Teaching Authority Control

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Little has been written about the teaching of authority control in programs of library and information science. Perhaps this is because it has been assumed to be an inseparable part of the teaching of cataloging, and it was not considered necessary or even possible to single out this part of the process when discussing education for cataloging. In an article about changes in cataloging education between the mid-1960s and the early 1990s, I wrote, "There was [in the mid-1960s] considerable concentration on the aspect of cataloging that we now call authority work, although it was not called that, and the process did not seem to have a name then."[1] Lynn Connaway, in writing about the development of a model curriculum for cataloging education at the University of Denver, wrote about the integration of theory and practice in the teaching of the organization of information.[2] She specifically mentioned the inclusion of "controlled language systems" and the introduction of AACR2, but did not mention authority control per se. Eloise Vondruska, advocating continuing education, stated that "Graduate library school teaches a core of theories and facts," but went on to say that because many students have little library work experience, continuing education should be used to synthesize those facts with experience.[3] In an earlier article Vondruska had specifically mentioned "the use of authority files" in a list of concerns for which catalogers needed continuing education.[4]

In a recent book detailing research on the needs for library and information science education in the developing world, Sajjad ur Rehman addressed competencies wanted in graduates of both graduate and undergraduate programs in library and information science.[5] Managers in academic, public, and special libraries rated specific cataloging knowledge and skill competencies wanted in new professionals. That list did not include mention of authority control specifically. However, in his comparison of graduate and undergraduate competencies wanted, one item was "Developing authority files of cataloging."[6] Respondents were asked to rate the importance of teaching the competency in graduate programs versus undergraduate programs. In Rehman's study, the respondents were evenly split on whether developing authority files ought to be taught in undergraduate or graduate education. I believe this finding points up a major difficulty for those believing in the importance of authority control education: it is considered by many to be a less-than-professional skill that does not require professional attention.

The first serious attention to education for authority control is reported in an article recently published in *Cataloging & Classification Quarterly*.[7] Rebecca Mugridge and Kevin Furniss asked on Autocat (an international discussion list for catalogers) for responses to a survey. Their first question asked how the respondent had learned about authority control, giving a list of possibilities that included "Library school course" as one of the options (of which respondents could choose as many as applied). Only 18 of the 49 respondents (37%) believed they had learned about authority control in library school, and some of these 18 hedged with statements like "in general terms" or "vaguely." The second question asked what would make authority control easier to learn, and 10 respondents stated that it should be taught in library school. Another 10 respondents seemed also to be talking about library school courses by indicating that

it would be easier to learn if it were studied in a systematic way. The third question asked what responsibilities for the teaching/learning of authority control should be assumed by: a) the library school, b) the employer, c) the individual. Thirty-two respondents indicated that "the responsibility of the library school lies in teaching the fundamental theory and concepts of authority control," while 6 respondents indicated that some hands-on practice should be included. Three respondents indicated that they thought that library schools are hopeless in teaching authority control because either they have given up, or they barely teach even cataloging, or they never have taught it and so probably will not teach it in the future. Mugridge and Furniss concluded that "most librarians learn about authority work and authority control on the job. Those that are exposed to it in library school often receive only a cursory or basic examination of the subject. There is a perceived lack of hands-on practice available in library school."[8]

Study of Teaching Authority Control in North America

In an effort to learn something about how the teaching of authority control is approached in library schools in North America, I sent a list of questions to 114 people that I was able to identify who seemed to teach in the area of organization of information in schools of library and information science in the United States and Canada. I explained that I was looking for qualitative data, not quantitative data; so it was not necessary to answer questions in a certain way or even to answer every question. I received replies from 42 people, of whom 5 stated that they do not teach in this area or have not done so for several years. Of the remaining 37 replies, 4 were from four schools in Canada. The remaining 33 people teach in 24 schools in the United States. The distribution by rank is: Professor – 11; Associate Professor – 7; Assistant Professor – 7; Adjunct – 11; Doctoral student – 1.

