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ABSTRACT

This paper represents the state of the art of research in library science on professional competencies for academic, public and special libraries since 1985. The seminal research study done on librarian competencies was conducted in 1983-86 by King Research. The goal of the study was to identify the type of skills and knowledge that information workers will need in order to be effective in the future. The King study was widely anticipated and became almost as widely dismissed--especially by library educators. In the few years following 1985 researchers sought to replicate the King study's methodology. The overall conclusions of the Murphy and Bailey study were to make LIS courses longer, re-think core curriculum, emphasize communication in a term-long class, and recommend internships and the declaration of specializations. Various stakeholders in the library profession continue to research the issue of competencies, but each from their own standpoint. Later research studies have varied widely as to scope, hypothesis and conclusions. These are reviewed in clusters based on the author's employers, practitioners, students, professional organizations, educators' role in the profession. Appendices present selected study results. (AEF)

Assessing Professional Competencies

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This paper was originally written as a class assignment for a seminar in the School of Information Science, University of Pittsburgh.

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Introduction

This paper presents the state of the art of research in library science on professional competencies for academic, public and special librarians since 1985. How much real research has been done in examining the competencies required to perform effectively in today's academic library setting? What kinds of research studies have been conducted and how have these studies been replicated? What are the areas for future study?

Background

The issue of professional competencies is not a new or unusual one for professional fields. Many professions require a certification or licensure process. Lawyers need to pass a bar exam in any state in which they wish to practice. Doctors must pass board exams, and social workers and teachers must be certified. Many information science professionals gain certification, if not through the Institute for Certification of Computer Professionals, than for specialized systems such as Novell or Microsoft.[1]

The issue of certification has certainly been debated in the library science field in the past.[23] A number of states do certify school and public librarians. The Medical Library Association has had a process in place to certify its members since 1949; a process which encourages continuing education. Many librarians have called for the implementation of a certification system for all librarians.[4]Often the certification argument is coupled with an assertion that

certification will raise professional salaries and stature. Yet academic and most special librarians have never had any certification options.

The competency discussion takes on a different slant in the management and business fields. Here competencies are often viewed as skills which provide competitive advantage. Management competencies have been researched and refined for years, based often on Katz.[5] Modern training and professional development programs, in dealing with the demands of today's competitive organizations, often refer back to Katz's business basics[6]. These competencies become the basics of management job descriptions or blueprints for a corpus of individuals.

The competency discussions have also often surfaced recently linked to societal trends. Several factors currently impact on the state of the work environment and the capacity of today's workers. In the last decade much attention has been focused on the current complex environment, and the educational and skill requirements that this new environment demands of workers. Zuboff[7] discusses the impact of technology on the workforce and concludes that computers have increased the demands on workers by making their work more abstract.

Accepting the importance of an educated workforce, and considering the impact of technologies on work, what changes does that imply for education? Education professionals have been grappling with just these issues. Caissey[8] discusses the concept of life-long learning and the importance to today's worker of re-tooling. This leads to her conclusion of the need to teach the "capacity to

acquire skills"[9] rather than the skill acquisition itself. She promotes four information processing skills - research skills, thinking skills, decision-making skills, and problem solving - and outlines processes within each of these skill areas.

Though not alone, the library profession has been very closely experiencing the environmental forces of technology and change, and exploring the issues of education, training, skill acquisition and competencies. Many articles discuss the changing roles of reference librarians or catalogers and the stress and demands these occupational shifts are causing. In addition, the cultures in which new graduates are placed has shifted over the last few decades. Higher education and academic libraries, are being rocked by lowered funding, higher expectations and close scrutiny. Today's extremely competitive corporate atmosphere and emphasis on pragmatics have brought these issues into sharper focus. The Special Library Association has recently released "Competencies for Special Librarians of the 21st Century"[10]. What research has been done to support the development of this type of professional statement? What do studies suggest for future action?

The King Research Study

The seminal research study done on librarian competencies was conducted in 1983-1986 by King Research[11]. Sponsored by the Department of Education, the goal of the study was to identify the type of skills and knowledge

that information workers will need in order to be effective in the future. The project involved working through a cycle whereby the authors identified workplace activities, described the make-up of the profession and then identified, defined and validated competencies. The authors envisioned setting into place a model of communication among stakeholders (educators, librarians, etc.) whereby the list of competencies is continuously updated and refined.

