promoting these practices was in the best interest of serving all stakeholders and fulfilling the purpose of the standard.

The second guiding philosophy was to not be unduly influenced by the fact that some certificate providers might not like or abide by a proposed requirement. The sentiment of the consensus body was that there will always be those who choose not to follow voluntary standards. Although the standard development process must consider all viewpoints, it is not incumbent on the consensus body to please all stakeholders on all accounts. Instead, the most important consideration is whether a particular requirement ultimately is in the best interest of promoting quality and serving diverse stakeholder needs.

# VI. Process for Reviewing and Updating the Standard

ICE Standards are reaffirmed, revised, or withdrawn at least every five years [see Section 16 of *ICE Standards Development and Maintenance Policies* (hereafter referred to as “*Policies*”) in Attachment A]. However, the *Policies* allow for directly and materially affected interests to request a new standard project or revision to an existing standard at any time (item 5.1.4).

The *ANSI Essential Requirements* provide three options for the maintenance of American National Standards:

- Periodic – review of entire document on a schedule not to exceed five years;

- Continuous – consideration of recommended changes to any part of the standard according to a documented schedule; or
- Stabilized – does not apply to this situation since it only applies to standards in existence for at least 10 years.

The ICE Main Committee serves as the consensus body responsible for the handling of proposed revisions to the standard. The committee is committed to providing prompt action on all requests for revision to the standard. Furthermore, the committee fully understands that with the publication of *ICE 1100* and implementation by the stakeholders, there is an anticipated need to provide a robust revision process early on to ensure that critical areas of concern which might not have been covered or that need further clarification are addressed. For this reason, the standard has been placed into the continuous maintenance category to allow for prompt consideration of recommended changes to any part of the standard.

In general, the handling of proposed revisions to a ICE standard is conducted in an identical manner as the open and balanced process ICE follows in the development of a new standard. The following key steps define the process:

- Interested party submits a request for revision (item 5.1.4).
- Main Committee reviews the proposed revision and determines if the revision should proceed; this may be done at a meeting of the Main Committee or through letter ballot (see Sections 6 and 7 of *Policies*); Main Committee may choose from following options:
    - reject the proposal;
    - process the recommendation as a revision to the standard; or
    - form a task group to further develop the proposal and provide recommendations back to the Main Committee (3.1.3).
- If the consensus of the Committee is to not proceed with the revision, the submitter is notified and provided the opportunity to appeal the decision (see item 7.1.5 and Section 8 of Policies).
- If consensus is reached to move ahead with the proposal, a proposed revision to the standard is developed and the proposed revision is balloted by the Main Committee (see Section 7 of Policies); this step may have already been completed under the second bullet depending on the complexity of the request.
- Once consensus is achieved on the proposed revision, it is submitted to ANSI for public review and also through ICE public review channels (e.g. website, e-blasts, etc.) (see item 5.3 of Policies)
- All negative ballots and public review comments are handled in accordance with 7.1.5 of the Policies.

In addition to processing proposed revisions to the standard, the ICE Main Committee provides the option to stakeholders to request an interpretation of the standard. This process is defined under Section 12 of the Policies. As an example, an accreditation body may desire an interpretation of *ICE 1100* based on a particular situation. Interpretations are intended to provide clarification as to the intent of a requirement of a standard but cannot contradict the requirements set forth in the standard. Interpretations are

sometimes used by a stakeholder to obtain clarification and, if appropriate, the interpretation may lead to an actual revision of the standard.

# VII. ICE's Commitment to Supporting the Standard

The purpose of *ICE 1100* is to:

- provide guidance to organizations seeking to develop high- quality, assessment-based certificate programs;
- communicate to stakeholders the essential elements of a high- quality, assessment-based certificate program;
- establish requirements which may form the basis for an accreditation process for assessment-based certificate programs; and
- aid stakeholders in gaining a better understanding of the distinctions between assessment-based certificate programs, certificates of attendance or participation, and professional or personnel certification programs.

Based on the defined purpose, ICE plans to do the following:

*Provide education/training opportunities for all stakeholders*. ICE will develop and provide education/training programs covering the scope of the standard. The targeted audiences for the education/training programs will be: providers of certificate programs, employers, government entities, and stakeholders including accreditation bodies.

