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#### ABSTRACT

Present thought on professional library and information science education for the future is largely focused on improvements and modifications of present programs. However, more radical changes must be made to prepare professionals to cope with future information needs. Course content, structure, and methods should be altered to deal with new and diversified information forms and techniques, and professionals will need continuing education on a regular basis to keep informed. Librarians and information specialists should be competent in management, communication, counseling all aspects of information science, instructional program development, media production and use, research, subject knowledge, systems analysis and design, and technology. The library and information professional of the future should not be characterized by conformity, timidity, and rigidity, but rather by originality, boldness, flexibility, and enthusiasm for new ideas. (LS)



## FUTURE TRAINING FOR SERVICE -

## A REPORT TO THE LIBRARY AND INFORMATION SCIENCE PROFESSION

(After introduction of the speaker, the lights dim, two Carousel projectors and a tape recorder are turned on and the OPENING SEQUENCE begins: a slide/tape segment with comments on the current state of professional library education by a student, a faculty member, a dean and an employer. The last statement alludes to the fact that we must recognize societal changes in preparing tomorrow's professionals.)

(At the conclusion of the opening sequence, there is a blank screen for 5 seconds, the lights remain dim, and a two screen slide/tape MOOD MONTAGE begins. This sequence portrays the problems currently facing our society: population explosion, youth culture, drugs, federal governmental crises, law and order, depersonalization, technological achievements, and pollution.)

The lights go up about half way, a spot is put on the speaker at the lecturn and the narrative begins from the lecturn with slides being used or both screens remotely controlled from the lecturn.)

The Center for the Study of Information and Education at Syracuse University is designed to explore the relationship of information and education and to engage in consideration of the ways in which information will be used in our emerging society. Of critical importance to the process of information transfer in our society are the skills and attitudes of the people who work in this field,

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Therefore, a Task Force was commissioned to analyze the competencies now needed for current library practice and to define future training needs.

Dr. C. Walter Stone, President, J-Marc, Inc. and former Director of Libraries at the University of Pittsburgh chaired the Task Force and was assisted by Dr. James W. Brown, Dean of Graduate Studies, California State University - San Jose and Dr. Jack Belzer, Professor of Information Science at the University of Pittsburgh. The team visited 17 universities and talked with faculty, deans and students; they critically reviewed the literature and attended relevant conferences. This presenta-

tion is derived from that study and presented to you as

a report to the profession.

The 150 published documents examined were generally relevant but disappointing. Many writers encountered difficulty in defining and delineating the field of "library and information science" and tended to deal with the needs for professional education on a "piece-meal" basis. The largest number of publications examined, which do offer specific suggestions for improving professional education, are essentially incremental - i.e., they call simply for the modification of existing curricular emphases, addition of courses, increased use of newer teaching methods

and media (especially of computers), and more cooperative

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arrangements. The manpower studies reviewed tend to reflect demands for new personnel to perform existing jobs or to perform new jobs in established settings, and they put forward statistics which project the future in terms of present conditions and rates of change.

Statements made regarding the primary goals of formal professional education in library and information science appear to accept as a base premise the idea that "librar-SLIDE 3 ianship" is a single, unified professional activity entrance into which requires a significant degree of common exposure to a set core of academic and professional studies. A second underlying premise is that professional SLIDE 4 education should involve completion of a one or two-year program at the master's level with opportunities for advanced study generally reserved for those seeking teaching and research positions or higher administrative status in a growing or large organization. Needs for improved pro-SLIDE 5 grams and forms of continuing education are acknowledged widely but most of these haven't yet become a truly integral part of the "professional" education enterprise in a formal sense.

Two overriding conclusions emerged from the Task Force's SLIDE 6 review of recent professional literature. The first is that a large number of specific improvements in professional education in library and information science are needed,



wanted and are being sought actively (some have actually been proposed many times over many years) by individuals, professional groups and associations and by academic institutions. Most of the changes being sought, however, are those which would take the form of minor curricular adjustments needed to yield individuals capable of serving in existing programs and institutions as distinguished from being prepared to meet future needs.

A second major conclusion is that, until the whole field of library and information science is redefined in terms of future information needs and the probable shape of figure information service institutions and until related probable service institutions and until related probable fessional educational responsibilities are restructured to cover the resulting spectrum of personal competencies required, the most important changes may not be made.

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One further conclusion which influences practical prospects for improving the situation is that the emotional readiness and intellectual capacity to make those changes really needed may not yet be represented in most professional schools. Self-selected, relatively non-assertive and negatively oriented student bodies and faculty members still constitute a majority of those who are involved in professional education in library and information science. Further, since needs for change are well known to practitioners and suggestions offered have been many, the problem



appears to be less one of apathy than that caused by impotence.

