

Assessing Competencies

Lessons from a Library/Media Project

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Abstract. Professional education programs and state certification offices have developed competencies for school media programs but relatively little attention has been paid to assessment. This paper reviews the current state of competency assessment, describes a procedure for categorizing assessment strategies, and presents an approach to determine which competencies and assessment strategies are used in professional courses. A case study of one university is used as an illustration.

Competency-based programs for school media specialists are increasingly being adopted by state agencies as a basis for certification and by educational institutions as a procedure for educating media professionals. The effort in developing these programs has been heavily (indeed, almost exclusively) weighted towards the generation of competency statements with little attention being paid to the more difficult problem of competency assessment. The American Association for School Librarians (AASL, 1976) Certification Committee observed that:

...the art of competency assessment is woefully behind...Our lack of experience in the task of performance assessment, the identification of data gathering techniques—including what data will be required and under what conditions, the validation of assessment criteria, the need for competent evaluators to implement the assessment process, the cost of candidate assessment in terms of time and dollars, and reaching consensus on the levels of certification all pose serious concerns for the profession.

To some extent, the general lack of attention to evaluation is an artifact of the sequential process of development. Competency-based education for school media specialists is still a new area. Competencies must first be identified and agreed upon before there can be any concern with whether or not a person has achieved a given competency or set of competencies.

For the authors there was a natural and logical sequence of events leading to a concern for assessment. A plan for the development of an integrated competency-based program for the preparation of media professionals was created and carried out at Syracuse University in response to a mandate from the New York State Education Department (Daniel and Ely, 1978). The realization that the major work lay ahead in wrestling with assessment methodologies became clear as a result of that project.

This paper summarizes the current activities in competency assessment, describes a category scheme with definitions for assessment strategies, and relates the methods used in determining which assessment strategies were used by various faculty members in their courses.

The State of the Art of Competency Assessment

Major work on competency-based education (CBE) for school media personnel goes on apace. Eleven states now have competency-based certification programs and another 19 are in various stages of development. Of these, Maryland (through the graduate library school), Utah (through the State Education Department in conjunction with several teacher training institutions), and New York (through the program at Syracuse University) have provided printed materials of particular relevance. Both Maryland and Syracuse University work within existing curricula of large library schools which are only fractionally concerned with the school media program. Thus both tend to take an incremental approach—identifying opportunities where students can attain competencies

through general school courses, developing new courses, modifying older ones, and, in general, working with faculty styles of assessment. The State Education Department in Utah opted to support the development of a comprehensive pencil and paper testing program that established indicators for each competency and objective questions to assess student performance on the indicators.

Chisholm and Ely's book (1976) attempts to amalgamate previous work in CBE. The American Association of School Librarians' publication, *Certification Model for Professional School Media Personnel* (1976) is also a seminal work. The AASL group attempted to go beyond pencil and paper tests by providing examples of situations using jury panels of experts and actual performance activities.

General research on evaluation also provides some useful insights. DeProspero and Liesner (1975) describe current evaluation models in a concise but thorough review for media program evaluation. Hall and Jones (1976), in a general presentation of the theory and state-of-the-art of CBE raise and discuss a number of provocative questions affecting competency assessment. Houston and Howsam (1972) review CBE with emphasis on teacher education, while Hodgkinson and Levine (1975) focus on assessment in the higher education area. Harris and Kelly (1977) elaborate the higher education assessment work more fully. Finally, two recently published books demonstrate the substantial growth in the field. *On Competence* (Grant, 1979) brings together review articles by experts on major aspects of CBE. Of particular interest in this volume is the fine state-of-the-art review on assessment by King. In the second recent book, Gilbert (1978) proposes a behavior engineering model.

From the aforementioned and a number of other sources, it is possible to identify particular problems and approaches to the assessment of competency. Many people speak almost synonymously of evaluation and assessment. There now

seems to be a growing consensus that *evaluation* is the broader term relating to programs and products more than to individuals, whereas *assessment* refers to the specific evaluation of learning outcomes.

Three major problems have been identified:

(1) Precise definitions of performance assessment do not exist.

(2) There is no agreement on how to determine what a "significant" sample of behaviors might be.

(3) Validating the assessment procedures is difficult.

These three problems seem to be more or less sequential. A first step must be the determination of precise definition of performance. For CBE assessment this means that assessment strategies must be described. During the course of the study a brief description of performance assessment strategies for the competency-based program for media professionals at Syracuse University was developed.

Classification and Definitions of Assessment Strategies

Eight strategies were identified which seemed to represent the most comprehensive, conventional, and feasible methodologies for assessment. The definitions of the eight assessment strategies are presented below.

