

## Competency-Based Education and Library Instruction

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IN RECENT YEARS COMPETENCY-BASED education, an educational approach which structures learning around competencies defined as fundamental for successful performance, has gained wide acceptance in both secondary and postsecondary educational settings. Although competency-based education is thought of as a new approach, it has antecedents as far back as the late nineteenth century in a variety of educational movements, including those for efficiency in education, vocational education, progressive education, and instructional technology.<sup>1</sup>

Currently, on the secondary level, the competency-based education movement has become synonymous with the "competency demonstration" or minimum competency testing requirements enacted in the last six years in thirty-four states.<sup>2</sup> Competency-based education in this context centers on setting performance standards in the basic skills (reading, writing and mathematics). Student demonstration of at least minimum levels of performance is necessary for promotion or graduation. Required standards or competencies are generally set by state education agencies in consultation with professional educators and local citizens. The immense support the movement has received on the secondary level is the result of citizen concern over perceived shortcomings of the public schools. Many citizens complain that "schools are not as educationally effective as they have been in the past or as they need to

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be to meet future societal needs.”<sup>3</sup> By supporting the competency-based education movement, citizens are “serving notice that they will no longer support declining student achievement, lax standards, and poor performance.”<sup>4</sup> Competency-based education is seen as an approach which will improve student achievement and will make school systems and teachers more accountable to the public.

On the postsecondary level the competency-based education movement first gained acceptance in programs that prepared students for careers in education, social work, engineering, and the technical fields in which knowledge and skills essential to professional success could be fairly easily stated. In more recent years, partially as a result of support from the Fund for the Improvement of Postsecondary Education, educators have made an effort to extend the application of the principles of the competency-based approach to liberal arts programs.<sup>5</sup> The reason the fund is promoting the extensions of the competency-based approach to all areas of higher education is that the approach “is responsive to significant problems of service, delivery, costs, and accountability ...[and therefore] it can be a very powerful device for bringing about improvements in postsecondary education.”<sup>6</sup> The potential benefits of the approach, as articulated by Thomas Corcoran, senior project officer for the Fund for the Improvement of Postsecondary Education, are:

First, it establishes standards. In the labor market there is a growing uneasiness about the value of educational credentials. Research indicates that the completion of a certain number of years of schooling is not a very reliable indicator of a person's competence or even his ability to learn. Better evidence is required to ascertain what individuals are able to do. Standards must be defined, debated, and tested against reality. This is important and the competency approach encourages it.

A second benefit should be increased productivity of...educational institutions....As long as time-based degrees and norm-referenced testing are the means for awarding credentials, there is little that can be done to improve the productivity of educational systems....

A third benefit is that it expands the choices open to educational consumers. The presence of explicit standards for awarding credentials permits individuals to choose varied routes to attain the knowledge and skills needed to attain a particular credential....

A fourth benefit is the improved access to valued credentials. There are too many people, particularly minority individuals over the age of 25,...who have been denied access to education and therefore access to occupational mobility....

A fifth benefit is the enhancement of institutional quality. The competency approach provides a process for planning, designing, and selecting learning experiences....

## *Competency-Based Education*

A sixth benefit comes from reducing the competitive character of schooling.... The system has become too competitive and the rules of competition have become more important than the definition of valid standards.... The competency approach offers a way of resolving the terrible conflict between the concern for equity, the need to reward merit, and the attaining of credentials for jobs.

A seventh benefit arises from the altered meaning of educational credentials. If credentials are performance-based, then they will be less capricious and arbitrary as general sorting mechanisms.... [The competency approach helps] to ensure that credentials are closely related to jobs or to the roles to be performed, and that they are accessible to all who possess the requisite skills.<sup>7</sup>

An understanding of educational reforms which influence institutions of higher education, especially those such as competency-based education which potentially have a significant effect on the curriculum and on teaching, is important for instruction librarians. Armed with this understanding, librarians are better able to relate their instructional programs to the needs of the institution and are prepared to adopt new approaches which may help improve the library instruction program itself. With this in mind, the authors have prepared this paper. The intent of the paper is to clarify for librarians the concept of competency-based education; to describe ways in which academic libraries at such diverse institutions as Alverno College, Doane College, Sangamon State University, University of Louisville, Findlay College, and University of Wisconsin-Parkside have been involved with competency-based programs; and to examine some of the considerations which must be weighed before adopting the approach.

