

Certification: Context and Development

by Caryl Cox and Jack McKillip

In this age of rapid technological advance and industrial innovation, few professions remain static. To the contrary, professions change, shift, evolve, and mutate. New job titles and responsibilities that are essential in today's workplace didn't exist a few years ago. Professionals find themselves in the position of having to learn new, often computer-based skills in order to accomplish old tasks. Old skills and outdated knowledge are continuously replaced with new ways of accomplishing tasks and solving problems.

Many professions have met the challenge of keeping pace with the evolving demands of their work by instituting professional certification programs. The decision on whether this is a worthwhile endeavor is best made with a full appreciation of what certification can offer and what is required

to make the program effective. We have addressed some of these issues in a model for certification called the **Certification Cycle**, a name reflecting a process that is ideally both dynamic and recursive (feeding back). Optimally, certification is a means to remain current, vital, and competitive at a time when fast-moving technological innovations are a constant challenge to the understood definitions of the roles a profession plays in today's workplace.

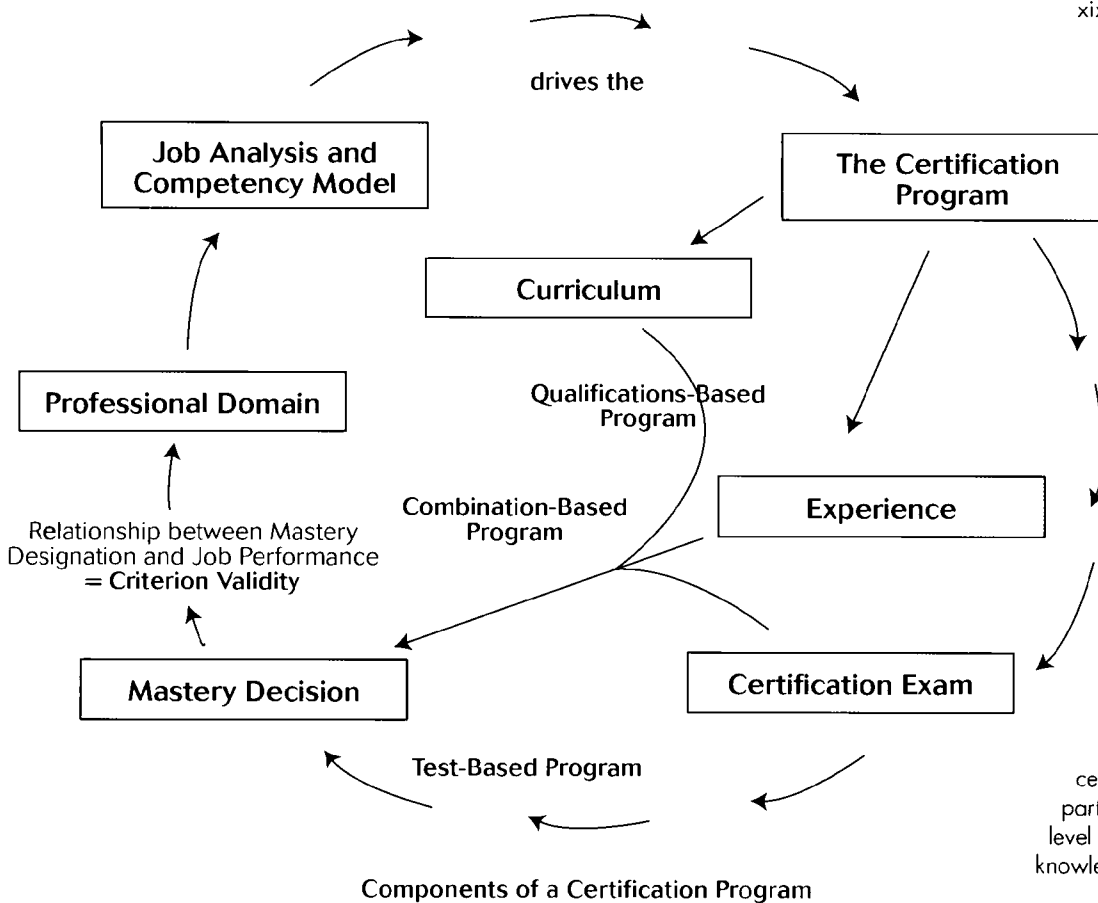
A certification program potentially offers benefits to employers, certified professionals, and customers. Employers gain an indication of employee skills and may realize an increase in efficiency of operation. Customers are assured that a highly competent professional is addressing their concerns. And, the certified

