

# ACCREDITATION STANDARDS

THE PRIMARY  
SOURCE OF QUALITY  
ASSURANCE FOR  
CERTIFICATIONS

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# ABOUT THE PROJECT



Many workers seek to acquire new skills and credentials that they hope will support their careers. They do so to enter or stay current in their field, obtain promotions, change careers, or find work after a layoff. In the process, however, they face a confusing landscape of credentials—degrees, certificates, certifications, licenses, and badges.<sup>1</sup> Among these, the least understood may be certifications, a type of credential that reliably indicates an individual has acquired the knowledge, skills, and abilities required to perform a specific occupation or job. In all, more than 43 million Americans hold a professional certification or a license.<sup>2</sup> Yet many employers, workers, students, policymakers, and education and workforce development practitioners know little about the use and value of certifications.

The Corporation for a Skilled Workforce, George Washington Institute of Public Policy, and Workcred embarked on a research project to provide an unprecedentedly clear picture of the dimensions, patterns, and trends among certifications, as well as how they currently or could interrelate with other types of credentials. To inform this project, the team conducted research from 2019–2021 on 16 certifications that spanned cybersecurity, healthcare, information technology, and manufacturing, and resulted in **five reports and separate overviews for each certification**.

The first report issued in December 2020, *Understanding Certifications*, is a primer to help policymakers and practitioners navigate the complex and little understood “wild west” of certifications. Three more in-depth issue briefs follow—*Certifications as Tools for Promoting Economic Mobility*, *Accreditation Standards: The Primary Source of Quality Assurance for Certifications*, and *Recertification: A Distinguishing Feature of Certifications*. The final publication, *Certifications: The Ideal, Reality, and Potential*, highlights questions that emerged during the research and topics that need further research. As a set, these reports are intended to help policymakers, practitioners, employers, and funders better understand the characteristics of certifications and their potential to help people enter the labor market for the first time or after a layoff, obtain a career goal, or reskill for a new career.

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- 1 For more information on the types and differences among credentials, see Workcred’s **How do Credentials Differ?** graphic, or view the video, **“Differing Types of Workplace Credentials.”**
  - 2 Cunningham, “Professional Certifications and Occupational Licenses: Evidence from the Current Population Survey” (2019).

## THE FOLLOWING CERTIFICATIONS WERE SELECTED FOR USE IN THIS PROJECT

American Academy of Healthcare Providers in the Addictive Disorders Certified Addiction Specialist

American Healthcare Information Management Association Registered Health Information Technician

American Nursing Credentialing Center Psychiatric-Mental Health Nursing - Board Certified

American Registry for Diagnostic Medical Sonography Registered Diagnostic Medical Sonographer

American Society for Clinical Pathology Board of Certification Medical Laboratory Technician

Association for Supply Chain Management Certified Supply Chain Professional

Behavior Analyst Certification Board Certified Assistant Behavior Analyst

Board for Global EHS Credentialing Certified Industrial Hygienist

CertNexus Certified Ethical Emerging Technologist

CompTIA A+ Core Series

EC-Council Certified Ethical Hacker

(ISC)<sup>2</sup> Certified Information Systems Security Professional

Manufacturing Skills Standards Council Certified Production Technician 4.0

Microsoft Certified Azure Fundamentals

Project Management Institute Certified Associate in Project Management

Smart Automation Certification Alliance Certified Industry 4.0 Associate - Basic Operations



Selection criteria for the certifications studied included:

- » a mix of more established certifications as well as certifications that have been developed recently to address emerging skills and occupations;
- » representation of certifications with a range of educational and experience prerequisites—from entry-level to post-baccalaureate specialization with particular attention to certifications that provide accessibility to workers without a prior college degree;
- » a mix of accredited and non-accredited certification bodies and certifications;
- » an opportunity to study the relationship between industry certifications and academic credentials; and
- » an opportunity to map career pathways.

For each certification, the project team reviewed the certification bodies' websites, and interviewed staff at all of the represented certification bodies. Each interview was conducted using a standard interview protocol and the questions were grouped around the following topics: purpose and scope; assessments and recertification; accreditation and quality assurance; data; employer engagement; candidate outreach; and relationships with educational institutions. In addition, the recommendations in each report are informed by a literature review of certifications and the project team members' experiences working with the certification community.



# INTRODUCTION

Certification quality is often assessed subjectively. This is in part because certification earners, certification issuers, certification consumers, and certification endorsers value certain characteristics of certifications differently, and also in part because these stakeholders look for different evidence of quality and use different methods for assuring quality. In addition, the explosion of new, non-degree credentials increases the difficulty to determine their quality and make decisions about how to value them.