### **What is Competency-Based Education?**

Before considering competency-based education, it is necessary to clarify what is meant by *competency*. The Fund for the Improvement of Postsecondary Education has provided a useful definition: "Competence is the state or quality of being capable of adequate performance. Individuals are described as competent if they can meet or surpass the prevailing standard of adequacy for a particular activity. While competence does not equate with excellence, it does imply a level of proficiency that has been judged to be sufficient for the purpose of the activity in question."<sup>8</sup> Following from this definition of competency, competency-based education is: "a form of education that derives a curriculum from an analysis of prospective or actual role in modern society and that attempts to certify student progress on the basis of demonstrated performance in some or all aspects of that role. Theoretically, such demonstra-

tions of competency are independent of time spent in formal educational settings.”<sup>9</sup>

A competency-based program has three major components: competency identification, criteria level and assessment. Instruction is also a significant component, but is normally implemented after the three major components. Instruction evolves readily from them and is designed to facilitate the development of the required skills or behaviors. Many educational programs are concerned with instruction based on the achievement of identified goals or objectives. What distinguishes the competency-based approach is the manner in which it is developed. A competency-based program is conceived and planned based on the skills the exit-level student should possess. Competencies are identified with reference to specific roles stated in terms of what the student should know and be able to do. Once a set of competency statements is agreed upon, subcompetency statements are formulated. Next comes the development of performance objectives, statements which indicate what a student must be able to do in order to demonstrate the abilities called for in the competency and subcompetency statements. Criteria levels must be a part of each objective as a standard against which to compare performance. The criteria level must be as objective as measurement techniques permit.

Assessment procedures, the third major component of a competency program, are developed after the competencies and criteria levels have been established. Assessment of the student's performance on a specific competency is best accomplished in a manner which measures performance under actual conditions. This approach is very expensive and usually not feasible. Most students are assessed using multiple-choice tests, simulations, games, etc. to measure their performance on the instructional objectives. In competency-based programs, assessment is criterion-referenced rather than norm-referenced. (“Criterion-referenced assessment measures the degree of attainment according to some defined standard, while norm-referenced assessment measures the relative behavior of two or more individuals from some defined population.”<sup>10</sup>) Since competency-based education is goal- or outcome-oriented, assessment procedures are needed which allow for the demonstration of knowledge, skills, awareness of values, and the integration and application of these components. The emphasis is on measuring the student's ability to acquire and apply knowledge as much as on measuring the depth and breadth of knowledge acquired. Ideally, the assessment of the competencies acquired is made without regard for time, place or sequence. In this context assessment is largely a diagnostic and learning experience.

## *Competency-Based Education*

In competency-based programs, instruction is offered through a variety of methods. It may be offered through courses, internships or a variety of self-paced modules and learning packages. Regardless of the format, the emphasis is on designing learning experiences that will lead students to the achievement of competencies. No credit is given for exposure to classroom experience; only achievement or performance is given credit.

### **Libraries Involved in Competency-Based Programs**

Of the institutions described in this paper where libraries are involved in competency-based programs, the only one with a campus-wide competency-based curriculum is Alverno College, a small, 1100-student liberal arts college for women in Milwaukee, Wisconsin.<sup>11</sup> At Alverno, eight competencies have been identified which students must demonstrate at specified levels in order to receive a degree. The competencies are:

1. develop effective communication skill;
2. sharpen analytical capabilities;
3. develop workable problem-solving skill;
4. develop facility in making independent value judgments and independent decisions;
5. develop facility for social interaction;
6. achieve understanding of the relationship of the individual [to] the environment;
7. develop awareness and understanding of the world in which the individual lives; and
8. develop knowledge, understanding, and responsiveness to the arts and humanities.<sup>12</sup>

These competencies are then divided into six levels.