In addition, and as noted in previous responses, ICE plans to develop evaluation tools such as checklists or similar items that can be used by stakeholders in evaluating a certificate program against the requirements of the standard.

*Communicate to stakeholders the essential elements of quality certificate programs*. ICE is committed to continue its ongoing efforts to promote *ICE 1100* to the stakeholder community. Examples of promotional efforts will include, but are not limited to: ICE website presence, periodic notice in ICE electronic newsletter, exposure at conferences where ICE exhibits, and presentations at conferences and other events. In addition, ICE will advocate the use of the standard in state and federal guidelines/regulations, when appropriate, and will work side-by-side with stakeholders and accreditation bodies in promoting the standard to all stakeholders.

*Establish and maintain requirements that serve as the basis for accreditation*. ICE has understood from the beginning of this standard development project that the end product would be used by other accreditation bodies as a baseline standard. The goal of drafting the standard was not specifically related to ICE offering an accreditation program, but rather to provide one American National Standard developed through a true open consensus process that serves the best interests of all those directly impacted by the scope of the standard. Now that the standard is completed, ICE has implemented a development project to determine if it will be offering an accreditation program based on the standard.

In addition to the above initiatives, there has been an expressed need from interested parties for ICE to sponsor additional industry specific certificate standards with *ICE 1100* serving as the "umbrella" quality system standard. As an example, specific standards may be developed which define requirements for a given certificate program scope delivered by multiple certificate providers (e.g. CPR certificate programs, Emergency Training Certificate programs, etc). These standards would be used to define requirements for such elements as: learning objectives, review mechanisms, evaluation tools, instructor qualifications, etc. that would be considered appropriate for the given scope of the certificate program.

Ultimately, what is done with the standard and how it is used in national as well as international markets will be driven by the stakeholders impacted by the standard and their needs. ICE is committed to investing the resources to ensure all interested stakeholders are aware of the standard and its value, and have every opportunity to participate in the process to continually improve the standard and develop new standards.

# Attachment A

## *Defining Features of Quality Certification and Assessment-Based Certificate Programs*

Please use the following link:

http://www.credentialingexcellence.org/portals/0/3-9-10%20features%20document%20_ICE%20update_.pdf

# *Attachment B*

## *ICE Standards Development and Maintenance Policies*

Please use the following link:

http://www.credentialingexcellence.org/portals/0/1-21-09%20Final%20SD%20Policies.pdf

# *Attachment C*

# *Matrix Cross-Walking ICE 1100 with a Variety of Technical Guidelines, Standards, and Accreditation Requirements*

**Cross-walk of NOCA Standard for Assessment-Based Certificate Programs with Related Standards, Guidelines, and Accreditation Requirements**

*NOTE: Source and full name of standards, guidelines, and accreditation requirements can be found at the end of Appendix*

| NOCA Standard for Assessment-Based Certificate Programs | Related Standards, Guidelines, Accreditation Requirements |
|---|---|
| **Organizational Structure, Resources, and Responsibilities to Stakeholders**<br>The certificate provider shall be structured so as to give stakeholders confidence in its competence and integrity and shall publish all essential information related to the assessment-based certificate program (hereinafter referred to as certificate program) to ensure that stakeholders understand its purpose, scope, and requirements. | ACCST: Sec I, C; Sec III, B, C; Sec IV, B; Sec VI, D<br>ACEa: #7, items 3, 5, 6<br>ACICS: 3-1-203; 3-1-400; App C as referenced in 3-1-701<br>AERA/APA/NCME: 1.2, 3.2, 4.1, 5.10, 6.3, 6.4, 6.5, 6.7, 6.15, 8.7, 8.10, 8.11, 8.13, 13.10<br>Code: A.1, 2, 3; B.3; C.1, 3, 4; D.1, 4, 7<br>COE: Std 7, Crit 3 and 10; Std 10, Crit 8<br>IACET: 4.4, 6.3 |
| **Conduct and Oversight of Certificate Program Activities**<br>The certificate provider is responsible for all activities performed on its behalf and shall ensure these activities are performed properly by qualified individuals. | ACCST: Sec III, B<br>ACICS: 3-1-202<br>COE: Std 10, Crit 1<br>IACET: 6.1 |
| **Management of Program Records, Documents, and Materials**<br>The certificate provider shall maintain orderly and accurate records, documents, and/or other materials and manage them in a responsible manner. | ACCST: Sec VI, B<br>ACEa: #2, item 2; #5, item 1; #6, item 3<br>ACICS: 3-1-303<br>AERA/APA/NCME: 5.5, 5.6, 5.7, 5.13, 8.5, 8.6<br>Code: B.4, 7; D.5<br>COE: Std 3, Crit 1; Std 10, Crit 3, 4, 7<br>IACET: 9.1, 9.2, 9.4 |