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# Types of Curricular Change Required to Meet Future Needs

Taking such forecasts into account, the most basic kinds of change required for improving the content of professional education in library and information science, expressed in broad terms, look toward the recruitment and training of more individuals who will be able to demonstrate (1) increased knowledge of information and of information needs and related understandings of personal and inter-group communication and learning processes; (2) abilities to design, develop and utilize improved information handling systems; and (3) capacity to make effective application to library and other information service tasks of computers and alternate forms of information storage, processing, transfer and distribution technology. Also, needed urgently will be "library" education programs which will yield "active" rather than merely passive concerns with the social effects of information distribution and more individuals who are willing to accept appropriate measures of personal responsibility for the consequences of identifying information needs and disseminating information in terms of these needs.

Other changes needed relate for example, to library



education program organization and structure. Put simply, these are the sorts of changes which would acknowledge the idea that a single unified program of "professional" education in library and information science probably cannot be designed since there isn't a single, unified field. Rather, there are numerous fields and areas of study involved in library and information science including (1) the nature of information, (2) information technology, and (3) information services. Individuals must be recruited and prepared to follow differing career paths relating to one or another of these areas.

A third cluster of improvements required to better professional education in library and information science
are those which concern the selection and use of newer
instructional methods and strategies. Moving away from
traditional lecture courses and the rote memory work
traditionally done by students in mastering lecture notes
and textbook-centered approaches to study, the emphasis
should now be placed on individualized (and small group
or seminar) learning techniques; utilization of non-book
learning resources wherever appropriate; introduction of
case study methods; student self-pacing and self-evaluation
activities; maximum exposure to actual (or simulated)
field conditions through visits, extended practical,
increased use of internship arrangements and other methods
of giving real-life experience; and reorganization of



learning prescriptions, assignments and related testing methods to establish a competency-based approach.

Another set of needs for improving professional education in library and information science reflects the desirability of lengthening and strengthening educational processes by "institutionalizing" continuing education as the direct responsibility and func in of formal education programs. Difficulties of motivating students to continue education throughout life is acknowledged readily. But the importance of continuous updating to all professional personnel who work in behalf of libraries and information centers is obvious. And present, rather haphazard, independently sponsored activities which typically comprise continuing education programs offered in the form of institutes, workshops, occasional conferences, summer courses and the like are inadequate to provide the systematic, intensive educational programs now essential.

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# Education for Competer by

If we can acknowledge these recommended curricular changes as valid, the vital question remaining is, "What specific competencies should professional librarians and information specialists possess in order to satisfy future demands?"



We believe that competencies in certain functional areas should be acquired by students at some point in the sequence of their education for professional work in library and information science. These functions include:

- Management (organization and personnel);
  communication, persuasion
- Counselling and guidance; liaison
- Information acquisition, organization, analysis and description
- Instruction and instructional program development
- Media production and utilization
- Research activity; theoretical study
- Subject knowledge interpretation and evaluation; application
- Systems analysis and design
- Technical systems development and supervision of maintenance

For convenience in thinking about these functions, professional career paths which reflect the chief job functions of library and information science are grouped under four headings:

## A. <u>Service Personnel</u>

- 1. Managerial and Business
- 2. Analytic and descriptive
- 3. Consulting; liaison and teaching in relation to
  - a. subject areas
  - b. constituencies (groups, institutions)
  - c. media (e.g., TV)
  - d. other agencies



# B. <u>Technologists</u>

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- 1. Instructional design; communication services
- 2. Utilization of technology (e.g., of computers for automation)

# C. Specialists

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- 1. Theoretical formulation
- 2. Systems development
- Processing (e.g., indexing, editing, abstracting, translating, reformating, producing)

# D. Support Personnel

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- 1. Administrative
- 2. Clerical
- 3. Technical
- 4. Maintenance

In listing job functions and in suggesting competencies, it is not presupposed that any one librarian or information specialist could or should be expected to acquire all of the professional knowledges and skills believed desirable or that any one educational institution can or should provide the full range of learning experiences needed to operate all types of library and information service programs in the future. Both people and institutions necessarily will have to specialize. However, the list is believed to be indicative of the range of competencies required. And, although improvements come gradually the directions in which such changes should lead are fairly clear.



What can be done to bring about curriculum reform?

- 1. Anticipate the setting up of new communication and information service "utilities" many of which will supercede existing libraries and information centers taking into account existing societal patterns, the potentialities of communications technology and emerging new definitions of information and of information needs.

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2. Determine manpower requirements of information utilities and specify various job functions to be performed; then state the needs for information personnel in terms of competencies required.

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3. Conceive, establish and maintain the primary spectrum of "professional" education programs in library and information science as closely articulated multi-level, multi-track, interdisciplinary activities to be cooperatively planned, supported, administered and promoted.

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4. Divide and offer graduate work in three major fields of study: information science; information technologies; information services.