Although librarians were involved in planning the curriculum, library or information-gathering skills are not specified directly in the eight competencies. Instead, library skills are conceived as skills necessary to achieve a number of specified competencies. For example, in order for students to demonstrate level one of competency six and competency seven, they must use the library. The skills necessary to locate the needed information have been identified as using the card catalog, identifying and using general indexes, and identifying and using appropriate biographical reference sources. These are taught by librarians in the "New Student Seminar," a beginning course coordinated by counselors who bring in different instructors to provide students with the learning experiences necessary to achieve several of the basic competencies. As students progress to upper levels of competen-

cies related to their disciplines, librarians provide instruction in bibliographic searching and discipline-specific sources. The students use the library skills to collect data which will be used in oral presentations and research papers specified as part of demonstrating the competency. Although librarians take an active part in the instruction designed to help students achieve their competencies and in the general assessment of some levels of the competencies, they do not engage in assessing student competency in terms of library skills.

In contrast to curriculum-wide library involvement at Alverno College, the library at Doane College, a small, 600-student college in Crete, Nebraska, is involved with only one program, the competency-based teacher education program. The program is called DEPTH (Doane's Educational Program for Teacher Humanization)<sup>13</sup> and was the result of a curriculum review by the education faculty and students. A librarian was involved in the planning from the initial stages, and library skills are included as one of the twenty-two competencies students must demonstrate before they may begin student teaching. Each of the competencies is then broken down into behavioral objectives which form the basis for assessment and for the learning materials. Student learning experiences are provided through classroom sessions and twenty-two self-paced printed instructional "DEPTH packets." Students may attempt to demonstrate some or all of the competencies without completing the packet and, if successful, are excused from that portion of the instructional program. The library instruction component of the program includes lectures by the librarian and a DEPTH packet entitled "Self-Instruction Guide to Resources in Education," which contains a series of guided exercises arranged in search strategy order. These exercises are designed to teach students how information is organized in the field of education and how the major sources basic to the field are used. The types of sources included in the packet are: encyclopedias, books, periodical articles, pamphlets, and government documents. Library competency is demonstrated through an assessment interview with the librarian, which normally takes place after the student has successfully completed the exercises. Students not demonstrating the required level of competency in library skills must repeat all or part of the packet. To reinforce the skills taught in the library competency, some of the other competency packets require that students use their library skills in completing the assignment, and one packet requires a term paper based on library research.<sup>14</sup>

Another example of library skills competencies integrated into a discipline-specific competency program can be found at Sangamon

### *Competency-Based Education*

State University, a midsized, 4000-student upper-division university located in Springfield, Illinois. The program is housed in the history department, and was developed under a grant from the Fund for the Improvement of Postsecondary Education. The broad competencies developed by the faculty and required for the bachelor's degree in history are:

1. an understanding of the major forces shaping the contemporary world;
2. an understanding of oneself in the contemporary world, as a means to understanding others in a historical perspective;
3. an understanding of the functions of culture in our own and other societies as they affect institutions, values, and behavior; and
4. the ability to identify, locate, and interpret primary and secondary historical materials.<sup>15</sup>

These competencies are broken down into enabling skills and then performance objectives. All students begin the program in a required introductory course called "The Roots of Contemporary History." At the beginning of the course, students are given diagnostic tests to determine their entering skill levels. Individual programs are developed to help the students achieve the necessary skills to meet the competencies. The performance objectives for the library skills competencies were developed by the faculty and approved by the library staff. The library skills competencies are demonstrated through the preparation of an acceptable library research paper. As part of the introductory course, library instruction workshops are presented by the liaison librarian for the history department. The librarian then does necessary follow-up work with individual students. The history faculty member who teaches the introductory course assesses the library skills competencies.<sup>16</sup>

At the University of Louisville, a large, 18,000-student urban university in Louisville, Kentucky, library skills competencies are included in one of the six core courses of the University College's program for open-admissions students. The three-credit course, called "Research with Printed Materials," was developed with the assistance of a university librarian. The competencies specified in the course curriculum are:

1. Acquaintance with the purposes, methods and nature of evidence that constitute the three major divisions of knowledge (Humanities, Social Sciences, and Natural Sciences), and specialized knowledge in the content and methods of investigation of several disciplines which can support advanced study.