Quality assurance is particularly important for certifications, which are highly diverse in the industries they represent and the organizations that award them. The research underlying this paper, which included interviews with individuals at certification bodies,<sup>3</sup> indicates broad consensus by the certification community that quality certifications are those that align with conformity standards for personnel certifications and are developed specifically for certifications by members of the certification community.



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3 For more information on the project and the certifications studied, see <https://www.workcred.org/Our-Work/Certifications-as-a-Vehicle-for-Increasing-Labor-Market-Mobility.aspx>.



# QUALITY ASSURANCE FRAMEWORKS

There are multiple proposed frameworks to look at quality assurance for certifications. These frameworks largely fall into two categories: process-based and outcome-based. Quality assurance frameworks for certifications may contain elements from both approaches, but often rely on one approach more than the other.

## PROCESS-BASED FRAMEWORKS

Process-based frameworks are typically focused on ensuring that the creation and governance of the credential are transparent and incorporate best practices. For personnel certification issuing bodies—much like higher education institutions—accreditation is the gold standard for process-based frameworks. Certification bodies are usually accredited to one of two voluntary standards: ISO/IEC 17024: 2012, *Conformity assessment—General requirements for bodies operating certification of persons* or the National Commission for Certifying Agencies' (NCCA) *Standards for Accreditation of Certification Programs*. There is also a specialty accreditation for nursing certifications, the Accreditation Board for Specialty Nursing Certification (ABSNC) Standards.

By meeting one of these standards, personnel certifications provide assurance that an individual meets the requirements of a certification scheme, which includes a list of validated competencies relevant to the job or occupation. This assurance is significantly important to employers, and provides them with firm legal standing if subjected to a legal challenge in the hiring process. Furthermore, complying with these accreditation standards provides the confidence that an individual holding the certification met a level of competence through assessments or reassessments. It also provides evidence that certification bodies are operating in a consistent, comparable, and reliable manner, and that the certification scheme they

**The ISO/IEC 17024 standard is a worldwide standard developed for quality for organizations that develop personnel certifications. The International Organization of Standardization (ISO) is a global standards development organization, which has a membership of 165 countries.<sup>4</sup>**

<sup>4</sup> Author's note: the **ISO/IEC 17024 standard** is not the only standard governing personnel certifications. In 1977, the National Commission for Health Certifying Agencies was formed to develop standards for voluntary certification programs in healthcare. In 1989, the name was changed to the **National Commission for Certifying Agencies** to accommodate all professions and industries. In addition, **the ABSNC** is the only accrediting body specifically for nursing certification, with more than 61% of nursing certification programs accredited by ABSNC.

are using includes competency requirements that reflect current practice and that employers and/or governments need. In short, by following national, voluntary consensus standards, certification bodies ensure proper governance processes and the validity and reliability of their certification exams.

## OUTCOME-BASED FRAMEWORKS

Outcome-based frameworks typically focus on individual-level outcomes as the basis for quality. Types of outcomes that these frameworks might incorporate include credential attainment, employment after completion, satisfaction with the credential, and wage changes after completion.

One outcome-based framework for training and credentials which could be applied to certifications has been developed by Education Quality Outcomes Standards Board (EQOS). Their framework focuses on five outcomes: learning, completion, placement, earnings, and satisfaction.<sup>5</sup> Within these outcomes, there are some process-based elements, but overall, the framework examines quality through the benefits accrued by an individual who has completed a training program or credential.

As mentioned previously, frameworks for certifications may contain elements from both approaches. Two quality assurance frameworks that combine process- and outcome-based approaches were developed by the National Skills Coalition and Rutgers Education and Employment Research Center. The National Skills Coalition, in consultation with twelve states and national organizations, developed a consensus definition of quality non-degree credentials and four criteria that states can adopt: job opportunities relevant to credential; evidence of mastery of competency; employment and earnings outcomes; and credential stackability.<sup>6</sup> Three of the four criteria are process-based and



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5 For more information about the EQOS Framework, see [https://img1.wsimg.com/blobby/go/fd25bcaa-0dca-4fc5-96bc-30c8ae4e5867/Quality-Assurance-Standards-January-2018\(3\).pdf](https://img1.wsimg.com/blobby/go/fd25bcaa-0dca-4fc5-96bc-30c8ae4e5867/Quality-Assurance-Standards-January-2018(3).pdf).

6 For more information about the National Skills Coalition Framework, see <https://nationalskillscoalition.org/resource/publications/expanding-opportunities-defining-quality-non-degree-credentials-for-states/>.

one is outcome-based. Of the three process-based criteria, two are well-aligned with ISO/IEC 17024 requirements: job opportunities and evidence of mastery.

