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Education Matters

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We have heard an interesting mix of practitioners and educators. My task today is to speak for library/information education in general. I hope you will consider my title, "Education Matters," to reflect both possible meanings. My comments will, no doubt, reflect certain personal and institutional biases, but fortunately there is in the audience a dean or two from other schools and a number of other educators who can leap in to contradict if I veer too sharply from the common path.

First, a digression. Dick Sweeney cautioned us not to let ourselves be defined by an institution or by a medium (as the book, for example). I agree with him. Clearly we are an information profession. We work with information in various ways and forms, with many different media, and in many kinds of organizations. We work with formal information systems and we create informal ones. The new information technology provides us with powerful tools that allow us to do these things more efficiently and also allow us to provide new services as well. We are all familiar with Gertrude Stein's quotation: "A rose is a rose is a rose!" However, I totally disagree with it. There is a lot connoted by a name. It affects our perceptions of ourselves as well as it does that of others. We need a broader view of our responsibilities. How many other professions do you know that are named for the place in which they work? We do not call doctors and nurses hospitalers; nor lawyers, courters (or courtpersons); nor do we call professors universarians. Why are we librarians? More and more we do not work in libraries. We work in technical information centers, in research and development, in information systems and marketing departments, and in a variety of other work settings, several of which José Griffiths mentioned in her paper. It is my habit to refer to our newly-defined field as the library/in-

formation field in order to link the old to the new in this transitional period. I will do this in my discussion.

I will talk with you first about education and change generally, articulating some of the problems both libraries and educational institutions have when facing a period of rapid, and perhaps revolutionary, change. I will describe three ways that library/information schools use in trying to accommodate for change. I will stress the importance of educators striving to articulate the future roles that librarians, other information workers, and information managers will have.

In order to be a bit more concrete and to provide some comment on the school librarians, or media specialists (as they call themselves)—a group without a speaker champion so far—the last part of my remarks will describe the newest addition to the competency-based school media program at Syracuse. This is a set of specific competencies for building-level computer coordinators in the elementary and secondary schools. There is a handout that lists these thirty-seven competencies that, with some misgivings, I make available to you now, although it would be nice if you would attend to me for the moment and read it later(see appendix A).

Still one more thing before I begin. I would like to comment—as most of the other speakers and many of the audience have also—on attitudes. My first proposed disssertation topic was a question relating to the desirability of selecting or devising some personality test to use to gather subjective data along with the more cognitively based evidence for admission decisions to library/information schools. I held the same strong feelings that have been expressed here about the need to screen out the more dull and lackluster of applicants. It was the first time I came to grips with the dangers of mission-oriented research. A good researcher must be neutral in the search for truth, prepared to accept and publish findings that may not be congruent with her personal and dearly held beliefs. Thus, I backed away from this research. Some corporations do use personality measures in selecting executives. At Syracuse, we use personal interviews, as do most schools, and although I make decisions based on these interviews, I am not prepared to defend them as objective. There appears to be some conflict, anyway, between whether traits of enthusiasm, creativity, alertness, and the quality of being energetic are enduring and consistent, or whether the situation in which one finds oneself has a greater impact on shaping personality. One psychologist says: "As we do, so we become." In other words, act enthusiastic and you become enthusiastic. In any event, for these reasons also, I chose not to do my research on this topic. In our school, and I think in most others, we focus on socialization processes to demonstrate the desired attitudes and to influence students to adopt those behaviors we believe are necessary in order to be successful in the profession. We counsel students who do not seem to fit to consider other career possibilities.

Beyond that it must rest with employers to make good selections and to act decisively in the probationary period if the needed qualities have not begun to emerge.

Now let me return to my main agenda. This conference has been devoted to examining the behavioral effects of the new technologies on the way we do our work in libraries—from a functional, institutional and attitudinal point of view. "Competency" has been used as a way to specify skills, knowledges and even attitudes. I believe the impulse to identify competencies and to develop a more competency-based education is directly related to the rate of change we face. It seems clear that we are entering a new kind of society based on information. This fact will impact all phases of life and create enormous dislocations. The changes brought forth by this revolutionary shift will be difficult to predict and virtually impossible to control.