2. An acquaintance with the existing sources of public information in various fields, and the ability to access and to use these sources.
3. Critical thinking skills which enable comprehension, analysis, and extrapolation of verbal, written and visual information.
4. Ability to conduct independent inquiry, and to communicate findings to others orally, in written and in visual forms.<sup>17</sup>

The course consists of a lecture component and a practicum. Students spend two hours per week in lecture sessions dealing with the academic research process and the library sources and systems of information. In addition, students work one and one-half hours each week in the library completing individual worksheets which take them step by step through a research problem. Student competence is assessed by performance on an exam and the successful completion of an annotated bibliography. The bibliography is assessed for number of items identified, inclusion of a variety of sources (books, periodical articles and newspaper articles) and utilization of a variety of reference sources. If students do not pass the exam or prepare an acceptable bibliography, they do not pass the course. At this time the course is not a university requirement, but open-admissions students are strongly advised to take the course, and a number of other freshmen now elect to take it.<sup>18</sup>

At Findlay College, an 1100-student, private college in Findlay, Ohio, library skills have been an integral part of a basic skills competency program since 1975. The requirements of the program are that all students demonstrate competency in reading, writing and library skills/information retrieval prior to attaining junior-level status. The library skills component, developed by the library staff, specifies three competencies: use of the card catalog to retrieve books and other materials; use of periodical indexes and abstracts; and use of basic reference sources.<sup>19</sup> Students may demonstrate the achievement of the library skills competencies in one of three ways. The first is successful completion of a research project in a six-credit "Freshman Seminar." The project is designed by library staff who teach one or two sessions in the course and who also assess student performance on the project. The project requires students to locate information on a specified topic in books, periodical articles and newspapers. An alternative to this approach is submitting a bibliography or research paper which is assessed by a librarian. The third alternative for demonstrating the library skills competencies is scoring 90 percent or better on a written test developed by the library staff.<sup>20</sup>

Of the libraries involved in competency-based instruction, the one with the most comprehensive program can be found at the University of

## *Competency-Based Education*

Wisconsin-Parkside, a midsized, 5400-student commuter campus located in Kenosha, Wisconsin.<sup>21</sup> This library is involved in teaching students competency-based library skills in the university-wide Collegiate Skills Program<sup>22</sup> and in research courses offered by the history, political science, business, sociology, and geography disciplines.

The Collegiate Skills Program, implemented in fall 1977, requires all students to demonstrate minimum competencies (specified as Level II competencies) in reading, writing, mathematics, library research skills, and writing a library research paper. If students do not complete all of the competencies by the end of their sophomore year (60 credits), they are dropped from the university. The competencies, arranged in three levels according to sophistication required, were developed by a committee composed of faculty members and a librarian. A goal, competencies and objectives were identified for each area. The goal identified for the library skills portion of the program is "the ability to use the appropriate resources and services of a university library to identify, select, and locate materials, both print and non-print, on a variety of subjects."<sup>23</sup> This goal is broken down into the following competencies:

Level I: The ability to identify and use selected basic sources common to high school and public libraries.

Level II: The ability to identify and use the basic resources of an academic library-learning center with skill and sophistication.

Level III: The ability to identify and use the major reference tools, search strategies and research techniques common to a given field of study.<sup>24</sup>

Each of these competencies has been further broken down into performance objectives which form the basis for student assessment and for the library instruction materials. Most students demonstrate the Level II library skills competencies by taking a written test. The test was developed by the library staff over a period of several years with the assistance of a campus psychology faculty member. Transfer students have the option of demonstrating library competencies by submitting a research paper. The librarian assesses the bibliography of the paper for appropriate use of library materials.

Instruction for Level II library skills is provided through a 12-chapter basic skills workbook which contains exercises that must be completed in the library. Most generally, the workbook is administered through a one-credit English course, "The Library Research Paper."<sup>25</sup> The course is designed to help students learn the skills necessary to achieve both the research paper competency and the library skills com-

petency, and is team-taught by a librarian and a faculty member. Students may also choose to complete the workbook while enrolled in a literature survey course offered through the English discipline. Satisfactory completion of the basic workbook does not in itself constitute demonstration of the library skills competency, although to date all students who have done so have passed the library skills test.

