



Performance Standards and Specifications in the Library Economy

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BECAUSE THE TERMINOLOGY of standards work is extensive, sometimes overlapping, and occasionally confusing, some definition of the terms to be used in this discussion will be helpful.

A *standard*, according to *Webster's New World Dictionary*, is "something established for use as a rule or basis of comparison in measuring or judging capacity, quantity, content, extent, value, quality, etc." The term has been more precisely defined for the varied contexts in which it is used in the standardization activities of business, industry, and science. For the present purpose, the following definition will serve: "Standards are documents which are formulated by agreement, authority, or custom of sponsors, to define a product, material, process, or procedure, quality, construction, operating characteristics, performance, nomenclature, and other like facts."¹

This definition recognizes two special attributes of a standard: (1) it is a written statement, and (2) it must be established by some recognized authority. In many cases a standard is an attempt to solve a recurring problem. In many cases, too, a standard is based upon a specification. This is not to say that standards and specifications are the same, although the close relationship between them gives rise to the fact that the two terms are often used interchangeably.

A "specification" is frequently defined as "a concise statement of the requirements for a material, process, method, procedure, or service including, whenever possible, the exact procedure by which it can be determined that the conditions are not within the tolerances specified in the statement."² Two principal types of specifications are recognized in standards work: (1) "objective specifications," which specify the requirements of an objective, and (2) "means specifications," which indicate the means or methods by which the objective may be attained.

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Within these two groups are included design specifications, manufacturing specifications, quality control specifications, and others.

Although existing specifications often provide a basis upon which standards can be developed, such development is not an automatic process, as later discussion will show. On the other hand, there are situations in which the development of standards precedes the development of specifications. In such instances, standards are usually statements of desired performance, which serve to guide producers in formulating manufacturing specifications. "Performance standards," which originate as performance (objective) specifications, describe the results to be achieved rather than the means of accomplishment. Standards of this type are of great importance to the consumer because he is primarily interested in how well a product performs rather than in how it is made. The librarian who purchases a photocopier, for example, is interested in how effectively the machine copies books and other materials, in how economical it is to operate, and in how long it will last. He is not concerned about how the machine is fabricated.

Standards expressed in terms of performance are not new to the general field of standardization. Indeed, standards, which in some way indicated the quality to be expected of a given product, may be traced back to ancient times. Thus, Tyrian purple and Damascus steel were associated in the user's mind with the highest quality. In our own age, standards of quality (performance) for food and drugs have become familiar to everyone.

Largely because of their complexity, standards for other types of consumer products have been given less attention than standards for food and drugs. This same complexity makes it difficult for the consumer to determine, before he purchases a product, what its characteristics are, how well it will serve the purpose for which he needs it, and how long it will fulfill its expected function before it wears out and needs replacing. The more complex the product, the more unlikely it is that the consumer will have sufficient knowledge to evaluate its probable performance. As a result, consumer losses traceable to inefficient and wasteful buying have been estimated to range from 10 to 25 per cent.³ The true amount of such losses is probably not important, but it is important to recognize that carefully developed performance standards would do much to help the consumer make better, more economical purchases.

Because librarians are consumers, the problem of performance standards has important implications for the library economy. Recog-

nition of the need for standards, as a means of supplying better information about library equipment and supplies, provided in part the justification for the Library Technology Project. In his report to the American Library Association on the feasibility of the Project, John Ottemiller stated: "There can be no doubt that librarians will welcome a standards program. There is sufficient evidence of indiscriminate and faulty buying to support this opinion."⁴ The Council on Library Resources emphasized the importance of standards, in the title of the grant: "Library Technology—a Program for Testing and Standardization of Library Equipment, Supplies, and Systems." As a result, the Project came into existence with the responsibility for undertaking the development of standards and specifications useful to the library profession.

Heretofore, librarians' interest in standards and specifications has been directed chiefly to standards for service, although there have been occasional efforts to develop standards for library equipment and supplies. Melvil Dewey, for example, undertook to standardize the dimensions of the catalog card at 12.5 × 7.5 cms. as early as 1877. Since that date, specifications have been developed for other aspects of a catalog card, but these have never been established as standards.

In June 1934, the "Minimum Specifications for Class A Library Binding,"⁵ prepared jointly by the Bookbinding Committee of ALA and the Employing Bookbinders Section of the Book Manufacturers' Institute, were approved by the Council of the American Library Association. Although ALA approved several revisions of the Class A specifications they were not formally designated as a standard until 1958, when they were issued as the *Library Binding Institute Standard for Library Binding*.⁶

Attempts to standardize library equipment and supplies have been limited, however, and it was not until 1940, when the American Standards Association Sectional Committee Z39, on Library Work and Documentation, was sponsored by ALA, that any formal recognition was given to the importance of developing standards for library consumer goods. In 1960, twenty years later, ASA Sectional Committee Z85, was formed under the sponsorship of ALA's Library Technology Project, and arrangements were made for the new committee to assume responsibility for developing standards for library equipment and supplies.