The courses identified as being courses in which the respondents cover authority control at some level are, for the most part, either introductory (usually required) Organization of Information/Knowledge courses or Cataloging courses (at various levels). Other courses mentioned in which authority control is addressed are: Indexing and Abstracting, Information Retrieval, Subject Analysis, Technical Services, Metadata [in various manifestations], Design and Construction of Bibliographic Databases, Thesaurus Construction, Systems Operation/Analysis, Library Automation, Comparative Bibliography, and Foundations of Library Research.

The questions I asked my colleagues were:

- What do you consider to be the basic principles and/or basic components of authority control that need to be understood by all students before they receive the MLIS?
- Do you teach authority control (name/title and/or subject) in any of the classes you teach? (If not, thank you for your time. You don' t need to look at the remaining questions.)
- If so, in which courses is it covered?
- How much time is spent on it in each course?

[In the following questions, if you could give separate answers for beginning and advanced courses, it would be helpful.]

- Do you approach authority control from a purely theoretical point of view, or do you go into the nuts and bolts of creating authority records, or something in between?

- ♣ Do you have a hands-on approach using a system like OCLC Connexion? Do you use paper exercises? Do you discuss it as an idea?
- ♣ If you have discussion, how detailed is the discussion?
- ♣ Briefly describe methodologies you use to get authority control concepts across.
- ♣ Do you cover authority control for personal names? Corporate bodies? Conferences? Geographic names? Subject headings?
- ♣ Do you teach the MARC authority format?
- ♣ Do you teach AACR2 rules for heading creation?
- ♣ Do you teach MARC records as created by LC for LCSH?
- ♣ Do you teach how systems incorporate authority control? Do you go into any technical aspects? If so, please describe briefly.
- ♣ Are there other aspects not covered in these questions that you could comment on?

Two of the respondents stated their unequivocal belief in the importance of teaching authority control, but stated that they no longer teach in this area and therefore would not answer the remaining questions. The other 35 people responded to my questions, some in much more detail than others, but all providing useful information. I refer to the latter responses in the presentation that follows.[9] (Permission was obtained for the quotations that are attributed to their writers.)

Basic Authority Control Concepts Required for All Students

The basic principles and components that need to be understood by all MLIS students, regardless of kind of work they will do, according to my respondents are:

- ♣ What authority control is
- ♣ Why authority control is important
- ♣ Why authority control is important to users in information retrieval
- ♣ How authority control is accomplished
- ♣ How the standard tools for authority control function
- ♣ Systems issues that are involved in implementing authority control
- ♣ How authority control enhances cooperation and sharing

These issues were identified in many different ways, of course, but content analysis of the statements that were made in response to the first question yielded these seven categories. The first category, "What authority control is," was mentioned in some way by 20 respondents (57%). They said such things as: "the function of authority control," "what IS authority control?," "the objectives of authority control (what it is and why it is important)," "fundamental principles underlying authority control," and "that access points do not arrange themselves." Two people mentioned here that students need to understand the different kinds of authority control, and four people specifically mentioned Cutter's objectives (in particular the finding function and the collocation function) as being essential for understanding by all students.

Some respondents to my survey mentioned the difficulty of getting "what it is" across to students. Hope Olson stated that "authority control always takes longer to click than I can imagine it should. Hence, I tell the students that I can't remember not understanding it and so they'll have to be patient with me and keep asking questions." Susan Hayes wrote that "students with any real interest in cataloging 'get' authority control immediately, but students who have no interest in cataloging often find it hard to grasp."

I have found in my own teaching that the "what is it" question is very difficult to get across. The words themselves are quite off-putting. The concepts of "authority" and "control" in American culture, with its emphasis on individualism, are not readily welcomed, and the words have negative connotations for many people. Barbara Tillett, Linda Barnhart, and I corresponded a few years ago about using "access control" instead of "authority control." But "access control" has come to mean an operating system feature that controls the access that certain categories of users have to files and to functions. We have not found a better term. In my teaching and in my book, *The Organization of Information*, I have continued to introduce "access control" as "the results of the process of doing authority work, but without the necessity of choosing one form of name or title and one subject term to be the "authorized" selection. In access control every variant name, title, or term is given equal status, with one form chosen for default display; however, a searcher may use any of the forms to gain access to information packages related to the name, title, or subject."[10] I find in my teaching that students react much more positively to "access control," seeing very quickly the international implications of giving access to a name or subject using whatever form is best known to the particular user who is seeking it, without figuratively punishing the user with some kind of statement that they looked for the wrong form, and they'll have to search for the "right" one in order to get what they seek.