Similarly, the Rutgers Education and Employment Research Center elements of quality for non-degree credentials also aligns well with ISO/IEC 17024 requirements.<sup>7</sup> It focuses on four criteria: credential design, acquisition of competencies, market processes for competencies, and educational and employment outcomes.<sup>8</sup> Again, three of the four criteria are process-based and one is outcome-based.

**While certification accreditation standards have much in common, they do have many differences in the processes they examine. Some topics in which there are major differences include: requirements for on-going review and mitigation of impartiality by a certification body; qualification requirements for individuals assessing performance-based exams; acceptance of outsourcing governance functions such as oversight responsibilities; management system requirements for documents and records; and requirements for internal and external audits to improve quality. These differences reflect variations within the certification community about the importance of governance processes.**

While there is significant overlap between voluntary consensus standards like ISO/IEC 17024 and the frameworks developed by EQOS, the National Skills Coalition, and the Rutgers Education and Employment Research Center, one important difference is that the ISO/IEC 17024, NCCA, and ABSNC accreditation standards were developed specifically for certifications. Therefore, they provide significantly more specificity on a number of process-based characteristics relevant to certification (detailed more in the section on Identifying the Characteristics of Quality Certifications) compared with the other frameworks, which were developed more broadly for all non-degree credentials. This specificity has important implications for quality, however, as it offers much greater transparency on the processes that an accredited certification has met. In turn, this transparency provides a very clear signal to individuals and employers about the quality of an accredited certification.

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7 For more information on what the ISO/IEC 17024 standard requirements are, see <https://www.iso.org/standard/52993.html>.

8 For more information about the Rutgers Education and Employment Research Center Framework, see [https://smlr.rutgers.edu/sites/default/files/Documents/Centers/EERC/rutgerseerc\\_ndcquality\\_framework\\_full\\_paper\\_final.pdf](https://smlr.rutgers.edu/sites/default/files/Documents/Centers/EERC/rutgerseerc_ndcquality_framework_full_paper_final.pdf).

# CERTIFICATIONS RELY ON ACCREDITATION STANDARDS AS THE PRIMARY APPROACH TO QUALITY

Certification bodies almost exclusively use a process-based approach to ensure and improve their quality. There are likely three primary reasons for this.

First, accreditation for certifications is primarily process-

based. The purpose of these standards, as described in ISO/IEC 17024, is to specify “requirements which ensure that certification bodies...operate in a consistent, comparable and reliable manner.”<sup>9</sup>

Toward that goal, these standards identify guidelines to ensure confidence that a certified person meets the requirements of a certification scheme. These criteria describe best practices for many of the activities of certification bodies, spanning areas including: responsibility for decision making for certification, general personnel requirements, organizational requirements, resource requirements, management system requirements, and certification process requirements.

Accreditation to one of these standards requires a certification body to submit evidence they have met the requirements of the standard. This typically involves an accreditor conducting a review of the extensive documentation submitted by the certification body to address how they have met the criteria of the standard. It may also involve a site visit from an accreditor for an in-person inspection. Accreditors determine that a certification body is meeting or

**Accreditation plays different roles as a marker of quality for different credentials. As described in this publication, accreditation standards play a central role in defining metrics for quality in certification, despite a minority of certification bodies being accredited. Therefore, accreditation is truly a mark of distinction for certification bodies.**

**However, in higher education, the opposite is true: the vast majority of higher education institutions are accredited, and it serves as a minimum standard of quality for an institution. In fact, institutions which are not accredited are often seen as low-quality, although this is not universally true.**

**Postsecondary education and training providers other than higher education institutions do not fall under any accreditation standard, although some would be eligible to be accredited under ANSI/ASTM E2659-18 *Standard Practice for Certificate Programs*. Similar to certification, accreditation under this standard is a mark of distinction for education and training programs that offer assessment-based certificates.**

9 ISO/IEC 17024 *Conformity assessment—General requirements for bodies operating certification of persons* (2012).



exceeding the best practices outlined in a standard and identify non-conformities. If non-conformities are identified, the certification body can choose to address the non-conformities and the accreditor will determine if the revisions are compliant with the standard.

Second, there is little outcomes data collected on individuals who have certifications. There is no reporting requirement by state or federal agencies on individual-level or aggregate outcomes from certification, and this data is not required for accreditation. Therefore, certification bodies rarely choose to collect this data on their own. Existing outcomes data on certifications is aggregated data on all certifications based on national surveys, or self-reported data collected by certification bodies. This lack of outcomes data severely limits the ability to use outcomes as a measure of quality for certifications.