How do we cope with this emerging information society and what does it mean to the library/information profession? In the past, libraries have performed a maintenance function for society. They have been responsible for the collection and preservation of recorded knowledge so that this knowledge can be passed forward to new generations of students and scholars both for direct application and as the basis for the creation of new knowledge. Education is also a conservative occupation. We conserve and maintain society's values and its knowledge base by packaging information into disciplinary chunks, by encouraging some people to devote their lives to the study and teaching of these chunks, and by creating institutions that provide structured ways to deliver smaller chunks—or packets of information—to students.

Both the library system and the education system work well in stable times. Both require large economic investments over long periods of time with anticipated payoffs even further in the future in various unspecified ways. Maintaining institutions do not work as well in times of rapid change. Old knowledge is not considered as valuable as new knowledge. A more superficial knowledge of several disciplines may provide better perspective than a narrow, in-depth single disciplinary focus. Technical knowledge seems more relevant than theoretical knowledge. Further, recorded knowledge seems less useful than information acquired directly from the environment. Recorded knowledge appears to be more difficult to assimilate than spoken information received through social contacts.

The first question then is how can the library/information profession absorb societal change, reexamine its mission, realign its priorities and its central tasks to remain relevant and perhaps even become central in this emerging information age? The second question is how can an appropriate education system be devised to suit the needs of a dynamically changing profession in a dynamically changing world? I will briefly

comment on three models for change in library/information educational programs. For brevity, I have labeled these three models incremental, conceptual/futurist and skill-oriented.

The first approach is the model of incremental change. In this model, we recruit new faculty from different backgrounds. We revise curriculum, add courses in new areas, and perhaps even add a few new topics to existing courses. We purchase a piece or two of new equipment. We make change gradually and perhaps a bit cautiously. The attitude is reactive and defensive. Many library schools have adopted this approach almost by default. I understand and sympathize with this decision (or nondecision). However, unless the pace of internal change matches the pace of change in the surrounding environment, this approach will probably not succeed.

Another model involves a more activist stance on the part of the educational institution. I have called this model conceptual/futurist. Predictions are made about the shape of the future and the kind of work that people will do. A new field is delineated or, at the very least, the old field is radically redefined. A number of schools have taken this approach. In one of the more extreme, Pittsburgh maintains a separate information science department with a distinct curriculum and a different faculty from that in the library science department. We at Syracuse have attempted to grapple with the meaning of the information society and how it affects those of us in library/information work. We define the mission of our field as the facilitation of information use by humans. We believe that this mission is enduring and continuous, but the manner in which it is accomplished is becoming radically different and highly various. The nature of the change is such that we believe we must become more academic and questioning in our approach to education as opposed to a professional, prescriptive orientation. We cannot specify "best practice" with the same degree of certainty and authority that we could in more stable and predictable times.

Still a third approach involves the abandonment of the broad view and the long view. Here little attention is paid to theoretical frameworks and comprehensive models. Rather, the focus is on what is happening now, today, out there in the field on the front lines. This is the practical orientation of the engineer rather than the objective and neutral approach of the scientist. The curriculum for this approach manifests itself in highly specific courses—often skill-based and occasionally context-based. An example of the former is a programming or an online searching course; an example of the latter is a course in managing an information service business (we offer all three courses at Syracuse). In this skill-oriented model, many faculty are drawn from practice and teach on a part-time basis. The education function moves closer to an apprenticeship experience rather than an academic one.

None of these approaches are satisfactory by themselves. Fortunately, there are few examples of any of the three in pure form. We educators all hedge our bets in a variety of ways. We use modifications and amalgamations of all three approaches. The competency-based approach to education may be one tool to help accomplish this.

Remember the task of the library/information school is to predict the need and to devise a means of meeting that need. The resources that we hold are the curriculum (what Les Asheim calls "the major academic device educators have for confronting society's challenges...."), the faculty, the available space, facilities and equipment, and ultimately, the budget which makes possible all the other resources.

Going back to the three models, although we might wish to rule out the incremental approach because of its slowness, in fact we exist within a university which is also a maintaining, conserving institution which moves deliberately and a bit ponderously where change is concerned. It is difficult to effect change rapidly in universities. There are several bodies that must review and approve curriculum change. Faculty also change slowly over time. They must first be convinced of the need for change and then be given time and resources to develop new capacities and to attain new knowledge. Facilities have to be redesigned and new technology acquired. This usually involves renovation—and it all takes money. New money is scarce so it becomes a zero-sum game. Decisions have to be made within the school and within the university on where cuts can be made and how funds can be reinvested in new ways. This requires much justification and many persuasive arguments within the school, within the university, within the professional community, and within the prospective employer community.