The King report defined as "exemplary" traits, rather than defining them as a standard or baseline. In the King Study, competencies are described in three components: knowledge, skills (ability to use one's knowledge effectively) and attitudes. The study further analyzes competencies based on three additional dimensions: work setting (e.g. public library, special library); functions performed (e.g. reference librarian); and level of professional activity (entry, mid or senior librarian). The project did not seek to look at how people acquired their competencies but rather focused on what librarians do in the workplace.

Data was collected through selected samplings broadly representing geographic and size demographics, at locations that were recommended to the study team as forward-looking. Background interviews were conducted and second level interviews were done with exemplary information professionals. These second level interviews had a two-fold purpose: to identify actual work functions and professional's preparedness for them; and to discuss specific critical incidents on the job which librarians handled particularly well. The critical incident method was aimed at isolating skills, knowledge and attitudes which were used when performing high-level work.

Approximately 9,000 statements were categorized, and lists of competencies were generated for the different types of functions within the different types of libraries. A widely participative process helped in the categorization, and a validation process sought to confirm the competencies.

Outcomes of the study include a compilation of competencies that are common across all work environments, ones that are common to all kinds of librarians, ones that are specific to particular types of libraries and particular functions within that setting, etc. The final study was published in twelve volumes. See Appendix A for a brief summary of key competencies that crossed all environments and functions.

The King Study was significant. The study itself was a huge and all encompassing undertaking. The methodology was well conceived and included a self-validation process. The study had textbook characteristics, including well defined goals, extensive operational definitions, and a thorough explanation of the methodology to encourage reproduction. The Study tried to cross the barriers of the various professional stakeholders by going beyond looking at education from a Master's Program and looking at employer and professional responsibilities. The study's authors postulated a model whereby the demand for competencies was generated by the workplace, from practitioners, from students, and from professional organizations. Then these demands should be translated back to the curricula. The study covered the competencies, and strove to put up the framework from which communication would flow.[12]

The King study was widely anticipated and became almost as widely dismissed - especially by library educators. White[13] and others has some significant criticisms of the Study. Frankly, it does seem to be, as White points out a "mistitled report"[14] not addressing the educational component at all. White specifically criticizes the study's sample, lack of pilot, length, and over-abundance of tables. He is also critical of this type of research which , in today's terms, focuses on improvements rather than re-engineering.

Taking up the King Study

It is only in the few years following 1985 that some researchers sought to replicate the King study's methodology. Murphy and Bailey[15], and later Bailey and Murphy[16] attempted to validate the methodology suggested by Griffith and King. The authors choose to look particularly at middle-managers. The authors interviewed six middle-managers at each of eleven ARL libraries in the mid-west. The authors used the critical incident method to elicit circumstances/experiences in which managers used management principles. The authors did, however, differ from the earlier Griffith & King research. They interviewed three average and three superior middle managers at each library in order to make a comparison of the two populations. The later study also asked managers to discuss both positive and negative critical incidents. Due to the fact that the King results had not yet been published, Murphy & Bailey initially devised their own set of taxonomy with which to analyze the incidents. Later, after the King taxonomy was released, Bailey & Murphy re-tabulated data from six of the eleven sites. See Appendix B for some summary results.

The authors caution against making too much of their data, since such a small population was used, however, they don't tell us why they did not re-tabulate the data from the entire eleven schools. They did not find significant differences between superior and average manager's recollection of critical incidents. On the other hand, the authors felt that they could tell whether they were interviewing the superior versus average manager. Though when they reviewed their audio recordings of the interview and fit incidents into the taxonomy, the distinction between interviews of average and superior managers was much less clearly defined: "the factors that made these distinctions so evident during the interviews seemed to melt away when distance and time intervened[17]". The authors postulated that manager attitudes might be a factor in this distinction, and they attempted to rate managers based on the attitude criteria developed in the King study, but they did not suggest attitudes held by the average managers, nor did they compare the two categories. They did not compare, or did not mention comparing their data on middle managers with the King data. Murphy & Bailey suggest that a clear area identified by their project for remedial action is that of addressing "lack of knowledge about and expertise in supervising and managing personnel"[18] - though they do not mention this again in the '89 report. Possibly the author's experienced some of the inherent difficulties of replicating the King Study. Their list of incidents did not melt into competencies. It was just an itinerary of things that happened.

Murphy again used the King Study as a framework to look at competencies in a 1988 study of Special Librarians.[19] This time, twelve special

library managers from seven corporate libraries were selected for in-depth critical incident interviews. Again, the librarians were selected based on their known excellence and the prominence of their libraries in accordance with the King methodology of looking at competency as excellence. One deviation made in this study was again to ask for negative critical incidents as well as positive examples. Once the incidents were described, Murphy assigned knowledge, skills and attitude attributes from the King taxonomy. Though, as with the earlier Murphy & Bailey study, a list of critical competencies is not an outcome for this study. See Appendix C for some of the study's conclusions.