Third, although a small number of certification bodies are accredited (which we estimate at 10%),<sup>10</sup> certification bodies are certainly influenced by their peers—even certification bodies that are not seeking accreditation typically look to voluntary, conformity standards as their framework for quality. For example, while the Certified Ethical Emerging Technologist™ (CEET) certification is not accredited, CertNexus has used the same approach to develop this certification as their accredited certifications.

Certification bodies also learn from each other through professional socialization. Information sharing and the development of norms occurs through organizations such as the Institute for Credentialing Excellence; Association of Test Publishers; the Council on Licensure, Enforcement and Regulation; the Certification Network Group; and related conferences. Many certification professionals move frequently between organizations as they progress in their careers, and in so doing bring institutional knowledge of best practices from organization to organization.



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10 Good et al., *Understanding Certifications* (2020).



# IDENTIFYING THE CHARACTERISTICS OF QUALITY CERTIFICATIONS

While accreditation is the most easily discerned indicator of a quality certification, there are also quality certifications which are not accredited. Quality certifications often share many, if not all, of the characteristics described below.

## **ENSURING A GOVERNANCE STRUCTURE THAT MINIMIZES THE POTENTIAL FOR CONFLICTS OF INTEREST**

Organizations that award certifications can be industry associations, independent certification bodies, private-sector companies, and (less frequently) government agencies. No matter the form, there is the potential for conflicts of interest between the organization itself and the governance of the certification. Some of the conflicts that organizations must mitigate include conflicts over the generation of revenue from non-certification functions, prioritizing the growth of the certification over the public interest, and the use of the certification as a tool to advance the interests of the parent organization.

For example, if the certification body is a membership organization, governance structures should be in place to guarantee that participating in membership does not offer individuals an advantage when taking a certification assessment. While members may receive a discount on the cost of the exam, members must meet the same prerequisites and take the same exams as non-members. Other common considerations when organizations develop their processes might include ensuring that any fee-based training offered by an organization does not reveal additional information about the assessment or exam, and membership does not offer undue influence in the development of any aspect of the certification program.

Certification bodies can prevent any perceived and potential conflicts of interest by creating a firewall between the certification and the other functions of the organization, typically by having different leadership and staff assigned to each. This ensures that processes involving decisions on individual exceptions from prerequisites or certification revocation are not influenced by non-certification interests. For small certification bodies with few staff, this approach may be a difficult goal, but must be accomplished if the integrity of the certification program is to be maintained. Accreditation under ISO/IEC 17024 requires conducting a formal risk analysis to determine the potential conflict of interest which could result in lack of objectivity and impartiality, and a plan to mitigate or minimize any identified risks. At a minimum, certification bodies should be cognizant of the potential for conflict of interest and state how they are working to minimize it, whether accredited or not.

## DEVELOPING AND MANAGING THE ASSESSMENT TO SUPPORT RELIABILITY, VALIDITY, AND SECURITY

In addition to minimizing any conflicts of interest, certification bodies should also be offering information on the development and management of their assessments. Since certifications are

FIGURE 1



Figure 1 was recreated with permission from Professional Testing, Inc.

meant to provide unbiased evidence of competencies, the development and management of the assessment is central to the quality of a certification. Assessments may be conducted using a variety of formats, such as multiple-choice exams, written exams, and/or project- or performance-based assessments. There are multiple factors which are considered markers of quality in assessment governance.

First, the assessment should meet validity and reliability standards. For certification, these standards ensure that an exam or assessment properly verifies the needed skills for a role or occupation. The development of an assessment that meets these standards include a multi-step process as described in Figure 1 and the following sections.

### JOB TASK ANALYSIS

A job task analysis (JTA) identifies the specific competencies needed by an individual to perform a certain job or set of tasks relevant to an occupation. This analysis typically results in a set of tasks and subtasks associated with a role, as well as the level of knowledge required for each task and subtask. Creating a JTA typically involves professionals, or subject matter experts (SMEs) who work in the occupation of interest to determine the tasks performed and identify critical competencies. This can

be done as a two-part process which involves the creation of an initial task list followed by a validation survey in which practitioners rate the frequency, importance, and criticality of each task.

Developing a thorough JTA is central to a quality certification because an assessment cannot properly differentiate if someone has the competencies to perform a particular job if the competencies relevant to that job are not correctly identified and validated.

## **SUBJECT MATTER EXPERT INVOLVEMENT**

SMEs provide first-hand, industry-specific, contextualized knowledge of the competencies needed to effectively perform in a role. SMEs are involved in multiple aspects of assessment development including the JTA, exam item development, exam design, and the cut score analysis, as described in the subsequent sections. While all certification bodies involve SMEs in the development of the certification, there should be significant transparency offered on the role SMEs play in assessment development, the professional background of SMEs, how many SMEs were involved, and other relevant information. Many certification bodies will name the SMEs involved in assessment development, as well as their affiliations. This level of transparency provides assurance that the certification properly assesses the competencies needed in an occupation as well as offering transparency on any potential conflicts of interest that those SMEs may have.