Thus, even for incremental change to take place, a new vision of the field must emerge and be articulated. This brings us back to the second approach. We *all* must concern ourselves with the meaning of the information society, the implications it holds for the way people do work and interact with each other, and how this affects and shapes the information profession. Technology is pushing us into this brave new world of the future. For example, here are some speculations and predictions from a recent presentation on videodisc technology and its impact on libraries. These are six from a very long list.

1. High density storage media will replace books as the primary method for storing and recording knowledge. Microforms never really accomplished this, but videodiscs probably will.
2. The collection and storage function of libraries will become independent of the searching, locating and retrieving. They no longer have to co-exist within one building.

3. The technical aspects of information work will dominate over the more intuitive aspects.
4. Search systems will be designed for end users rather than intermediaries.
5. Libraries will become centers of instruction, of testing and, perhaps, for presentations.
6. There will be fewer specialized libraries and fewer special collections in libraries. (Edward Schneider. "Videodisc Technology." Presentation at the Spring Conference, School of Information Studies, Syracuse University, Syracuse, N.Y., 22 April 1983.)

I could give you further speculations and predictions about the impact of the computer and telecommunication technologies, especially about the fifth-generation logic machines, but these are more familiar areas for all of you. (In passing, let me note the distinction between speculations and predictions. Speculations are those assertions you disagree with; predictions are those with which you agree.)

We who are educators are paid by society to study, observe, test, think, and write about things in ways that practitioners with immediate operational urgencies cannot allow time for. Thus, it seems clear that we educators have a responsibility to attempt formulations of the future role or roles of the library/information professional. Our knowledge base for these formulations comes from a variety of sources—e.g., writings from an array of disciplines, journalistic comments and reports on new developments from the popular news media, observation of current practice, laboratory simulation of possible activities, empirical research, and discussions with people in the field and in related fields.

One thing is obvious. We must close the gap between town and gown as much as possible. We already have a number of mechanisms to maintain currency about present practice. We invite guest speakers from the practice world to come to our classrooms to talk about how it really is. We take students on field trips. We develop internships and other practicum experiences for students. We create advisory councils. These activities are essential in order to assure relevancy for a changing profession.

In discussions between practitioners and prospective employers on the one hand and faculty on the other, it sometimes appears the two groups speak at cross purposes. Practitioners often want to know why there are not three or four specific courses of increasing sophistication in their specialty taught by a full-time faculty member who is a recognized expert in that particular area. Thus we might have, for example, a series of courses on the acquisition of government documents, classification and arrangement of document collections, information retrieval from these collections, a course on government dissemination of information, and the like—all of which are perfectly reasonable courses and would be very thorough prepa-

ration for documents librarians. However, what about the educational needs of the serials librarians? Or the archivists? And what about all the other subspecialties within our field? And, of course, there are the traditional specialties of academic, public, and special librarianship—the latter in all its many manifestations.

In my hypothetical list of specialized courses for the documents librarian, we can observe that all of these areas are concerned with some aspect of information processing—i.e., selection, acquisition, collection, storage, retrieval, and use. Managing collections and providing information services are concerned with planning, organizing, staffing, monitoring, reporting, and evaluating. The medium may be different, the context may be different, but the functions and the processes are the same. Most educators believe a function- and process-based curriculum is more basic, fundamental and generalizable than a context-, medium- or mission-based one. It is more effective for students to learn to apply general principles to new situations.

Because of this difference in perspective, discussion between practitioners and educators often fails to connect. For good communication to take place and for the practitioner to impact the curriculum, a shift in attention from a concentration on inputs (courses and faculty) to outputs (expectations and detailed descriptions of desired outcomes) becomes a potentially fruitful strategy. To describe particular positions in terms of the competencies required to perform essential tasks can be very helpful to educators. This approach might also be a useful device for practitioners in a systems-analytic way to enhance their own understanding of the role they play.

A list of desired competencies for a specific occupation, along with a general position description (or role conceptualization, as we educators are wont, somewhat pompously, to say) can be a good tool for faculty to examine whether or not a competency can be attained and demonstrated within the existing courses, whether a new course is needed, whether a specialized independent study may be necessary for those cases where there is only a small demand, or whether special field work must be tailored for the student when the competency is such that it can only by attained or demonstrated in field-work settings.