As far as validating the King study, she found the skills taxonomy good, but the attitudes taxonomy unworkable. She also felt that the knowledge and activities were both too broad to be very useful. King study a good first cut which needs further refinement. Murphy's overall conclusions were to make LIS courses longer, re-think core curriculum, emphasis communication in a term-long class, recommend internships and the declaration of specializations.

Stakeholders' Perspectives

Unfortunately, then, the legacy of the King study, instead of being a foundation for future research, became a quagmire of criticism. Rather than serving as a framework for further dialog, the study was thereafter ignored[20]. The various stakeholders in the profession continue to research the issue of competencies, but each from their own vantage. Later research studies have

varied widely as to scope, hypothesis and conclusions. Let's review them in clusters based on the author's role in the profession.

Workplace – Employers view Competencies

Looking at the issue of competencies from an employer's perspective reveals some interesting viewpoints. One of the more rigorous of these types of studies involves an initial survey of ARL directors and a later follow-up survey of public library directors. The first study was done with data collected from a survey of 76 ARL directors. The survey and data gathering were done by the ARL Task Force on Library Education. An independent appraisal and article were subsequently done by Marchant and Smith[21]. The survey asked directors to rank a list of nineteen competencies - no discussion was included as to the basis for this list of nineteen - in terms of their relationship to need levels for entry-level librarians both in the present and in the next five years. See Appendix D for summary rankings. All competencies were expected to become even more important in the next five years. Competencies were also grouped by position type.

The directors were asked to rate entry level librarians on their achievement of the nineteen competencies. Directors felt that only two categories - knowledge of general reference material and of bibliography - were possessed at a satisfactory level by entry-level librarians. Ten more competencies were possessed by about half of the entry level professionals, and the remaining eight were possessed by few. A further question seeks to determine where the necessary skills need to be acquired. Not too surprisingly,

library directors felt that those skills should be acquired in library school and are disappointed in library school's instruction in analytical, human relations, statistical, research, online retrieval, managerial, system analysis, and supervisory skills.

A few years later Smith, Marchant and Nielson[22] did a follow-up study, this time using the population of larger public library directors. The same survey instrument was used and the results of the two surveys showed a number of similarities. The directors from ARL and public libraries had very similar attitudes both about needed competencies and entry-level librarian preparedness. The authors conclude that the "instructional core identified as appropriate for most public library specialists is similar to the one that research libraries need"[23].

Powell and Creth[24], an educator and a library director, did a collaborative study to add to the research on the baseline knowledge and skills required to prepare research librarians, and to see if those requirements change as librarians move into different positions throughout their careers. The researchers used a stratified random sampling technique to identify twenty sample ARL libraries. All librarians at those libraries with nine or fewer years of experience were asked to fill out a survey instrument.

The first range of questions was aimed at library education: respondents felt that their education was more theoretical than practical. They went on to rank on-the-job-training as most effective, continuing education as the next most effective, and formal library education as the least effective preparation for their

current position. The authors stress that the respondents were relating the education and training to their current positions, not previous or initial positions.

The next range of questions attempted to assess the importance as well as knowledge of 56 presented knowledge bases. The authors also looked at relationships between the assessed importance of the knowledge bases and the years of professional experience, the current library position, and the current library unit. See Appendix E for summary rankings. The authors conclude that "while a traditional core library knowledge is still highly valued, knowledge of management and automation are also highly valued by this group of librarians."[25] The librarians in the study also felt that they lacked a substantial knowledge about those management and automation topics. The study shows that as librarians move through their professional lives they will need to acquire new knowledge and new levels of knowledge. They tend to have a positive attitude toward continuing education and staff development.

The majority of articles on competencies and changing roles written by library employers are not research studies, but opinion pieces. Stafford and Serban[26]'s article is one of the better examples of this type of work. They identify the employer's need to recruit, hire, train and evaluate librarians for an increasingly technological workplace. Through a review of the literature and the authors' own experience, they suggest and define six core competencies for today's reference librarian. See Appendix F for a summary.