Ideally, quality assessments include a set of SMEs who are directly involved in the development of the assessments, as well as another set of SMEs to validate the decisions made by the first set of SMEs.

## **TEST BLUEPRINT CREATION**

Test blueprints provide a plan for what the exam will measure. These blueprints support the development of exams which reflect the competencies being assessed, incorporate varying levels of difficulty, and properly weigh the exam questions to reflect the content being assessed. However, test blueprints do not provide direct information on exam questions or answers, only the topics being assessed. In addition to guiding the development of an exam, test blueprints can also serve as a guide for test-takers, as many certification bodies make their test blueprints publicly available. This provides advance notice of the topics being tested, what documents/activities can be referenced to learn/develop those competencies, and what percent of the assessment will be focused on those various topics.

## **ITEM DEVELOPMENT**

Item development is the process of writing, reviewing, and editing exam questions. Item development is done by SMEs who have either been trained to write assessment questions or who are participating in a workshop under the supervision of a psychometrician, an individual who has earned a Ph.D. in the science of exam development and testing. Each item (or exam question) is carefully examined for technical accuracy, bias, and correctness. Only items which are psychometrically sound—that is, they meet the criteria of being fair, valid, and legally defensible—are

included in the certification exam. These items are then placed in an “item pool” and categorized by topic to be used in assessments.

Certification bodies should carefully describe the process they use for item development for certification exams, including the involvement of SMEs and psychometricians.

## **TEST DESIGN**

The type of assessment developed should be appropriate to the competencies being assessed. Exam design can be wide-ranging and include multiple-choice questions, oral assessments, and/or performance-based exams. The design should ensure that every candidate is assessed on a common set of knowledge, skills, and abilities. The design should also reflect the JTA in terms of the content areas and the number of items in each area.

## **SETTING CUT SCORE**

Setting a cut score is the process of determining the amount of correct answers needed to pass an assessment. It is meant to distinguish candidates who are competent in their occupation from those who are not. Setting the cut score typically involves SMEs who will rate the questions and/or exam, and will often involve piloting the exam. It also involves a psychometrician who can perform the necessary statistical analysis to determine the cut score and the standard error of measurement, which allows some flexibility in determining the cut score. Certification bodies should be able to demonstrate that an appropriate methodology was used to develop a cut score in order for the exam to be considered valid, fair, and legally defensible—and ultimately quality.

## **ADMINISTRATION OF EXAM PROCESSES**

Additionally, a certification body must be diligent in maintaining the security of the assessment, as well as exam administration. To maintain security during the assessment development process, SMEs are typically required to sign confidentiality agreements. In addition, proctoring, the process of overseeing the administration of the exam, is essential to maintain security during test administration. In-person assessments are considered to be the most secure approach, but remote, online assessments are also widely used. While there is an inherent trade-off between accessibility and security, the COVID-19 pandemic has increased the use of online offerings of certification exams by certification bodies, which is not likely to dissipate after it ends.

Both of these exam administration approaches typically incorporate these security processes: identification check using a government-issued ID, in-person or remote exam proctors, a limited environment to minimize opportunities for dishonesty, and processes to ensure exam items are not removed from the testing facility. Certification bodies should outline their security procedures and expectations for candidates to comply with those procedures when registering for an exam. While some certification bodies choose to personally oversee all security aspects, others work with well-established vendors to provide access to an exam.

## **ASSURING CERTIFIED PERSONS HAVE PROVEN SKILLS**

Quality certifications should be transparent about processes they have implemented to guarantee that certified persons have proven, relevant skills. This assurance process should include several, if not all, of the elements below.

### **REQUIRED PREREQUISITES**

Prerequisites are intended to ensure that exam candidates have equivalent backgrounds to support passing the exam, and minimize individuals from taking the exam who are unlikely to pass it.

Typical prerequisites include: holding an existing certification, completing post-secondary education requirements, obtaining work experience, or a combination of two or more of these.

For certifications that have prerequisites, there is often a process for an individual to provide evidence he/she has met those prerequisites before sitting for an exam, and there may be a fee associated with that process.

Some certifications validate prerequisites, while others do not. Certification bodies that have validated prerequisites have developed a body of evidence to reflect that their prerequisites support equivalency of background for the exam. This validation is important as prerequisites are not meant to serve as a barrier for accessibility for the exam. Prerequisite validation is generally determined using two approaches: first, using the JTA to determine the background knowledge and experience required for success in an occupation; second, using correlations between exam candidate backgrounds and pass/fail rates.