| NOCA Standard for Assessment-Based Certificate Programs | Related Standards, Guidelines, Accreditation Requirements |
|---|---|
| **Quality Assurance and Program Evaluation**<br>The certificate provider shall set quality standards for the certificate program and shall evaluate the program using these standards. | AAHE: Principles 4, 8<br>ACCST: Sec 1, B<br>ACEa: #4, item 2<br>ACICS: 3-1-111, 3-1-113, 3-1-514<br>COE: Std 2, Crit B.2, B.4; Std 3, Crit 5; Std 8, Crit A.3<br>IACET: 10.1, 10.2, 10.3 |
| **Development, Delivery, and Maintenance of Education/Training**<br>The certificate provider shall ensure that the education/training is developed and delivered by qualified individuals and that the content, design, and delivery are suited to the intended learning outcomes and consistent with generally accepted instructional design principles. | ACCST: Sec 3, B<br>ACICS: 3-1-531, 3-1-532, 3-1-541<br>COE: Std 2, B.3; Std 8, A.2, 3; D.3<br>IACET: 4.1, 4.2, 6.1, 7.1, 7.2, 10.4 |
| **Development, Conduct, and Evaluation of Assessments**<br>The certificate provider shall conduct an assessment of participants' accomplishment of the intended learning outcomes and shall ensure that the procedures used to develop and conduct the assessment(s) and to evaluate/score participants' performance are consistent with accepted measurement principles and the intended use of the certificate. | AAHE: Principles 1, 2, 3, 4, 7<br>ACCST: Sec VI, B<br>ACEa: #1, item 1; #2, items 1-2; #3, items 1-2; #4, item 1; #6, item 3<br>ACEb: 13a-b<br>ACICS: 3-1-532; App D as referenced in 3-1-421<br>AERA/APA/NCME: 1.2, 1.6, 1.10, 2.1, 2.10, 2.13, 3.1, 3.2, 3.6, 3.11, 3.13, 3.14, 3.15, 3.19, 3.20, 3.22, 3.23, 3.24, 3.25, 4.1, 4.10, 4.21, 5.1, 5.4, 5.5, 5.6, 5.7, 5.9, 5.10, 6.7, 13.3, 13.5, 13.14<br>CAEL: Assmt of LO, Principle 4<br>Code: A.1, 2, 4, 5; B.1, 4, 5; C.1, 3, 4, 6<br>COE: Std 2, B.3, C.8<br>IACET: 8.1, 8.2, 8.3, 8.9, 13.12 |

| NOCA Standard for Assessment-Based Certificate Programs | Related Standards, Guidelines, Accreditation Requirements |
|---|---|
| **Issuance and Use of Certificates**<br>A certificate shall be issued only in accordance with documented requirements and procedures, and certificate holders shall be informed of the proper uses of the certificate. | ACCSCT: Sec III, D |

AAHE: American Association for Higher Education, *9 Principles of Good Practices for Assessing Learning*

ACCST: Accrediting Commission for Career Schools/Colleges of Technology, *Standards of Accreditation*

ACEa: American Council on Education, *ACE Quality Assessment Questionnaire*

ACEb: American Council on Education, *Course Evaluation Handbook*

ACICS: Accrediting Council for Independent Colleges and Schools, *Accreditation Criteria, Polices, Procedures, and Standards*

AERA/APA/NCME: American Educational Research Association/American Psychological Association/National Council on Measurement in Education, Standards for Educational and Psychological Testing

CAEL: The Council for Adult and Experiential Learning, *Principles of Effectiveness for Serving Adult Learners*

Code: Joint Committee on Testing Practices, *Code of Fair Testing Practices in Education (Test Developers)*

COE: Council on Occupational Education, *Handbook of Accreditation*

IACET: International Association for Continuing Education and Training, *ANSI/IACET Standards for Continuing Education and Training*