Returning to the categorized list of what every MLIS student should be taught about authority control, the second category, "Why authority control is important," was mentioned by 16 people (46%). They made statements such as: "the purpose of authority control," "the idea of quality control of a database," "the impact of authority control in the organization of bibliographic data," "the governing role that authority control has in any information system, whether that system is electronic or print-based," and "problems if it's not done or [is] done badly." Here, as with the "what is it" question, there is difficulty getting the concept across. Lee Shiflett commented: "One of the major problems is simply getting across the idea that it is important and that there are rules or conventions for it that must be mastered if you are to function."

The third category, "Why authority control is important to users in information retrieval," is very closely related to the second, and it could perhaps be considered a subset of the concept of understanding the purpose of authority control. However, it seemed to be a separate category in the minds of several respondents, and so I kept it separate. Fifteen people (43%) specifically mentioned the importance of authority control in searching. Respondents wrote, for example: "the role of controlled vocabularies in information retrieval," "vocabulary control increases precision in searching," "vital importance of authority control to end-user searching and information retrieval," and, "importance of [authority control] to improve precision of searches." Larry Osborne spoke of the consequences of **not** teaching authority control: "I think it's especially important that reference librarians and [computer] geeks understand its necessity so that we don't produce a crop of people who believe keyword searching of full text [is satisfactory] in a big database."

The fourth category of basic authority control concepts needed by all students is "How authority control is accomplished." Twenty-seven respondents (77%) made statements that fall into this category when they answered the first question. Example statements supporting this concept as being essential for all students to understand were: "how?," "the basics of how it works," "how it works," and "how to create and maintain authority records, reference structures, and authority files." That we need to teach how to distinguish representations of names and subjects from representations of information packages was well expressed by Grant Campbell, who wrote: "how authority work is based on the principle of establishing database entities for people, corporate bodies, places, and subject concepts, and that these entities are distinct from, but related to, the bibliographic entities that populate the bibliographic universe."

Two subcategories of this group emerged that I might call "Uniqueness and consistency of headings" and "Syndetic structure." Some statements about uniqueness and consistency of headings were: "that authority control serves the collocating function of the catalog by ensuring that a uniform and consistent heading is established to represent entities in the catalog," "principle of uniform heading and principle of unique heading," and "a foundation for applying the basic principles of uniqueness and consistency." Statements about syndetic structure included: "cross reference structure," "importance of authority control in creating the syndetic structure of the catalog," "the function of links (see/see also) in bibliographic databases," "understanding of syndetic structure and its purpose in searching," "the use of references/equivalence relationships between authorized and unauthorized forms of entry," and "the syndetic structure of cross references." Several respondents noted the need for syndetic structure so that users do not have to search under several variants for names, titles, or subjects, and still wonder whether they have found everything for which they might be looking.

The fifth category of basic authority control concepts, "How the standard tools for authority control function," was mentioned by 15 respondents (43%). Specific tools mentioned were: *Library of Congress Subject Headings* (LCSH), *Sears List of Subject Headings* (Sears), Library of Congress Name Authority File (LCNAF), *Anglo-American Cataloguing Rules, Second Edition* (AACR2), and Machine Readable Cataloging (MARC) records and files. Some of the statements were: "existing standards or schedules, e.g., LCSH," "the various tools of authority control," "they need to understand that we use basic authority control tools like Sears, LC subject headings, and such things as the LC authority control file," "follow a standard, e.g., AACR2," "how to 'read' and use MARC authorities," "familiarity with standard tools, e.g., AACR2, part II; LCSH," and "LC Name Authority Files; bibliographic networks and authority control."

The sixth category that my colleagues believe to be important for all students is that of "Systems issues that are involved in implementing authority control." Eleven people (31%) specifically mentioned these. Example statements are: "how authority control is reflected in information systems," "it is presented hand in hand with the concept of data dictionary in database construction," "how authority work works 'behind the scenes'," and "transferability of authority control principles to database and other information management contexts." The need for comprehending the transferability of authority control to the Web was expressed by Grant Campbell, who stated that students need to understand "that authority control is desperately important, and that current developments in the W3C around the semantic web are reinventing the authority control concept to enhance web use."