### **SME INVOLVEMENT**

As previously discussed, SMEs are extremely important in providing assurance that a certification has properly identified the relevant competencies as well as an assessment which examines those competencies. At a minimum, SMEs should be directly involved in the JTA and item development.

### **EXAM UPDATES**

Certification bodies should have a process and a timeline for regular updates to the certification exam. Both the process and the updates should be informed by SMEs. For example, in occupations where change is rapidly occurring, like information technology, updates may be needed as newer versions of software packages are released, rather than on a set timeframe. SMEs are in the best position to identify which certifications are best served by which type of approach, as it may vary from certification to certification even within an industry.

While updates may not require the development of a new JTA, the certification body should still seek SME input to determine if a test blueprint needs to be changed, and will certainly require SME input if new exam items need to be written. If relevant to the occupation, test blueprints should also be



correlated with the scopes and standards of practice recognized by that occupation's professional association. Even in well-established professions not significantly impacted by technology, certification bodies should have a planned timeline to review their certifications for currency and relevance in order to provide assurance that certification holders continue to be qualified in the competencies relevant to their occupations.

**CompTIA's A+ certification history reflects the change in the tasks performed by entry-level workers in IT.<sup>11</sup> When first developed in the early 1990s, it focused on personal computer components and repair, including floppy disk drives and CD-ROMs. Since then CompTIA has updated its A+ certification seven times, with the latest update focusing on enabling users and devices to access the data needed to securely accomplish a task, and includes competencies related to cloud computing, cybersecurity, and networking. For CompTIA, each update of the A+ certification means that it has gone through another cycle of their exam development lifecycle, which begins with updating the JTA and ends with retiring the previous exam.<sup>12</sup> These regular updates in the A+ certification reflect the significant changes in computer technology over the last 30 years, and the unique approach of certifications to supporting life-long learning and up-to-date skills.**

## RECERTIFICATION

While recertification serves multiple purposes, one of the most important is assurance of continued competency of a certified person. Recertification typically involves re-examination or participation in professional development activities.<sup>13</sup> If the latter, these activities should be outlined clearly by the certification body. If there are any physical capacity issues in performing the occupation/role/profession, a health examination might also be required. Therefore, transparency on the recertification process allows all certification stakeholders to understand how certified persons maintain their competence.

## CERTIFICATION REVOCATION

While certifications are time-limited, they can also be revoked by certification bodies.<sup>14</sup> Typically, this revocation is done in response to unethical or improper/incompetent behavior either during the certification/recertification process or during the practice of their profession. Given the role of certification in ensuring the competency and proper conduct of certified persons—especially

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11 McCraw, "CompTIA A+: From PC Repair to Problem Solving in 26 Years" (2019).

12 Watters, "Exam Development, Launch and Retirement: Everything You Ever Wanted to Know About CompTIA Exams" (2021).

13 Albert et al., *Recertification: A Distinguishing Feature of Certifications* (2022).

14 Good et al., *Understanding Certifications* (2020).

personnel critical to public safety—revocation is an important element of certification quality assurance.

Revocation is typically considered a serious action. For this reason, quality certification bodies will provide transparency on their revocation process, as well as the types of actions that could prompt a revocation. The revocation process is a legal procedure which typically includes a fact-finding process, an explanation of who is involved in the decision, as well as an appeal process after the decision is made.<sup>15</sup>

Combined, these three distinguishing characteristics—a governance structure which minimizes potential for conflicts of interest, assessment development and management which supports reliability, validity, and security, and an assurance process that certified persons have proven skills—provide essential signals of certification quality to individuals and employers. For this reason, many certification bodies will address these characteristics on their websites, ensuring they are publicly available, though the lack of this information on a website does not mean that a certification lacks quality. Therefore, in the absence of accreditation, transparency on these characteristics can provide evidence of quality.

**One unique characteristic of certifications is that they are a legally defensible credential that can be used by employers as part of the hiring process. Their ability to be used depends on the quality of their assessment development and management processes, which must create assessments that are unbiased and fair to all groups.<sup>16</sup>**

**Quality certification assessments are developed and maintained using practices that should meet the relevant employment laws and regulations. For example, one practice is that employment-related assessments should measure competencies relevant to a specific occupation and records should be maintained on the job-relatedness of exams. Certifications with a thoroughly done JTA would meet this required practice if certification bodies have maintained the proper records. Accredited certifications are very likely to meet the relevant employment laws and regulations, making accreditation an important signal of legal defensibility to workers and employers.**

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15 Author's note: because licensure and the ability to practice in a profession can be dependent on certification, the impact of certification revocation can be complex. Even though a state may use a certification as a basis for a state license, certification bodies and state licensure boards independently conduct their own revocation processes. This can potentially result in the revocation of a license but not a certification, which means that an individual will be eligible to practice that occupation in a state that does not have licensure requirements.