professional has potential for increased salary and prestige. Furthermore, many professional certification programs guarantee a means for remaining current in the profession through periodic recertification or ongoing education.

However, these benefits are not automatic. The success of certification rests on both credibility and marketing. A credible certification program is a guarantee of advanced competence in required knowledge, skills, and professional judgment. A lack of rigor and standards in any certification program casts doubt on the value of this credential for all professions. This concern was clearly voiced by Frederick Hunt (president of the Society of Professional Benefits Administrators), who writes, "we find that so many accreditations are fluff or mere member-retention that the whole idea is getting tarnished." (As found in P.A. Barnhart's *A Guide to National Professional Certification Programs*, p. xix. Human Resources Development Press, Amhurst, Massachusetts, 1994).

Certification standards revolve around *mastery* or advanced levels of performance. Achieving an advanced level of performance usually requires some job experience; thus professionals typically must practice in the field for a period of time before acquiring a level of mastery necessary for certification. In most cases, the certifying body is a professional organization independent of particular educational institutions. Thus, the certification often represents a third-party endorsement of an individual's level of professional skill and knowledge.

The Certification Cycle



Some professions pursuing the question of certification may discover that it is difficult or impossible to identify a common body of professional knowledge and skills. This begs the key question in implementing a certification program: "What does it take to become one of us?" The "us" must be definable. For some professions, there may be little consensus with respect to the answer, making certification unfeasible.

Types of Certifications

Certification falls into three broad categories. A **qualifications-based** certification requires certain training, such as academic or profession-sponsored course work, specific degrees, and/or on-the-job experience, perhaps coupled with letters of endorsement from job supervisors. These various criteria may be rated on a point system that allows for more than one avenue for meeting standards for certification. For example, 10 years in a profession, a satisfactory supervisor review, but without a specific degree may be accorded the same number of points as five years in the profession, a satisfactory supervisor review, with the degree. Furthermore, there is no single objective evaluation of the candidate. This means there is no guarantee that the certification is a real indication of work-related competence based on the comparison of a sample of the candidate's demonstrated skills to an absolute standard.

A **test-based** certification program requires achieving a certain score on an exam, though there may be no formal prerequisites for being able to take the exam. The exam is aimed at measuring a range of professional knowledge, skills, and judgments reflecting common job content. Sound exam questions and an appropriate cutoff score reflecting mastery are of fundamental importance to a meaningful test-based certification program, especially in the absence of other prerequisite qualifications.

A **combination-based** certification is both qualifications- and test-based. This type of certification requires achieving or exceeding a mastery score on an exam in addition to fulfilling other requirements. These requirements may be academic or association-sponsored coursework, specific academic degrees, sponsorship by a supervisor or certified professional, evidence of professional development, or a minimum number of years as a practicing professional.

Certification Development

The figure on the facing page represents the stages of the certification cycle and reflects the dynamic nature of the certification process. What follows is a summary of this process.

Professional Domain: The certification cycle has as its cornerstone the professional domain, which is defined as all the jobs that fill the breadth and scope of a profession. Since most certifications are affiliated with a professional association or associations, the task of *formally* defining the profession and keeping up with changes typically falls to the association. While the professional domain dictates the broadest parameters of the certification, specific jobs as well as professions can be certified. Within the profession of real estate, for example, there are no fewer than 19 certification programs, each tapping a different aspect of the sale or lease of landed property.

A carefully planned certification program provides a prescribed vehicle for tapping the pulse of a profession by periodic and formative evaluation of the roles and responsibilities of its professionals in the workplace. This information can then be used in a continuous prescription for planned growth and directed evolution of that profession.