Finally the seventh category of basic authority control concepts, "How authority control enhances cooperation and sharing," was mentioned by only three respondents, but these three seemed to feel strongly about this: "shared authority files allow the work to be done once, for all users of the system, thus increasing efficiency over all," "importance of authority control to cataloguing context (creating; exchanging records)," and "it serves catalogers' needs as well, by recording other catalogers' decisions about established headings so that we can be consistent and do not have to reinvent the wheel every time we create a heading." I suspect that this idea of cooperation is not one that comes to mind immediately in association with the words "authority control," but that upon reflection, many of the respondents would say that this is, indeed, an important understanding for everyone to have. In fact, I suspect that if I were to have done this as a Delphi study and had sent this list of seven categories back to my 35 respondents for ratings, all seven of these categories would have been rated highly.

The "How" of Teaching Authority Control

Response to my question about how much time is spent on authority control in each course was quite varied. Responses ran from "about 30 minutes" to "in reality, the whole course is about that." Most people found it difficult to estimate any amount of time because "it's integrated into different units." Statements were made that indicated that there is an attempt at a formal introduction to authority control early in the term, but then it comes up again and again, e.g., in discussion of AACR2, in discussion of controlled vocabulary, in discussion of integrated systems, in discussion of encoding standards (e.g., XML DTD), and in discussion of implementing a name authority file or a subject authority file in a relational database. Ellen Crosby wrote, "It's been useful to me to go back … to see what I have taught. Not enough! But I am comforted by the thought (correct or not) that because I consider authority control and authority work to be essential parts of original cataloging, it comes out of my mouth as I speak."

In response to my question about teaching theory versus practice, no one was willing to admit to not approaching authority control from a theoretical point of view. While a couple of folks claimed to use only theory, most responded that they use a mixed approach, introducing the theoretical concept(s) followed by practical application. About 60% of respondents said they have the students use a real system, such as OCLC Connexion, to learn about authority records. They also use paper exercises; although only 6 said that they have students actually create authority records.

In response to my question, "If you have discussion, how detailed is the discussion?," only 3 respondents stated that they do not have discussion of the issue, and 3 people did not say anything about discussion. The others (about 80%) use discussion. Often, though, discussion consists of students asking the teacher questions and getting answers. I have found in my own experience, however, that there are questions the professor can ask that elicit quite animated discussion. For example: How does authority control affect collocation? How can all manifestations of the same work be brought together, even though they may have different titles and formats? How can persons or entities with the same name be distinguished from each other? Why is authority control important for public services? Can keyword searching and artificial intelligence ever replace controlled vocabulary assigned by human indexers? How can natural language (i.e., keywords) and controlled vocabulary be used together advantageously? What are the problems of using multiple controlled vocabularies in the same system? Can the latter be merged? Can ontologies take the place of thesauri and subject heading lists? Such questions placed on an online "discussion board" (where students are required to contribute a certain number of "postings") can provoke very thoughtful answers from students, and as they react to each other's responses, one can see them grow in their understanding.

The question asking for description of methodologies used to get authority control concepts across evoked some unique responses along with some more traditional ones. Most respondents mentioned use of searching of various kinds to get students to see the difference that authority control makes. It seems that experiencing the user's frustration of knowing that a name/subject you want is there (because the professor told you it is), but not being able to find it (or finding it only with great difficulty) because of poor or no authority control, is a good way to get the point across. After such an exercise, students can be shown how authority control can alleviate the situation. Some professors use famous names (e.g., Dr. Seuss, John Gardner, the current pope, the wife of John F. Kennedy) and ask students to search for these in various tools (e.g., Web search engine, OCLC or RLIN, bibliographic index, US OPAC, non-US OPAC, back-of-the-book index) and then discuss their findings. For topical subject terminology, comparison of

searching by keyword with searching by controlled vocabulary is often used to demonstrate the value of authority control.