16 U.S. Department of Labor, "Understanding the Legal Context of Assessment—Employment Laws and Regulations with Implications for Assessment" (1999).

# CONCLUSION

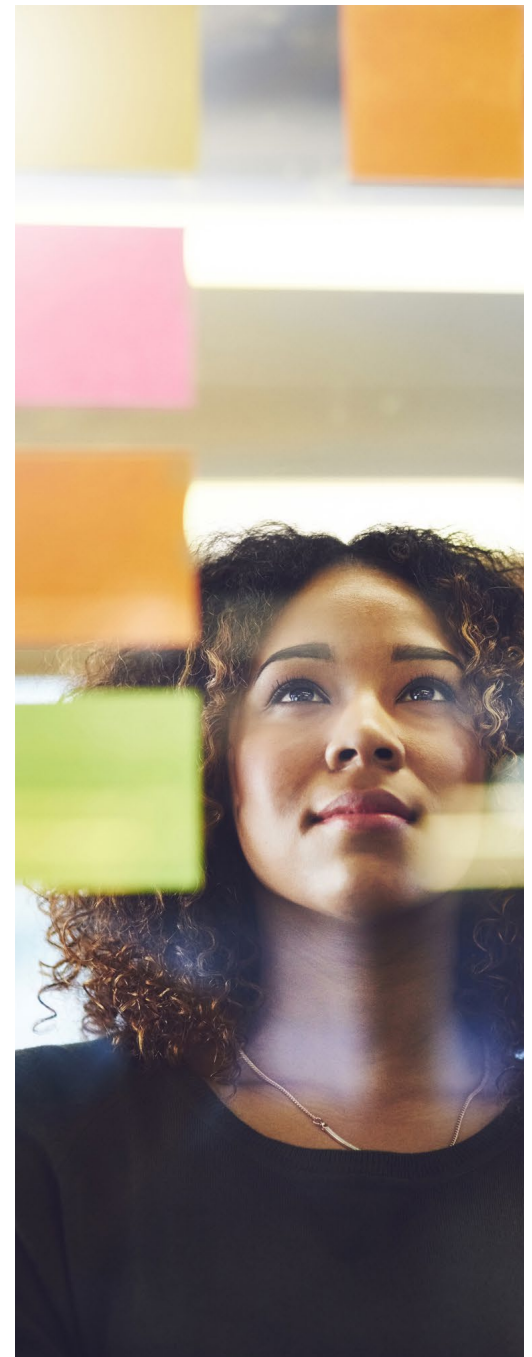
Since quality is mainly a process-based approach for most certifications, it is largely influenced by the elements which are detailed in accreditation standards. While only a small percentage of certifications are accredited, the elements of accreditation standards undoubtedly influence all certification bodies. And as an internationally-recognized standard, ISO/IEC 17024 has global influence. As additional countries adopt this accreditation standard for personnel certification, it supports the development and mobility of a global workforce.

However, given the vast number of unaccredited certifications, there is room for additional reflection and transparency for the majority of certifications. As mentioned before as part of this project, 16 certification bodies provided data on their quality processes in interviews to supplement their publicly-available information.<sup>17</sup> Combined, this information provided an in-depth understanding of their quality processes. All certification bodies would benefit by providing detailed information on quality processes on their websites to distinguish their efforts as well and increase confidence in their certifications.

Moreover, although the accreditation standards are an excellent framework to examine quality, they would be complemented by robust data on completion, educational, employment, and/or earnings outcomes after a certification is earned, or an outcome-based approach. This long-term, combined approach to quality would benefit all certification bodies, as it would reflect the positive impacts of certification on education, wages, and employment outcomes.

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<sup>17</sup> For more information on the 16 certifications studied as part of this project, see <https://share.ansi.org/wc/Shared%20Documents/Workcred-Reports/Understanding-Certifications-Study/Certification-Overviews>.



# RECOMMENDATIONS

Many certification bodies—accredited and unaccredited—have processes they follow to develop quality certifications. Regardless of existing activities, we recommend three additional ways that might further improve the quality of certifications.

## **MAKE OUTCOMES DATA PUBLICLY AVAILABLE**

Reporting outcomes data for certifications will increase the understanding of the quality of a certification. Data which could impact the quality of a certification includes aggregate information on pass rates, demographics, employment outcomes, and wage outcomes. Some of these data are already available for certification bodies. For example, certification bodies could make public the number of certified persons, how many re-certify, and pass rates for exams. This data would offer some limited insight into the demand for a certification, as well as a limited indication of the perceived value by its holders.