Competency lists are highly useful for other reasons. A person engaged in career planning usually wants more specific information about what he/she would actually be doing when he/she becomes a systems analyst—for example, for an academic library. Similarly, the person planning to make a career shift can examine the competency list to see where strengths already held can be exploited in new ways. The independent learner who cannot afford (or does not choose) to attend a formal education

program can use the competency list as a guideline and road map for self-study. Competency lists can be useful aids for continuing-education providers and consumers.

Thus there appears to be great utility in developing a set of behaviorally-oriented competency statements for subfields within the library/information profession. However, I hasten to add that these competency sets must always be treated as incomplete and unfinished. These lists must be amended, modified, added to, and deleted in a continuing process. This can be fairly easily accomplished once they exist in some published or semipublished form. Computer-generated word processing and text editing are ideal for these constantly changing documents.

To summarize and provide a more concrete example at the same time, let me briefly describe our experience at Syracuse with a competency-based curriculum for school media specialists. This is a joint program between the School of Information Studies and the Department of Instructional Design, Development and Evaluation in the School of Education. Don Ely (from Education) and I have written fairly elaborately of the process we went through, but I can summarize it in five sentences. We brought together a consortium of practitioners, employers, educators, and students. After a series of long and argumentative meetings, we reached consensus on a set of seventy competencies. We devised a course-by-competency matrix to identify where (or if) each competency was taught and could be demonstrated. With faculty review and approval, we modified existing courses and developed an advising procedure to lead students through the matrix maze. We hold an advisory group meeting once a year to review and amend the competency list and to assess how well it is being implemented within the curriculum (see appendix B for a partial list of competencies included in the program). We are in our fifth year of the program. There have been a number of changes, but we are more and more satisfied with this approach and with the performance of the students graduating from it.

We liked the process and the outcome so much that we decided to replicate it on another subspecialty. We observed that public schools are purchasing microcomputers and software on an increasing scale but with very little systematic planning. A possible role for a building-level computer coordinator began to be discussed. Various individuals have assumed this role in a part-time way, based mostly on personal interest, previous background, and occasionally simply due to arbitrary assignment. Good school librarians tend to be educational leaders, generalists and often opportunists. Many of those who like to be where the action is began to reach for the role of computer coordinator for their buildings—writing grants; selecting hardware and software; organizing schedules for use; working to develop computer literacy curricula; leading workshops to train teachers; and seeking ways to become connected to the outside world

via the use of a micro simulating an intelligent terminal; or speaking to a mini- or a mainframe computer at the district level, to bibliographic utility networks, or to other databases like the Source or CompuServe. Our advisory council suggested that the School of Information Studies develop a program and stake a claim on the educational preparation for this role.

We selected two library media specialists who were on the cutting edge of this new field and were already heavily involved in a variety of computer-related activities while at the same time carrying on exemplary programs. We also chose a superintendent who needed a bit of convincing at first but became our most enthusiastic supporter. We added a regional level information systems supervisor who was a bit dubious of the librarian's abilities in this area but who also came around. Other participants were a couple of educators and the Director of the State Center for Learning Technologies. The latter traveled from Albany to Syracuse for the four meetings because of his belief in the importance of this effort. Again, we debated and argued quite vigorously, often taking classic postures of "theoretical academic" *v.* "practical librarian." We did reach agreement on what we believe is an acceptable set of thirty-seven competencies, which I share with you today (see appendix A).

I will not take time today for a detailed walk-through except to note that these competencies are listed in the reverse order from the way we developed them, and probably in the reverse order from the way they would be attained. We arranged them to go from general to specific in the document for a better conceptual presentation. In general, students first acquire those competencies listed under *Hardware/Software Selection and Development*, then the ones itemized under *Organization, Information Provision and Teaching*. They tend to learn last those listed under *Supervision/Coordination/Management* and *Communication and Leadership*.

We will use this list in a number of ways. Internally it will help us realign our curriculum. We have still to agree on the broad position description statement. Once we have the three pieces in hand—the job description, the competency list, and the description of the necessary educational preparation—we will create a small brochure outlining the program, which will be mailed to interested parties. We are working on a road show to present the program to superintendents, principals and school board members for feedback and visibility. We are also working with the state certification department to achieve recognition of the role either as a separate certificate or as part of the general media specialist certificate. We will develop a three or four course sequence as a continuing education program for those in the field who want it. And, of course, we will integrate these new competencies with the existing ones for entering prospective school media specialists.