Job Analysis: Many professions reflect a tremendous expanse of services, responsibilities, and content. The multitude of jobs falling within a profession can be delineated by a job analysis. The purpose of a job analysis is to systematically document common task areas within a profession by separating and weighing those tasks in a variety of settings, organizations, and regions. A reference librarian, for example, may perform similar tasks whether employed in an academic institution, a law firm, or a court library. The goal of the analysis is to define a common body of knowledge, skills and responsibilities that will form the core of a certification program. A carefully conducted job analysis is fundamental to establishing a strong correspondence of standards and skills across professional education, assessment, development, and employment domains.

Competency Model: The *Standards for Educational and Psychological Testing* from the American Educational Research Association, the American Psychological Association, and the National Council on

Credentialing Survey Mailed to AALL Members

AALL's Professional Development Committee Subcommittee on Credentialing has developed a questionnaire that examines the issue of credentialing for the profession of law librarianship. Credentialing has been an ongoing topic of debate within AALL and the results of this survey will include an analysis of whether a credentialing program is appropriate for the profession.

Subcommittee members are Kay Todd, Chair; Penny Hazelton; and Dick Danner. President Judy Meadows, Executive Director Roger Parent, Director of Programs Martha Brown, and Educational Program Coordinator Lara Koban worked with the committee. Caryl Cox, Ph.D., and Jack McKillip, Ph.D., from The Center for the Study of Certification in Carbondale, Illinois, served as consultants.

The Center for the Study of Certification, located in Carbondale, Illinois, provides a wide range of services with regard to professional certification. Dr. Cox and Dr. McKillip bring expertise in areas such as program evaluation, need and statistical analysis. They have substantial experience in assisting professions to define credentialing issues and processes, and to assess the values of a credentialing program.

During the last week of October, approximately 1200 surveys were mailed to a random sample of AALL members. About 10% of the surveys went to Chapter members who are not AALL members.

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Measurement in Education (American Psychological Association, Washington, D.C., 1985) states that the content covered in a certification or exam must be established in terms of its importance to competent performance. What makes up competent performance? For purposes of a certification program, not only must relevant knowledge and skills be identified by a job analysis, but also how well, under what circumstances, and in what combination the knowledge and skills are important to competent job performance. A competency model is established by operationally defining an appropriate level of work effectiveness. In an academic law library, for example, a job analyst may find that the skill "teaches legal research methods to law students" is an important component of an academic law librarian's job. The measure for this skill may be a weighted combination of an evaluation form rating quality of teaching a legal research class and the average grade assigned in that class. "Competent" may be defined as scoring at the 75th percentile or higher on that measure.

Certification Program Components:
Curriculum:

Many certification programs require both professional experience and specific coursework or academic degrees. Typically certification curricula consist of some formal schooling, such as a specific degree or coursework, as well as specifically designed training in the form of workshops or association-sponsored continuing education units. Once a job analysis has been conducted and the purpose of the certification program is established, a curriculum is designed and implemented (or augmented in the case of an existing curriculum) in order to address the knowledge/skills core established by the job analysis and competency model. This is accomplished by constructing instructional objectives, that is, statements of the type of behavior certified professionals should be able to exhibit in order to demonstrate a high level of competence. These objectives include the performance to be mastered, a specification of conditions under which the task must be performed, and a standard against which the task will be measured.

An advantage to designing a curriculum on the basis of data generated from a job analysis is that important theoretical aspects of the job can be identified and

formally incorporated into a curriculum. K.E. Carlisle, in *Analyzing Jobs and Tasks* (Educational Technology Publications, Englewood Cliffs, New Jersey, 1986), points out that this can make the critical difference between an average employee and a highly competent one. Job analyses reveal job tasks that may be on the one hand ubiquitous within a profession or field, but also poorly defined, unstandardized, or not taught formally. They may also reveal skills that are formally taught, but are fundamentally unimportant to the job. This gives curriculum designers an opportunity to clarify and formalize a method for teaching those tasks. In short, a job analysis can help curriculum designers determine the primary content, appropriate level, prerequisites and experience necessary, and optimal format for the certification program.