Certainly, some research that is done by employers is poorly done. Coffey[27] hypothesizes that "by studying our best employees carefully, we can get

a picture of what we want to see in future job applicants[28]." Coffey sought to come up with a model to use in job interviews to assist in identifying future top-notch technical services employees. He did interviews with several librarians who he identified as being the 'best' technical services employees. Using these dialogues as a basis, Coffey identified interview questions to use to structure further interviews with other exceptional employees. The author then used the questions and the range of answers given by the two groups to develop a competency model. He used this model to evaluate candidates for two open positions and felt that the model did help him in choosing appropriate candidates. See Appendix G. The author indicates the need to do further interviews, and possibly incorporate a standardized test into the profiling methodology. He points out a difficulty in this research - his lack of operational definition for a "good" technical services employee, and he cautions against minimizing other, more traditional parts of a job interview in light of his model.

I found Coffey's research to be very questionable. His work centers exclusively on attitude and personal preferences rather than skills or knowledge. His sample size is too small to make generalizations. In several instances he emphasizes the need for new hires to fit into an existing department; dangerous biases which give emphasis to existing personalities and thwart diversity and major change. His perfect technical services person is not a flexible individual. Indeed, the author himself stipulated that he would want to interview employees who are "productive and accurate, and happy in their jobs"[29]; not a definition that others might use for a good technical services librarian. The idea of having a

librarian fit into a rigid profile certainly restricts one's future and is in opposition to the newer trend to break down barriers between departments in the library.

In direct contrast to Coffey is library director Arnold Hirshon's[30] view of the future for technical services. Within the broader context of managing technical services in the 90's, he foresees that "librarians will need to have amore diverse background to get a job. Librarians will be multifaceted, and be tolerant in ambiguous situations. Critical to success will be the ability to understand not just ones' own job specialization, but how that job fits into the larger context."[31] Hirshon goes on to enumerate several characteristics that he feels will be important to any new professional, most of which are directly in conflict with Coffey's.

Workplace – Practitioners' Views

Many practitioners find themselves counted in others' surveys, but few actually author research on this topic. Anderson and Landram[32] however, performed an analysis of library school catalogs in order to determine if library schools meet their goals and objectives with regard to academic librarian training. Since many academic librarians must publish, the authors are specifically interested in the preparation academic librarians receive in performing research. The authors acquired catalogs for U.S. library schools. They factored out the schools that listed research experience as a prerequisite for admissions. For the others, the authors examined the bulletins' stated goals to see if academic librarianship was a category of graduates. Then the catalogs were reviewed for the courses offered to see how many actually offered and/or

required courses in statistics, research methodology and research performance. Anderson and Landram conclude that "most library schools do not meet their stated goals and objectives in training academic librarians in the area of research."[33]

Catalog analysis is an interesting, though seldom-used research approach for this topic. The authors did point out the problem that some of the school bulletins might not explicitly list academic librarianship, but do indeed place graduates in academic libraries. The authors themselves don't do a good job in using their data to demonstrate significant relationships. Nor did they attempt to track relevant courses offered through other departments at the same university.

Students

Adele Friedrich[34] tackled the subject of competencies through a Delphi methodology in her 1985 dissertation. Her research question was: Can agreement be reached on core competencies for both library and information science professionals in the next ten years as predicted by a panel of experts representing both disciplines.[35] Her focus in performing the research, and in reviewing the responses is on applying responses to test a core curriculum for both library and information programs. She found that the experts were in a high level of consensus after Round I, and were even closer aligned in Round II. She found it important to note that experts from the two groups agreed on eight of their top ten competencies, and that the top four were the same for both groups. See Appendix H. She feels, therefore, that it is possible to integrate

library and information curriculum. The core competencies identified by both groups transcend either setting.

Students and Job Adds

A popular research method for examining the issue of competencies in student research work is through the content analysis of job advertisements. Typically, job adds appearing in a journal or journals are analyzed for a specified period of time. For example, Yuan Zhou choose to do a trend analysis to examine patterns in the requirements for computer-related qualifications listed in job adds, for librarians other than systems librarians. Zhou's 1994 dissertation[36] examines adds for both public and academic librarian positions, while a later College and Research Libraries article[37] concentrates on academic positions.

Zhou's research examines contents of job adds published in American Libraries over several specific time periods: 1974, 1979, 1984, 1989 (and 1994 for the article). This resulted in an analysis of data from over 3,000 adds for his dissertation and 2,833 for his article. He used a pilot to provide a checklist of computer related qualifications for data coding. Eventually, thirteen qualifications were identified and five hypothesis were tested.

His dissertation research had indicated that the growth in demand for computer related skills increased substantially in the 20 year time period, especially among academic librarians - raising from 10% in 1974 to 90% in 1994. Other findings indicate that demand for computer skills has little to do with the size of the library. There are differences among the specific computing skills required in different types of positions. In 1994 knowledge of automated library

systems becomes the most frequently listed qualification. The scope of computer related skills is augmented as technology and applications develop. "As a result, the degree of importance attached to some particular skills at a given time may change, giving way to the latest development"[38].