More direct insight into the labor-market value of a certification might require additional investment from certification bodies. For example, reporting aggregate demographics of certified persons to understand differences in demand by geography, age, sex, or race/ethnicity may require certification bodies to ask certification candidates for this information. Similarly, reporting on employment outcomes or wage outcomes would likely require a partnership with an entity like the U.S. Census Bureau, which will require some effort to implement. However, this type of partnership would provide gold-standard data on wages and employment, as it would rely on data which is validated by a third party, the U.S. government, rather than survey or other self-reported data. Making these outcomes data publicly available would likely increase the quality of a certification, assuming they reflect a positive impact from earning a certification.

Certification bodies are beginning to adopt this approach, as seen in the pilot being done by the National Student Clearinghouse in partnership with the U.S. Census Bureau, the National Association of Manufacturers/Manufacturing Institute and their national manufacturing organization partners, including the Manufacturing Skill Standards Council (MSSC). This pilot project is linking together academic and industry credential information for the first time, including related aggregate labor-market outcomes.<sup>18</sup> This provides a better understanding of the pathways between education and certification attainment, and helps in identifying quality industry credentials.

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<sup>18</sup> National Student Clearinghouse, "Industry Credentials' Effect on Earning Potential: A Study of Manufacturing Data" (2020).

Workcred is also leading an effort to support a network of more than 30 certification bodies interested in exploring this approach, working with the National Student Clearinghouse and funded by Lumina Foundation.<sup>19</sup> Out of this network, the Board of Certified Safety Professionals has executed an agreement with the National Student Clearinghouse to link their certification data. Following suit, we anticipate additional certification bodies will also join these efforts.

## **DEVELOP AND ADOPT A CERTIFICATION QUALITY ASSURANCE PROCESS WHICH COMBINES PROCESS-AND OUTCOME-BASED APPROACHES**

As detailed in this paper, there is tremendous value in the standards-based accreditation that certifications use for quality assurance. This approach would only be enhanced if outcome metrics were considered a core component of a quality framework for certification.

These outcome metrics would complement the approach currently used by certification bodies, as described in this paper. Outcome metrics would provide evidence that certifications have labor market value, that they support career pathways, and that individuals who hold them are employed in the occupations which they are meant to support.

As outcome metrics become available, they might be an additional data source which is considered as part of an accreditation standard. This would make certification accreditation a quality assurance process which more fully incorporates process- and outcome-based approaches.

## **MORE TRANSPARENCY ON THE DEVELOPMENT PROCESS FOR PERSONNEL CERTIFICATIONS**

Many, although not all, certification bodies provide information on the development process for their certification. This information often includes information on the SMEs involved in exam development, how competencies for a certification are validated, and how new exam questions are developed. Unfortunately, this

**Enabling the ease of sharing, consuming, and validation of a certification through a technology like blockchain supports all three of these recommendations. If certifications (and other non-degree credentials) could be easily shared and validated, it would increase the value to the consumer by reducing the effort needed to prove they hold a certification, as well as to employers, by enabling them to quickly validate the accuracy of the certification.**

**Technologies such as blockchain or other digital credentials could also include other data, such as the competencies which were assessed by the certification, the accreditation status of the certification, or other data reflecting the quality of that credential.**

**If these types of technologies are shown to have value, perhaps a new consideration for quality would be the ability of a certification to be shared using an industry-approved data standard to facilitate their use.**

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<sup>19</sup> For more information about Workcred's data-linking project, see: <https://www.workcred.org/Our-Work/Demonstrate-Value-through-Linking-Data.aspx>.



information can sometimes be challenging to find on a website or may not be publicly available, making it difficult for individuals to distinguish between quality certifications where certification bodies have invested significant resources in developing a relevant, up-to-date assessments with validated questions and those with a less rigorous assessment development process.

Certification bodies should provide more transparency on the development process for their certifications by ensuring this information is publicly available and easily found. As a starting point, certifications should make clear which accreditation standards, if any, their certifications meet. Furthermore, whether or not they are accredited, certification bodies should clearly outline their assessment development process and any relevant data/metrics. For example, the JTA should be made available along with a list of who was involved in developing it, when it was initially developed, and when it was last updated. Currently, it is often unclear whether the lack of easily found information is because a certification assessment lacks rigor in its development or the information is just buried on a website. By providing easily available information on these two items—accreditation status and assessment development processes—individuals will be better able to judge the quality of a certification.



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