Many of the competencies listed here, especially those on the last page under *Hardware/Software Selection and Development* (the more specific and technical), are applicable to a variety of other information positions. In fact, a cursory examination shows that all of the competencies listed here are presently taught in our curriculum somewhere. They may not be packaged appropriately or emphasized sufficiently for the new program but the accommodation process should be relatively easy.

By this time in the conference, I anticipate that we may have over-stressed the competency aspect so I will not belabor it further but end by trying to summarize the advantages and disadvantages of the competency-based approach for education. The advantages are that it makes a fine communication device for practitioners and educators to talk to one another; it leads to a more relevant curriculum; it describes outcomes in observable, behavioral terms; it allows people to attain competencies in a variety of ways not always through formal education; and it is easy to maintain currency. However, there are disadvantages. It is nontheory driven. Even though our programs are professional (to reiterate) it is difficult to impossible to specify "best practice." We all need to become more academic in our approach. This is true for practitioners as well as educators. A competency-based curriculum tends to focus on what *is*, rather than on what *might be*, although it might have elements of aspiration in it. Finally, and perhaps related to the lack of theory and the omission of the old term *understanding of* as a goal statement at the beginning of a course, I believe that integration and the holistic overview of the profession may suffer under a completely competency-based approach.

Still, if we truly believe in a lifelong learning, we should apply what we know about how people learn. We know that they want to learn first how to do it and where it will be done—skills and context. New graduates on their first job invariably complain that their school did not give them enough practical training. In five to ten years, their plaint is that the school did not pay sufficient attention to management and supervision. Ten to twenty years later, they complain that we did not provide enough theory and philosophy. A reasonable solution might be to provide education at several levels and kinds throughout the professional career of practitioners.

There is much, much more I would wish to talk about but too much time has passed already. Let me leave you with the definition of the future by Ambrose Bierce. He said: "The future is that period of time in which our affairs prosper, our friends are true, and our happiness is assured." May it be so for all of you!

APPENDIX A

Competencies for the School Media Specialist
Relating to Building Level Computer Coordination

Developed by the School Media Specialist/Computer Task Force, School of Information Studies, Syracuse University, 18 April 1983

Communication and Leadership

1. Describe the leadership role of the media specialist and strategies for implementation of such role in relation to a school's movement in the technology area.

Supervision/Coordination/Management

2. Participates with teachers and administrators in establishing the instructional computing plan.
3. Develops policies and guidelines for computer resources based on established goals and objectives.
4. Considers the requirements of instructional computing when planning media facilities use and allocation.
5. Seeks unique fiscal arrangements beyond regular budget sources including multiple sources of support.
6. Serves as a liaison between building, district, regional agencies and other related organizations to the school.
7. Determines appropriate uses of computers in media management tasks (i.e., acquisitions, technical processing, circulation, inventory, budgeting, and planning).
8. Coordinates (schedules, allocates, oversees) the implementation of the instructional computing plan.
9. Assists teachers in using computers for classroom management tasks.

Teaching

10. Establishes user training standards to minimize risk to both users and hardware/software.
11. Teaches the basics of using computers to students, teachers and staff.
12. Coordinates continuing education/in-service instruction for teachers.
13. Assists students and teachers in using/troubleshooting CAI programs.
14. Uses CAI materials in library media skills instruction.

Information Provision/Curriculum Integration

15. Provides access to sources of information regarding hardware/software in-service opportunities and applications.
16. Provides access to online databases as appropriate to the curriculum.
17. Analyzes and evaluates the curriculum in order to recommend and provide appropriate automated information sources.
18. Participates in K-12 computer literacy curriculum development.

Organization

19. States the laws and regulations regarding copyright, patent and duplication.

20. Describes the special problems associated with the organization, storage, retrieval, and distribution of computer software/hardware.
21. Specifies conservation, care, maintenance and storage mechanisms for hardware/software.
22. Repackages materials into efficient formats and carriers appropriate to particular needs.
23. Develops distribution/circulation policies and procedures appropriate to the nature and use of hardware/software.
24. Identifies and evaluates sources of information for selection and acquisition purposes.
25. Acquires hardware/software locally ("homemade"), commercially, and through contracts and licensure agreements (see also appendix B for existing organization competencies).