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Exam:

A second prong in the certification process is the assessment of job-related skills and competencies. Instructional objectives used for implementation of a curriculum are also used to create test specifications from which exam items are written. These specifications are important for further describing and clarifying the specific behaviors being measured in the certification examination. A test specification may include the following: a general description of the behavior being measured, a description of the eligible range of content, a sample test item, and response attributes, which include a discussion of correct answers and distractors. The value of test specifications is that they help insure

that exam items *link logically* with the objectives written from the job analysis.

The format for certification examinations can be anywhere from multiple choice, true-false, and essay or short answer, to adaptive tests using simulations and multiple ratings. Whatever the case, *The Standards* specify that the content of the examination be clearly explained in terms of its importance to competent professional performance and its relevance to the purpose of the certification program, i.e., tied to a job analysis. Not only must the exam exhibit these and other psychometric objectives (reliability, validity, a lack of item or test bias) covered in *The Standards*, but it must also incorporate any changes occurring within the certified profession. As such, the exam itself requires periodic psychometric evaluation.

Mastery Decision:

The decision to grant the certification rests on meeting predetermined standards. These standards exist in both test-based and qualifications/combination-based certification programs. In qualifications-based programs, the standard is often a set number of points indicating that certain criteria in education, professional development, and professional experience have been met. In test-based and combination-based certification programs, the ultimate decision to grant the certification is based on achieving or exceeding a predetermined "mastery" score on the certification exam or exams. Determining this absolute standard and translating it into a cut score (the score below which certification is not granted) is perhaps the most important and difficult aspect of certification-related test construction. Too low a cut-score results in the admission of some to mastery status that are unqualified for that designation, thus diluting the value of the credential. Too high a cut-score has the opposite effect, precluding the granting of certification to some who are by all other reasonable measures deserving of that status. Several methods are available to establish a meaningful cut-score.

Certification Validity

Establishing the validity of any certification program is an indirect process. Ideally, there exists some criterion independent of the certification process that serves to corroborate mastery decisions. The ability to demonstrate a positive link between mastery designation and on-the-job

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performance is a crucial indication of the usefulness of a certification program. This link is called criterion-related validity. One very useful criterion for evaluating a certification program is the judgment of the employer of the certified individual, since the employer is the ultimate consumer of the certification program. (This is discussed in "Strengthening the Criterion-related Validity of Professional Certifications" in our forthcoming book, *Evaluation and Program Planning*.) The validity of the mastery decision, and hence the entire certification program is underscored when the employer is able to say, unequivocally, that the performance of the certified professional is superior to that of the uncertified professional.

More and more employers are recognizing the value of certification to their bottom lines, and turning to certified professionals with an eye towards increased competitiveness in the marketplace. However, as Barnhart points out in his 1994 *Guide to National Professional*

Certification Programs, it is up to the profession to create a demand for its certification by marketing its standards for professionalism and quality. He notes that many companies don't include professional certification throughout their organization because "certifying organizations haven't torn down the walls between their professions and the people hiring the professionals" (p. xviii). Without a marketing plan, even the most carefully laid out certification program has no guarantee of success. This is especially true in situations where human resources personnel or senior managers don't really understand the scope or demands of a profession or the benefit they can realize by hiring certified professionals who have met clear standards for advanced levels of performance.

Summary

There are multiple types of certifications, each with strengths and weaknesses. Qualifications-based certification programs

require candidates to meet predetermined education and/or professional development criteria, though there is no single objective evaluation of the candidate's professional competency. A test-based program includes competency standards, but may require little in the way of professional experience or other indications of professional development. The combination-based certification program includes both qualifications criteria and test-based competency standards. This often represents a rigorous but time-consuming path towards certification.

Regardless of the type, the successful certification program is a process that requires a continuous evaluation of the profession, the certification criteria, and the mastery standards. This process is reflected in the certification cycle.

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