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fession-wide, nationally planned, coordinated
undertaking to be managed as a primary function of
library schools and representatives. The cooperative thrust of interested professional associations,
state agencies, single institutions, and the library
schools should be represented.

Continuing education should stress

- Interdisciplinary approaches
- Use of a systems format in planning and implementation
- Reliance on practical library school-based approaches
- Multi-media approaches to instruction
- Need to offer programs on a part-time basis
- Need to provide financial and other inducements to prospective students

Among the inducements offered to encourage practitioners to participate in continuing education programs should be use of new, advanced certification techniques, re-examination of professional personnel, and development of new salary schedules to reward successful completion of advanced studies.

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Single library systems and especially academic agencies should be urged to make possible the continuing education of information personnel by extending opportunities (such as those normally given faculties) including a ten-month year, sabbatical leaves, and granting of credits for course work taken.

Right about now you are probably saying "Wow!" or "So what?" or "Where do we begin?" or "What can I do about it?"

What kind of person are we talking about who will serve the new and emerging information professions?



Would you think with me tonight of the people you consider to be great contributors in this rapidly changing world — the men and women who have achieved their human potential, who symbolize man at his best. How are they different from the rest of us?

Is it their accomplishment in college? Of course not. We all know of graduates from the same college, with the same cultural and social backgrounds, who have taken the same courses and received similar grades . . . one is a leader, an innovator and a beautifully functioning human being. The other doesn't really make it in today's hectic world.

As you think about the differences, do you find with me that often the differences are in the area of human and personal characteristics - of attitudes, appetites, styles of attack?

Apparently, knowledge, however important, is simply not enough. It is far easier to get people to absorb new knowledge than it is to get them to alter their conclusions. Most of us have an incredible talent for processing new facts in such a way that our prior conclusions remain intact. Particularly with modern technology, I think we will far more easily solve the problem of transmitting to students the vast information



explosion than we will the crucial human styles that the future will require.

Increasingly, the really successful leaders I see have a real appetite for the future. They welcome it. Embrace it.

They've learned how to learn. In a short time, they grasp the essentials of a new situation. They create new solutions to new problems and with gusto. Others, equally intelligent and "educated" don't do so well. They react defensively . . . "It can't be done." "It's cloud nine." "It won't work." They react historically. "We've always done it this way."

Can appetite and a style for innovation be taught in library schools? Can it be simulated and stimulated? I think so. I certainly hope so. It apparently is one of the very important things that remains after we have forgotten about what we learned.

Marshall McLuhan tells us that we are prisoners of a kind of invisible environment . . . the outlines of which are not clear until we move into a still newer environment. The McLuhanism that captures this concept best for me is a simple one: "I don't know who discovered water, but I'm quite sure it wasn't a fish." This new breed of person we need for the future cannot be a prisoner of



his environment, for he must often shape the new environment.

The librarian can easily be isolated within his occupation, and in his own way lives in an "ivory tower," more remote from realities than many an academic person. Part of the shift we need from the "specialist" to the "generalist" is getting our leaders and citizens to "cross-pollinate" as it were, with the cultural community, the academic community, the non-surburban community, the young community, the scientific community, the world community.

Here, time is our enemy. More and more of our working time is spent in monumental travialities which bear only the dimmest relationship to the work that we are really paid to do. By the time we extricate ourselves from these irrelevancies and get down to the business at hand, we are commonly too tired to cross-pollinate with anyone at all:

Let us assume our future graduate senses the outside world.

But what if he is familiar with the outside world but a

stranger to his own feelings, uncomfortable with his innerself, uncommunicative with his fellow man?

I don't know whether there is some kind of perverse, or inverse law or what, but as technology and urbanization move us into closer and closer physical proximity, we seem to become more and more emotionally distant.



In short, can a graduate no: "humanized" be said to be educated?

Can we help the future society by helping create the kinds of people who are good environmental sensors, good human sensors, good cross-pollinators, good listeners, aware people?

At this point, you may be saying, yes, I agree, and always have, the future needs and deserves a human being with some new styles, new appetites, new dimensions. Yet, it seems clear to me - even through the fog - that the basic system of rewards and punishments we have in our library schools does not particularly encourage those traits and tendencies I think we would all agree will be increasingly important in the future.

For the world of the future - and the very near future - will call for such traits as originality, boldness, and Flexibility. Whereas, I wonder if many of our library schools don't unconsciously encourage conformity, timidity, and rigidity.

In a real sense, librarians have to become pioneers again.

Not pioneers, as their ancestors were, in the forest

primeval; but, even harder, pioneers in the technological

jungle, where no one really knows what tomorrow will bring,



where developments are so rapid, and changes so cataclysmic, that only the sharpest and most sensitive will survive and flourish.

(The lights dim; the spotlight on the speaker is turned off; and two Carousel projectors begin the CLOSING SEQUENCE with accompanying music until the end.) CSIG

Panel Discussion Begins