Experimentation with various online tools that exist is a methodology used by some. There are a number of online authority files, controlled vocabularies, ontologies, and, of course, online catalogs with varying degrees of authority control. Anita Coleman has constructed a Web page with links to many of these tools for her students. She calls it a "toolbox" which she uses as a "playground" for student discovery. [11]

Another methodology mentioned was having students read and interpret MARC authority records. For example, they might look at authority records for the authors of the readings they have for the course. Sometimes there are students in the class for whom authority records have been created because they have other advanced degrees for which they wrote theses. Such authority records can be useful teaching tools. And the realization that they often can learn a professor's age from her/his authority record can bring a break-through for some students!

Some teachers (usually using the MARC authority format only in advanced classes) have students create authority records showing authorized form of name along with cross references. If there are students in class who have had name changes due to marriage or other circumstance, their names can make good examples. One unique suggestion from Hope Olson was to create authority records for some of the cats in T.S. Eliot's "The Naming of Cats."

A difficulty that was mentioned by several respondents is getting across the difference between cross references and added entries. I also have this difficulty. In my introductory class I have students create ISBD descriptions of themselves as "information packages." (This works well for most students, as it allows them to concentrate on the **kind** of information that goes into each area rather than having to figure out from an item in hand what is the **right** information to go into each area. Unfortunately, a few students lack the imagination to really appreciate this and complain that it has no "practical" value.) Then I have them make simple authority records for themselves (i.e., the "subject") and their family members (i.e., "contributors" to the existence of the "information package"). In these simple records, they use "x" to indicate references, as I find that trying to introduce MARC authority tagging at this level is much too complicated. Then they are asked to add the authorized forms of the names to their ISBD descriptions as "added entries." Inevitably, some students include references as well as authorized forms or use references instead of authorized forms. (It can be rather depressing.)

Some additional methodologies specifically for getting across subject and classification authority control concepts were reported. Almost everyone who addressed subject authority control has students use subject heading lists and/or thesauri to index some sample information packages. Several professors have students construct a thesaurus – the complexity of such an assignment depends upon the level of the class being taught. Another idea is to diagram the syndetic structure of a subject heading from a subject heading list or thesaurus.

Finally, a methodology used by a few respondents involves building in-house "live" databases into which students enter bibliographic records complete with authority control. These are often used in conjunction with the teaching of relational database concepts.

In response to my question as to whether respondents covered authority control of personal names, corporate names, conferences, geographic names, and/or subject headings, 60% responded that they cover all of these, and a few people added that they also cover authority control for works, uniform titles, and monographic series. The remaining respondents, for the most part, cover personal names and subject headings, with about half of these also covering corporate names. All but four respondents use AACR2 to deal with name authorities, and they use LCSH or Sears to deal with subject headings.

When asked whether they teach the MARC authority format, 60% of respondents said they teach the MARC name authority format, although only 2 respondents specifically mentioned teaching students to **create** MARC authority records. Another 20% show students the MARC name authority format, and 20% do not introduce it at all. LCSH records in MARC format are taught by half the respondents, another 10% only show it to students, and 30% do not cover it at all. This seems to be a matter of time. With fewer than 45 classroom hours in which to introduce all the basics of all matters of concern in organizing information, something often has to be omitted, and the details of MARC authority records seem to be less essential than other things.

In response to my asking if respondents teach how systems incorporate authority control, 29% responded that they do try to cover this, with another 23% saying they do it in a very general way. Almost half (46%) do not cover it at all. This seems to be at least partly a factor of knowledge on the part of the teacher. One person mentioned that it comes up in class when the university's head of cataloging does a demo of cataloging in an integrated system. On the other hand, Larry Osborne, who teaches a systems operations class in addition to a cataloging class stated that he can purposely corrupt the in-house database while demonstrating it so that students can see what disasters can happen. He said that at least one student usually advances the idea that we do not need authority control in an automated environment, and that "sets me up for a rant"!

A negative implication of system design that should be pointed out, according to Pauline Cochrane, is to "deplore what the ILS [Integrated Library System] has done to local authority control for multiple vocabularies."