Several other studies have been conducted using content analysis of job adds. Robinson[39] looked at job adds for collections development and management positions over a period of twelve years. His findings show that, interestingly, only 79% required an MLS. The next most frequent qualifications were communication skills (49%) and interpersonal skills (38%). Another MA degree was required in 18% of jobs, but desired in 42%. A rash of research has been done at Kent State. Kelly[40] examined job adds for special library positions, Rakovich[41] did the same for Business Library positions; Field[42] looked at law librarians and Nordland[43] did medical libraries. Chu's[44] 1990 article portends to review job adds for systems librarians, but no data is given and no methodology is presented.

Hong Xu[45] looked specifically at cataloger and reference librarians job advertisements. His study identifies a trend vis-a-vis technical services and public services jobs: 1974 and 1979 data show marked computer focus for technical services, while later years show steady increase in those skills demanded of public services positions, to the point that those two areas call for equal level of computer skills in 1994. Xu also points out some of the limitations of job add analysis: "First, a brief job description cannot fully embody the complete requirements and responsibilities of a particular librarian. Second,

there are differences in requirements between postings and the real applicants."[46] Also, how are potential employees measuring some of the skills mentioned in job adds - is this done consistently? Do job adds really match the incumbent's job functions? Advertisements list minimums, not exemplary qualifications. How often do successful candidates have much more than the minimums called for in the advertisement?

Professional Organizations

As the King study indicated, professional organizations do play a role in the ongoing dialog concerning professional competencies. A number of studies have come out of assignments from professional associations. A study group of the Association of College and Research Libraries commissioned a white paper[47] exploring the implications for librarians of the changes to be expected in the decade 1985 through 1995, and the appropriate activities ACRL should be taking in response to these changes. Though not a research study, this paper presents many of the views articulated in other studies.

Special Libraries Association supported Miriam Tees's[48] research, which sought to address one of the priorities of the Association's long-range plan: developing curriculum objectives for library education. Tees developed a questionnaire which was mailed to a sub-group of SLA members. The questionnaire was aimed at outcomes: "What must our graduates be able to do, and at what level?"[49] This strategy was based on theoretical work on curriculum and educational objectives. The questionnaire was based largely on ability and knowledge questions. It was piloted and distributed to the sample population.

Communication skills and reference skills ranked very highly on the response list. See Appendix I for the ten highest rated competencies. Tees also received feedback in the form of additional comments from the respondents. From free-form comments she was able to identify several often repeated concerns: SLA members commented that the new librarians' personality type is more important than one's skills and knowledge. This is reflected in the top ten list, with SLA members mentioning characteristics such as assertiveness, flexibility, outgoingness, practical intelligence as being important characteristics for librarians. SLA members also emphasized teaching the basics, the importance of learning concepts and knowledge, rather than skills. Tees ends by suggesting that SLA members can help recruit high caliber students, and again, that there be more on-going dialogue and collaboration between practitioners and educators.

Some slightly different results are reported in a survey done of the members of Association of Independent Information Professionals (AIIP). Tim Green[50] used the methodology and adapted the questions of researchers Tees and Buttlar and Du Mont. Green used a pilot, and identified and added some questions which were specific to the work of independent information professional. Green's findings indicate that the top ten competencies were rated as essential or very useful by more than 93% of the respondents, indicating a high level of consensus. See Appendix J for a summary list. Unique to this study were high rankings for skills "provide accurate estimates for services/accurately price products" and "develop and follow an ethical code of

conduct". Green ends by suggesting that new professionals in the field use these competencies to assess their own strengths and weaknesses, and that these areas are potential continuing development workshop topics.

ALA sponsored a focus group study as part of an ALA initiative, Project Century 21. Robbins[51] focused on the needs of library education in the twenty-first century. A series of 22 focus groups based in sixteen library schools participated. The focus groups were composed of educators, students, practicing librarians and information industry representatives. The focus groups addressed several questions concerning the information needs and library organizational structures of the future. The focus groups were asked, "What knowledge, skills and attitudes will information professionals need to provide these services?" Interestingly, group discussion was mixed with regards to how to change library school curriculum to meet these staff competencies. There was concern that a core of knowledge continue to be part of LIS studies. Political strategies, developing critical thinking skills and analytical skills were needed, as were opportunities for more practical experience for students. See Appendix K. Participants felt that in teaching students technology, the emphasis should be on developing comfort levels and ability to understand rapidly changing formats. They felt that library schools should be active in providing continuing education, that professional ethics should be a component of library school programs, that teaching skills are covered, and that LIS programs put a greater emphasis on diversity.