Standards and specifications are not self-generating. In fact, a considerable investment of money, the cooperation and effort of many

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people, and much patience are needed to produce an effective standard. Usually a standardization program includes three stages: (1) developing the standard, (2) establishing the standard, and (3) putting the standard to use.⁷

No standard should be developed except in response to a definite need. The need may be obvious. If not, the identification of those characteristics with which the consumer is most concerned will usually help in determining the extent of the need. Such characteristics may or may not be evident. For example, the importance of the durability of the finish on library furniture, the rigidity of the legs on library tables, the stability of steel bookstacks, and the degree of resolution of the lens of a microfilm reader is obvious to everyone. On the other hand, as in the case of a book pocket, the performance characteristics desired by the library consumer may be less evident.

After the characteristics of the product have been determined and the need for the standard confirmed, the factors to be used in measuring performance must be known. To illustrate, in LTP's work in establishing standards for catalog cards, high initial strength was recognized as an important element in the performance of a good card stock before the factors of folding endurance and tear resistance, which best measure such strength, were identified.

The identification of the factors to be used in determining performance is useless, however, unless these factors are measurable. Such measurements may be relatively simple, as in the case of measuring the temperature and humidity that determine the efficiency of the air conditioning system in a rare book vault. Measuring the durability of a bookbinding, on the other hand, presents such an unusually difficult problem that the W. J. Barrow Research Laboratory was obliged to design and build completely new testing equipment as the first step in the current ALA-SLA program to develop performance standards for library binding. This problem alone required an expenditure of nearly \$25,000 and eight months of work.

Whether suitable equipment for measuring the characteristics of a product exists or must be designed and built, economical, practical test methods must be available in order to determine whether or not a given product actually meets the standard. Testing procedures so complex that they require costly apparatus and highly trained technicians can make it difficult or even impossible to obtain acceptance and use of a standard, no matter how much it may be needed.

Although the tests used to measure the performance of consumer

goods should be as objective as possible, subjective evaluations are sometimes necessary. At present, for example, there is no acceptable laboratory test for measuring the erasability of a catalog card. Hence, the evaluation of this factor depends upon the subjective opinions of the technical director in the paper mill, the purchasing agent for the supplier, and finally the library user.

In some cases, measurements of the characteristics of consumer goods require tests that will indicate quickly the performance to be expected over a long period. Thus, in an evaluation of the performance of paper, it is not enough to determine the initial strength of the sheet; it is also important to determine how long the paper will retain this initial strength. Tests which provide this information are usually called "accelerated aging" tests. Such tests are considered reliable for many practical purposes, including the evaluation of permanence in certain types of book paper. In other instances, as with the polyvinyl acetate adhesives used in adhesive-bound books, research results have not been conclusive enough to make accelerated aging tests acceptable.

When the need for a given standard has been confirmed, the specifications carefully prepared, and the test results checked and rechecked, the development of a performance standard moves out of the laboratory and into the conference room. Here, based upon the technical data developed in the laboratory, the actual standard is worked out.

By definition, standards are documents formulated by agreement, authority, or custom. Those standards established by general consent result from the voluntary agreement of the parties concerned. To make such standards truly representative, the American Standards Association requires that committee membership be properly balanced between producer and consumer interests. Thus, ASA Sectional Committee Z85 consists of an equal number of representatives from the manufacturers of library equipment and from the several library associations.

When standards are established by general consent, an agreement acceptable to all concerned may be difficult to obtain and compromises become necessary. The consumer usually believes that such compromises lower the quality of the standard, while the manufacturer defends compromises on the grounds that they are needed to make production economically feasible. More than one proposed standard has not received approval because the interested parties could not reach an acceptable compromise.

The term "authority," used in reference to establishing a standard,

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sometimes refers to the legal power invested in municipal, state, or federal governments. In a more general sense, the term "authority" refers to the power invested in any national body such as a trade or professional association, technical society, or manufacturer. The American Library Association, for example, can develop, establish, and promulgate its own standards for library equipment and supplies, whenever such a course of action appears desirable.

On the other hand, ALA can adopt the general-consent method to promote the development of standards for library consumer goods by sponsoring a sectional committee of the American Standards Association, an organization established solely for the purpose of providing a framework within which those concerned with the development of a given standard can operate most efficiently. This was the course chosen by ALA when, in 1960, it established ASA Sectional Committee Z85.

Because standards established by custom usually develop gradually through a process of survival and as a result of trade practices related to measurements of quantities or to grades or terms used in the trade, they are often indefinite or inaccurate. Such standards are usually of little significance in describing consumer goods and need not be considered further here.