(1) *Field Experience*. Field experience refers to assessment which occurs in the real world context; that is, assessment which occurs in a real job situation or internship. Performance which occurs in this situation is subject to real world effects and tends to demonstrate competence at its most functional level.

(2) *Actual Demonstration*. Actual demonstration is assessment which occurs in a field setting where many *but not all* of the real world effects are allowed to influence student performance. Since student access to field settings occurs through invitation or through agreement with cooperating institutions, some control exists to *limit* real world effects.

(3) *Simulated Demonstration*. A simulated demonstration refers to a microcosm type demonstration. In this case many of the variables affecting performance are controlled or manipulated. Effects due to change or real world contingencies play only a small part in the assessment situation.

(4) *Portfolio*. A portfolio is a collection of written materials, audiovisual, artistic, or craft products which are submitted as indication of field competence. A portfolio is generally composed of materials developed during the course of

a program or some professional experience and is used to *infer* job related competence.

(5) *Paper/Projects*. Normally paper/projects refers to a product emerging from a major assignment. Examples include term papers, slide/tape productions, musical compositions, and so forth. Paper/projects may also refer to smaller assignments and projects. The idea here is that the work produced by the student is examined and assessed as an *indicator* of some knowledge, attitude, or skill obtained during instruction.

(6) *Oral Presentation*. Oral presentations are student-controlled summaries and discussions which reveal (1) the activities involved in, (2) the progress of, and (3) the findings related to student projects or papers. The oral presentations are more than impromptu conversations. They allow the audience to ask questions or make comments which may require the extension of ideas through in-depth responses. Thus, such testing is more flexible than written presentations, though less detailed.

(b) *Indicators of Competencies*

(4) Portfolio

(5) Paper/Projects

(6) Oral Presentation

(7) Oral Tests

(8) Written Tests

Assessment strategies as *measures* are distinguished from strategies as *indicators* because measures assess actual performance in real or simulated job settings, while indicators assess behaviors thought to be more or less related to job performance. The assessment strategies of (1) field experience, (2) actual demonstration, and (3) simulated demonstration are said to *measure* competence because they attempt to record the existence of specified, necessary job skills and attitudes (i.e., the identified competencies). The assessment of (4) portfolio, (5) paper/projects, (6) oral presentations, (7) oral tests, and (8) written tests are said to be *indicators* of competencies because they do not test actual performance either in simulated or actual job situations. Instead, from these strategies, one infers what performance

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(7) *Oral Test*. An oral test is a strategy in which students respond to a set of questions specified by an examiner or group of examiners. This strategy allows flexibility in pursuing answers more fully and clarifying responses, though this is generally at the expense of the organization and detail present in a written response.

(8) *Written Test*. Written tests are generally of two types: selected response (true-false, multiple choice), and constructed response (short answer, essays). There is virtually no interpersonal interaction in such tests, and competence is assessed on the one-way communication of the student with the written materials.

These strategies can be separated into: (a) *measures* of competence, and (b) *indicators* of competence.

(a) *Measures of Competencies*

(1) Field Experience

(2) Actual Demonstration

(3) Simulated Demonstration

might be like in these situations.

General Competency Assessment by Faculty

One of the first activities was to examine how effectively competencies were presently being assessed within the regular courses of the library school and the school of education where the Syracuse joint program is set. Two questions of concern here were:

(1) What is the distribution of competencies within courses?

(2) What is the distribution of assessment strategies for these competencies within courses?

Distribution of Competencies within Courses. A year and a half earlier, all the faculty of the School of Information Studies and of the Area of Instructional Technology, School of Education were interviewed to determine which competencies were taught in their classes in order to advise students. Advisement followed a thorough diagnosis of each

student's present level of skills and abilities with a joint determination by advisor and student of where the student needed to become more proficient. After the determination of a desired set of competencies to be acquired or enhanced, the courses were then examined to see which group of courses would be the most appropriate for the student.

During this part of the project, the researchers went back to the faculty to ask them not just which competencies they taught, but which ones were actually assessed and in what manner the assessment took place. Outlines, activities, and assignments were collected from faculty for each relevant course and then classified by type of assessment strategy. The interviews were analyzed and a new competency-by-course matrix was drawn (Figure 1). Not surprisingly, it was found that the faculty teach more competencies than they actually assess.

A basic assumption that guided the work throughout the project was that the school media competency program must fit within a larger library school context composed of courses, many of which are general in nature, and directed to students who will work in a variety of library settings. The importance of this approach should be underscored. The alternative assumption would be that the school media program would be treated as a closed system isolated and apart. Under this assumption, there would be a school within a school with a set of courses tailored to fit the school competency-based program, and which prospective school media specialists would take by themselves away from the rest of the school.