Although Level III competencies have not been implemented as a required part of the Collegiate Skills Program, the library staff have implemented the Level III library competency and performance objectives in history, political science, business, sociology, and geography.<sup>26</sup> In all but the business curriculum, the library skills are a required part of the three-credit research methods course offered by the discipline and team-taught with a librarian. In business, a separate one-credit elective course taught by librarians is devoted to library skills. Discipline-specific workbooks based on the performance objectives for Level III competency have been developed jointly by library staff and faculty.<sup>27</sup> (The development of workbooks was considerably aided by a University of Wisconsin System Undergraduate Teaching Improvement Grant and by a College Library Program grant from the Council on Library Resources and the National Endowment for the Humanities.) To receive credit for the course, students must satisfactorily complete all of the assignments in the workbook and prepare a bibliography which is assessed as adequate by a librarian.

### **Competency-Based Education and Library Instruction: Some Considerations**

There are many potential benefits that can be derived from adopting the competency-based approach to library instruction. Some of these accrue simply from the process required for developing the program. The need to identify and agree on competencies and performance objectives requires instruction librarians to enter into extensive consultation with faculty, students and other library staff. This consultation process should lead to a better understanding of which library skills are needed by students at the institution or in the specific program by all of the parties engaged in the discussions. It should also lead to the increased institutional acceptance of librarians in the teaching/learning process, to increased support for and commitment to library instruction among faculty, and to better-informed librarians concerning curriculum matters and the needs of faculty and students.

There are also benefits derived strictly from the specification of

### *Competency-Based Education*

library skills competencies and performance objectives. One such benefit is the increased potential for the structuring of high-quality, relevant library learning experiences. A second benefit should be improved student performance, since students know exactly what is expected and therefore know what to concentrate on learning. Also, the librarian is better able to assess student achievement and prescribe, when needed, additional learning experiences in specific areas. Another benefit derived from the specification of competencies and performance objectives is the increased potential for conducting meaningful program evaluation. Library instruction programs, possibly even more than other academic instruction programs, face heavy pressure for demonstration of their effectiveness. Meaningful program evaluation is difficult, if not impossible, without objectives.

There are numerous other benefits to using the competency-based approach. Since assessment is criterion-referenced, students need only take part in the instructional program for those competencies which they cannot demonstrate. This frees the librarian to work with those students who need help most and should make more effective use of the librarian's time. This should also improve student motivation and attitudes. In addition, the competency-based approach is flexible in terms of the instructional methods and materials that can be used. The only requirement is that the methods and materials structure learning experiences that help the students achieve the competencies specified.

To highlight only the potential benefits of a competency-based approach to library instruction without pointing out some of the difficulties which can arise would not give a complete picture. The process of identifying and gaining agreement on competencies and performance objectives is arduous and time-consuming. It also takes a great deal of political skill and an understanding of the "politics" of higher education. Many faculty are not used to working with librarians in this manner, and few have a knowledge of or appreciation for performance objectives, let alone the ability to identify the library skills students should possess to perform assignments competently. The competency approach relies too heavily on faculty input and cooperation to be effective without heavy faculty commitment.

In addition, it is extremely difficult to structure and validate appropriate instructional assessment tools. Many librarians do not have the skills, or in some cases immediate access to those with the skills, to do so. Since assessment is especially critical in this approach, it may present greater problems than assessment in other approaches. Therefore, librarians using the approach will have to be patient and extremely

flexible. They will have to educate the faculty about the potential of the library, will probably need to reeducate themselves, and will have to build the program slowly: Obviously, the above considerations are important no matter what method is used for library instruction; however, they are especially so when utilizing the competency-based approach.

Is the competency-based approach worth the trouble? It depends on the institution, the library, the staff, and the students. It can be a very effective approach; it may also be too time-consuming and too demanding in terms of the need for faculty cooperation and acceptance, and of the skills required of the instruction librarian. Only after analyzing the environment at the institution can the library instruction staff make an informed decision.

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## Competency-Based Education

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