Educators

The bulk of the research done on competency and related issues has been done by library educators. One of the best and best known is a 1987 study by Herbert White. White and Paris[52] set out to evaluate how library schools could modify existing curricula to meet the requirements of library managers. The authors developed a questionnaire for managers. The study focused on where professionals should learn, and respondents were challenged to consider the ramifications of their answers. For instance, if managers were suggesting expansion of library curriculum to a two-year program, the questionnaire asked them how much more money would they be willing to pay new graduates who had attended such a program.

The population for the survey were library managers randomly selected within eight subject groups: large, medium and small academic and public libraries, and large and medium special libraries. The respondents were asked to rank the essential nature of 87 courses for new librarians. The authors present tables of results based on medians and modes. It appears that academic, public and special library managers all want their employees to have had many of the same courses. Special libraries were very unique in their requirements. Some overlap was identified in determining core or essential curriculum for future public and academic librarians. See Appendix L for a summary table. It is also notable that based on these manager's responses, the practicum was not determined to be essential.

When asked to rank options for post-graduate degree education and training, managers choose on-the-job training, individual graduate courses, professional association workshops, and in-service workshops, in that order. Unfortunately, further questions revealed that managers were not willing to pay enough to cover typical costs of these types of continuing education sessions.

White and Paris suggest a range of possible alternative solutions, and conclude with the recommendation that educators and practitioners come to agreement on overall educational strategies. "What is needed is a series of opportunities for interchange in which the various protagonists have an opportunity to explore, in an open and nonaccusative environment, the options that present themselves." [53]

White and Paris deliberately tried to avoid a shopping list mentality in their study. It is worth noting that they also focused on classes, rather than specific skills or knowledge. They forced respondents to look at implications to their responses and to be practical in what they were deeming essential. Their research was geared at making doable, practical changes to the core curriculum, and the study results did give them some concrete recommendations.

Library educators are keenly concerned with the quality and content of library science curriculum and their alumni provide an ideal population to study. Buttlar and DuMont[54] set out to gain data to help evaluate library science curriculum based on a "realistic picture of competencies needed by library science graduates as perceived by practicing librarians"[55]. The purpose of the study was to learn the perceptions of alumni regarding needed knowledge and

skills for employment at the entry level. They developed a questionnaire, listing competencies based on the King report and the triad of knowledge, skills and attitudes; on a literature review and an analysis of the skills discussed there; and on objectives from KSU course syllabi. The questionnaire listed 53 competencies and respondents were asked to rank the competencies on a Likert scale.

The authors did a follow-up study[56] using an updated survey, augmented with another literature search. This time fifty-nine competencies were listed, and again KSU alumni were probably the respondents, though the description of the actual population is not stated directly in the article, nor is it clear if the population for the second survey intersected with the first. The findings were similar to the first study, though there was a decrease in interest in people oriented skills. See Appendix M for a list of the most highly rated competencies. In the end, the authors remark that the findings indicate that perceptions about competencies change as librarians work longer. For instance, interpersonal skills are viewed as more important by alumni who have been working longer than new graduates. Also, the type of library in which a librarian works has an impact on their perceptions of competencies. This last conclusion seems to contradict a number of other study results which show much consistency.

A similar methodology was used by Loudhridge[57] in her survey of alumni. She surveyed all MA graduates from 1985/86-1992/93 still residing in the U.K. and Ireland. Respondents were involved in a myriad of duties. Her findings indicate that "generally, graduates found the courses they took highly relevant

and useful to them in their careers so far, thought the emphasis on the theoretical rather than the practical aspects in some courses was criticized. Re-course work experience was also considered highly relevant and useful in all posts at all levels. There was a widespread demand for further training and education in management and information technology skills"[58].

Trying to pin down the important issue of where needed skills are acquired, Powel[59] did some follow-up analysis of the survey responses from the 1986 Powel and Creth study. Concentrating on data that was not reported in the earlier study, this later article focused on where librarians are acquiring their knowledge. Results show that formal library school classes and on the job training account for most of the learning acquired. His results did show that many practitioners would have preferred to utilize staff development opportunities and continuing education. I did not agree with Powel's conclusions here, as it seems that the majority of respondents still indicated that they felt the "best" place to learn was library school or on-the-job.