The broader approach has a number of advantages. It allows school media specialist students to relate their work to the larger context. Of equal or greater importance, it enlarges faculty awareness of the special needs and contributions being made by the modern school media center. This positive benefit more than offsets the requirement for regularly checking with all faculty—old and new—for changes in courses, new content, and new methods. Competency assessment then becomes a dynamic process continually being adjusted to the changing issues and the changing environment.

Distribution of Assessment Strategies within Courses. In second interviews with faculty it was found that there were redundancies—many competencies taught and addressed from different points of view in different courses.

Competency Number	ITE 501	ITE 511	...ITE 719	IST 502	IST 503	...IST 657
1			X			X
2				X		
3					X	
4				X	X	
.						
.						
38	X					
39	X		X			
40				X		
.						
.						
69		X				X
70			X			X

Figure 1. Course By Competency Matrix.

There were also some gaps where competencies were not assessed at all through formal courses. Those competencies not being directly assessed through course work may be assessed through field work, independent projects, or on an individual or small group basis outside of courses. As a result of the analysis, suggestions were made for course revision to include and/or to measure the attainment of other competencies where appropriate.

Data did not always fall out as neatly as the researchers might have liked. In some cases, the data revealed that the courses allowed students to demonstrate only a few of the competencies, while in other cases, many competencies could be demonstrated. In all cases, however, the courses considered more than the competencies of interest to the project and the faculty were assessing more than just those competencies. This is important as it means the competency-based program sets a floor rather than a ceiling. Many qualifying statements accompanied faculty responses. These statements explained the use of a given assessment technique. They emphasized the degree to which the technique assessed a given competency. And they revealed the instructor's approach to assessment, which led to an exploration of the impact of differing faculty styles of assessment.

Most of the within-course assessment uses indicators of competencies—primarily paper/projects or writ-

ten tests. Few competencies were actually measured through demonstration or simulation. The validity of competency assessment by one method rather than another is yet to be determined, but the establishment of the categories makes it possible to carry out such a comparison in the future. The value of this comparison lies in being able to determine the trade-offs between costs and effectiveness.

Although it seems reasonable to have more confidence in measures of competencies than indicators of competencies, it is also reasonable to believe that the former will be a more costly process than the latter. In the competency assessment study the primary concern was on measures of cost effectiveness. A model was developed and protocols for collecting data on costs were designed. A comprehensive description of the process is included in a report on the project (Daniel and Ely, 1979).

Next Steps

The competency-based program is in place. The assessment procedures are being implemented in the spirit of field testing. A Governing Council of practicing school media personnel, school principals, classroom teachers, and University faculty is monitoring the program and making recommendations for improvement. Studies of cost and effectiveness will continue with the hope that a validated model will be available for use at other institutions.

References

- American Association of School Librarians. Committee on the Certification of School Media Specialists. *Certification Model for Professional School Media Personnel*, 1976.
- Chisholm, M.E., & Ely, D.P. *Media Personnel in Education: A competency approach*. Englewood Cliffs, NJ: Prentice-Hall, 1976.
- Daniel, E.H., & Ely, D.P. *Assessing the competencies of media professionals: A model for determining costs and effectiveness*. Syracuse, NY: ERIC Clearinghouse on Information Resources, 1979. ED 179 250.
- Daniel, E.H., & Ely, D.P. *A process for developing a competency-based education program for media professionals*. Syracuse, NY: ERIC Clearinghouse on Information Resources, 1978. ED 149 740.
- DeProspero, E.R., & Liesener, J.W. Media program evaluation: A working framework, *School Media Quarterly* 4 (Summer 1975), 288-318, 323-336.
- Gilbert, T.F. *Human competence: Engineering worthy performance*. New York: McGraw-Hill, 1978.
- Grant, G. (Ed.). *On competence: A critical analysis of competency-based reforms in higher education*. San Francisco: Jossey-Bass, 1979.
- Hall, G.E., & Jones, H.L. *Competency-based education: A process for the improvement of education*. Englewood Cliffs, NJ: Prentice-Hall, 1976.
- Harris, J., & Kelly, S.P. Assessment measures needed for competency-based higher education, *Peabody Journal of Education*, 53 1977.
- Hodgkinson, J.H., & Levine, H. *Improving and assessing performance: Evaluation in higher education*. Berkeley, CA: Center for Research and Development in Higher Education, 1975.
- Houston, W.R., & Howsam, R.B. (Eds.). *Competency-based teacher education: Progress, problems, and prospects*. Chicago: Science Research Associates, 1972.