Whether a consumer standard is established by general consent or by authority, several basic problems, including scope, level of quality, tolerances, and flexibility must be considered. In establishing the scope of a performance standard for the finish on library furniture, for example, investigators may discover that the color of the finish is a characteristic about which the consumer will want to make his own decision. Further, color per se does not involve performance. Hence, it can probably be decided that this characteristic is outside the scope of the proposed standard. The level of quality specified by the proposed standard must also be considered. Standards must be rigorous enough to force inferior goods off the market, but should not be so rigorous that the cost of producing goods to meet them is out of proportion to the improvement that can be expected in the quality of the product. In some instances, standards are desirable for more than one level of quality.

Tolerance refers to the permissible variation from the proposed standard. For example, the specifications for catalog cards include, in addition to the exact size, the degree of variation from that size

which is acceptable. Such tolerances usually reflect limitations imposed by the method of manufacture of the product or by the measurement of the characteristic concerned.

Some degree of flexibility in a standard is often necessary to correct errors which may be made when the standard appears in written form and to adjust the standard to changes in technology. However, flexibility is usually less important in the case of a standard in which performance is specified. In this case, if new materials and methods are developed, it is necessary only to insure that these will perform as required by the standard, before they are incorporated into manufacturing specifications.

The development of a good performance standard may require months or years of work and involve the expenditure of large sums of money. If the standard is not used, these expenditures have been wasted. More important, of course, is the continuing loss of money—and of quality—by those purchasers who do not take advantage of the standard after it becomes available.

The widespread use of the *Minimum Specifications for Class A Library Binding* seems to indicate that librarians generally are familiar with the advantages of good specifications. On the other hand, there is some evidence that the *Minimum Specifications for Binding Lesser Used Materials* (LUMSPECS)⁸ are not as well known and accepted as they deserve to be.⁹ This failure to take advantage of good specifications may result from a lack of understanding on the part of librarians of the characteristics of this type of binding and of the materials for which it can be used, as well as from a lack of knowledge about the end uses of certain library materials. In addition, it may result from the apparent reluctance on the part of some library binders to make this type of binding available. Whatever the reasons, there is little doubt that if librarians used these specifications more effectively, they could save money and also eliminate many questionable binding and mending practices which result in damage to the materials in their collections.⁹

It should be recognized that the Class A specifications (now *Library Binding Institute Standard for Library Binding*) and the LUMSPECS are manufacturing specifications rather than performance specifications, and as a result they tend to limit the use of newer materials and methods. Thus, the Class A specifications have not been changed in any important particular for over 20 years.

The present ALA-SLA program to develop performance standards

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for library binding is partly a result of this situation. By contrast, the new standards will be based upon the performance to be expected from given types of bindings rather than upon manufacturing specifications. Moreover, the new standards will include performance criteria for several types of bindings, and librarians will thus be in a position to specify the type required by the end uses of the materials in their collections. Because the new standards should also make possible a more competitive purchasing situation, some reduction in binding costs may be expected.

Although specifications for library binding first received the attention of the profession more than 25 years ago, no action had been taken to develop specifications or standards for library furniture prior to the establishment of the Library Technology Project in 1959. As a result, librarians have been forced to rely upon specifications prepared by the several manufacturers of library furniture. These, of course, are intended to describe only the products of the manufacturer concerned. Although some of these specifications define furniture of a high quality, such a condition defeats the principal purpose of competitive bidding. Then, too, the lack of suitable performance standards for library furniture has made it necessary to resort to a number of somewhat artificial devices to eliminate the obviously unqualified bidder. Despite this situation, there have been numerous instances in which the lack of an accepted standard in a competitive bidding situation has made it necessary for the librarian to accept furniture of poor quality. It is obvious, therefore, that the profession requires library furniture specifications that (1) will promote more realistic bidding and (2) will give the librarian a knowledge of the essential performance characteristics of the furniture he purchases.

In response to this need, one of the first programs of the Library Technology Project was aimed at the development of performance standards for library furniture. This work was placed in the hands of a subcommittee of ASA Sectional Committee Z85. The program made some initial progress, but was delayed considerably by the death of the subcommittee chairman. At that time, a qualified consultant was attached directly to the LTP office and given the task of developing performance specifications for library furniture. This work is now in progress. Following the development of these new specifications, Sectional Committee Z85 will consider them for approval as ASA standards.

These examples illustrate the type of performance standards needed

for certain kinds of library consumer goods. However, unless standards and specifications are understood, accepted, and effectively used, their potential benefits for the library economy will remain largely unrealized.

It should be emphasized that there are often two related but distinct advantages to be gained by using performance standards. One is the savings made when properly developed standards result in healthy and effective competition. The other is the improvement in quality, without increase in price, which often results. In both instances librarians gain.

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