In order to create core curriculum for the 1990s, the Schlessingers[60] sought to quantify the perspectives of practitioners, educators *and* employers. To determine the practitioner viewpoint, the authors examined job adds during a three-month period. For the educator perspective they evaluated the core curricula of the top ten library schools. To look at the employer perspective, the authors use White and Paris's 1987 articles on employer preferences for core curriculum. Based on the data from these three approaches the authors suggest

twelve core courses. They also suggest expanding the number of credits necessary for a degree, and a required practicum.

To me the research done by the Schlessingers appears flawed. It is important to look at and synthesize the viewpoints of the various stakeholders, but their mini-data gathering was not as thorough or well conceptualized as many of the other research done on this topic. It is not clear to me how the recommended twelve core courses were related to the data presented. For instance, the first core listed is Foundations in Library Science, but this was not mentioned by any of the stakeholders.

Woodsworth and Lester[61] base their report on the 1988 symposium "Options for the Future". At this 1988 symposium, participants came to some collective agreement about their view of the research library of the future: its mission, goals, structure, staffing and interaction with other campus stakeholders. Based on the model envisioned during that symposium, the authors postulate the educational requirements for information science professionals in the library of the future. They criticize earlier competency articles for using an older, generic list of competencies which are presented to the survey population. Others "did not use a taxonomy of educational objectives to define the areas of knowledge, skills or competencies listed in their questionnaires. Diverse terms are used to describe similar and related areas, resulting in a collection of differently ranked competencies described in overlapping terms, and making the transfer of the findings into educational

objective difficult."[62] Unfortunately, these authors too present a list of familiar looking competencies, as can be seen in Appendix N.

The authors discuss the new model research library in terms of new functional areas, a new organization of staff and a clear description of how staff will deal with information. This new library organization will call for changes in library management and a new set of staff skills and characteristics. Having built their case, the authors then list: staff knowledge areas; staff characteristics; educational requirements and graduate competencies. They emphasize the need for education to provide evaluative, synthesizing & analytical skills

The authors suggest an area for further study/resolution would be "to flesh out a model curriculum and a set of educational objectives through a Delphi study or some other iterative process that capitalized on collective expertise."[63] They then go on to suggest some strategies for proceeding to bring research libraries, library educators and others together to begin to transform skills and knowledge of librarians of the future.

Conclusion

Competency can be described as the knowledge, skills and attitude required to perform a job effectively. Having a competent staff is critical for an effective and efficient organization. In a complex and changing environment, work that librarians do has changed and continues to change. The criteria for competency, therefore, changes too. All the stakeholders have felt this shift and have struggled to define ways to keep the profession vital.

The research points to areas of deficiencies in new graduates. And as librarians move through their careers, they often need to acquire different skills. Students should be aware of the job market and plan their course selection accordingly. Employers should be diligent in articulating and screening job applicants for knowledge and attitudes that are valued in that organization. Library schools do need to continue to improve their curriculum and keep up-to-date in order to provide the best possible professional education.

It is illogical to assume that all the required knowledge, skills and attitudes can be instilled in an MLS program. Fruitful and important questions become where and how can valuable skills be acquired post-MLS? What are efficient and effective ways for libraries to keep all members of their organization at an acceptable level of competency?

Appendix A - King Study

Key competencies that are common across all environments and functions:

Knowledge

Knowledge of all the operations of the library
Understanding the implications of organizing information in different ways
Understanding of different retrieval techniques
Understanding the capabilities and limitations of an automated system
Understanding of management and supervisory techniques
Understand the organization in which they work

Skills

Communication skills
Reference interviewing skills
Managerial and supervisory skills
Quantitative or statistical skills
Retrieval skills
Public relations skills
Evaluation (discerning) skills

Attitudes

Willingness to help
Perseverance
Flexibility
Willingness to learn
Willingness to make mistakes

Appendix B – Murphy & Bailey

Superior Middle Manager

* Positive incidents
  - staffing and personnel management
  - communication
  - organizing and reorganizing
  - control
* Negative Incidents
  - personnel
  - communication

Average Middle Manager

* Positive incidents
  - staffing and personnel management

control
organizing and reorganizing

* Negative Incidents
staffing and personnel management
communication
control

Appendix C – Murphy

ACTIVITES: personnel administration and staff development
communications. Communication is *the* most significant activity.

KNOWLEDGE: how to do managerial work, knowledge of the organization served.

SKILLS: how to do reference and retrieval work
supervising staff effectively,
ability to communicate well in written, verbal and non-verbal ways,
establishing rapport with users and staff,
ability to make quick decisions,
systems analysis and design.

AFFECTS: initiative, independence, self-starter, resourcefulness, adaptability, ambition, efficiency, achievement orientation. Advocacy skills, sensitivity to social and political forces, mastery of technical data, ability to direct communication flow and political savvy.

Appendix D – Marchant & Smith

- Required of many positions
  - Knowledge of general reference
  - Knowledge of general bibliography
- Highly desirable for many positions
  - Human relations skills
  - analytical skills
  - knowledge of a foreign language
  - basic knowledge of library automation
  - online retrieval skills
  - knowledge of specialized reference materials
  - knowledge of theories of organizing information

Appendix E - Powell & Creth

Knowledge Bases in Order of Importance
Bibliographic Tolls
Oral Communication Skills
Writing Skills
Specialized Reference Sources
Decision Making
Search Strategy
Subject Field
General Reference Sources
Planning
Online Searching

Appendix F - Stafford and Serban

Skills for an automated reference environment

user/staff interfacing skills
traditional and automated reference skills
data retrieval skills
information technology skills
instructional skills
organizational skills

Appendix G - Coffey

Technical Services Competency modeling
Attitudes and needs expressed by the pool of competent technical services employees

being in control of what goes on in their lives
being competent in their work - taking pride in their work
sense of satisfaction when things are in their place
need to do a job right or not do it at all
emphasized supportive, relaxed work environment
need for personal harmony in the workplace
expect coworkers to be doing their best as well
need for an ergonomically well-designed workplace
need for structure and organization
need for system, method and order

Appendix H - Friedrich

Top four competencies

Ability to articulate ideas, principles, concepts clearly; orally and in writing.
Ability to communicate effectively with clients in order to supply appropriate information services
Ability to take action to solve problems, overcome obstacles, and achieve goals.
Ability to be flexible in adapting to change.

Appendix I - Tees

Knowledge or Skills Rated as Essential or Very Useful

Knowledge or Skills	Percentage
Ability to communicate orally	98.1
Knowledge of basic reference sources	95.3
Ability to conduct a reference interview	94.9
Ability to develop a search strategy	94.9
Ability to write well	94.0
Ability to communicate with staff	92.5
Have an attitude of service	92.3
Ability to make decisions	90.2
Knowledge of subject sources particular to your library	89.3
Ability to state a problem	89.3

Appendix J - Green

Competencies as Essential or Very Useful by AIIP Members (top ten listed)

Competency	Percentage	
Apply effective interpersonal skills with clients	99.4	
Provide accurate estimates for services/accurately price products	98.4	
Develop a search strategy	97.8	
Define market(s) for services/products offered	97.8	
Communicate effectively in writing reports, proposals, etc.	97.2	
Operate personal computing equipment	95.5	
Apply effective personal time-management techniques		95.0
Apply knowledge of marketing techniques	93.9	
Develop and follow an ethical code of conduct	93.3	

Appendix K – Robbins

Knowledge, skills and attitudes

flexibility
eliminate barriers between formats
assertive, proactive, politically savvy
business and marketing skills
knowledge of economics of information
fund-raising, political maneuvering, negotiation skills
teaching skills
recognize and value diversity
communication

Appendix L - White and Paris

Suggested Core Curriculum

Academic Libraries (N=142)
Basic Reference
Collection Development
Academic Libraries
Personnel and human relations
Introduction to information science
Organization of materials - Dewey

Public Libraries (N=132)
Basic Reference
Collection Development
Public Libraries
Introduction to information science

Appendix M - Buttlar and DU Mont

Academic

knowledge of sources in all formats
conduct an appropriate reference interview
apply critical thinking to library problems
communicate effectively in writing
utilize oral presentation skills to make presentations

Special

knowledge of sources in all formats
effectively search online databases
conduct an appropriate reference interview
communicate effectively in writing
apply critical thinking skills to library problems

Appendix N – Woodsworth & Lester

•Staff will need to have:
knowledge of cognitive and disciplinary research processes
psychological acumen
technological sophistication
well-developed interpersonal and group skills
knowledge of information policy development and analysis
mastery of politics and planning

•Characteristics of future staff will be:
stronger users orientation
expertise in analysis of user needs
understanding of and ability to conduct research
orientation to information processes and products
(rather than library services in the traditional sense)
broad knowledge of information resources
competency in the design and implementation of information products and systems, including databases and user profiles
self-identification as an information linking agent & as information manager
group management and team-building abilities

•Education needs to provide evaluative, synthesizing & analytical skills in:
total information environment and interrelationships within it
information-seeking and usage behavior of individuals
political and decision-making processes
long-range strategic planning process
interpersonal and small group dynamics
organizational psychology and behavior

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