My last question was "Are there other aspects not covered in these questions that you could comment on?" I mention here four of the responses to this question: Pauline Cochrane suggested the inclusion of authority control measures for website metadata and commented: "As ontologies are invading our authority file space to a great degree, not to mention classification schemes and taxonomies, I would hope these would be asked about, too." Lynne Howarth wrote about the usefulness of authority control applications in situations other than the traditional cataloging environment: "E.g., when one needs to create and maintain standards for structured data in an enterprise portal, consider the principles of authority control as documented in/supported by AACR and MARC." Sheila Intner mentioned international standardization of name authorities and the merging of LC's and other national library files. Richard Smiraglia commented that "authority control for works, FRBR [Functional Requirements for Bibliographic Records] notwithstanding, still is pretty bad."

Perceptions of Former Students vs. Perceptions of Teachers

There seems to be a considerable disconnect between the perceptions of respondents to my study and perceptions of the Mugridge/Furniss respondents. The people who responded to me are passionate about the teaching of authority control. Just sample some of their comments: John Leide: "Authority work is integral to the effective organization of information. Syndetic structure is fundamental to the purposes of librarianship." Lee Shiflett: "Authority control is so basic to this whole business that it is ubiquitous." Larry Osborne: "I think authority control is the most important thing we teach in cataloging…. It's appalling that people create data retrieval systems without authority control. I think it was Martha Manheimer who told me that if you don't have authority control you don't have a catalog; you only have a big list." Among the librarians who responded to Mugridge and Furniss, however, several of the few who said they had learned about authority control in library school included some qualifying statements: "such as, 'in general terms,' 'it was mentioned in my cataloging class, but we did not study it in any detail,' 'small

part of cataloging core course,' 'was probably mentioned, but did not sink in,' and 'vaguely.' " [12] It would be interesting to know if any of the 49 librarians responding to the Mugridge/Furniss questions had studied with any of the 37 teachers responding to my questions. Probably there is little, if any, overlap. Even so, does that imply that the teachers who did not respond to me do not teach authority control? I know that is not true, because I know a number of the non-responders personally, and I know that they care about teaching authority control even though they did not have time to respond to my questions.

I think that perhaps the librarian who wrote that authority control "was probably mentioned, but did not sink in" was highly representative. I know that the concept is a difficult one. Anything that one learns about for the first time often needs repetition in various circumstances before it really "sinks in." I have had the experience several times of hearing a former student say that s/he had never been taught "x," when I knew for certain that I had covered "x" in class with that student.

Another point to make about librarians' perceptions of whether they learned about authority control in library school is that in a one-year program, which is the length of most programs in the U.S., most students have time to take only one course in organizing information, and that one is crammed in with, usually, three other courses on different topics in the same semester. The mind can only absorb so much new information at once. It was clear from the responses I received from the teachers in Canadian programs, which are two-year programs, that they have more courses in this area and have more time for the inclusion in their courses of practical exercises on authority control.

In addition, great emphasis is being placed on information technology in schools of library and information science. Rehman found in his study that "Effective and intelligent application of information technology is obviously the foremost priority…. Capabilities related to automation, database skills, development of information systems and utilities, and effective application of new technology were considered the hard-core content for the preparation of professionals."[13] As a result, courses in basic library competencies are squeezed out.

Conclusion

I believe we can say that the teaching of authority control in schools of library and information science is alive and well, even though it is not perceived this way by some former students. Many professors are fervently attempting to imbue the next generation of librarians with an understanding of the necessity for authority control. Unfortunately, they have to fight the non-understanding of colleagues, the lack of course time to be as thorough as desired, and the perception that information technology is uppermost in importance among courses to be taught. However, because the chaotic environment of the Web has brought attention to the need for authority control (e.g., the "semantic web"), we have a new opportunity to teach these concepts to a new generation of information professionals.

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[1] Arlene G. Taylor, "A Quarter Century of Cataloging Education," (in *Technical Services Management, 1965-1990: A Quarter Century of Change and a Look to the Future: Festschrift for Kathryn Luther Henderson*, Linda C. Smith and Ruth C. Carter, eds. New York: The Haworth Press, c1996), p. 300.

[2] Lynn Silipigni Connaway, "A Model Curriculum for Cataloging Education: The Library and Information Services Program at the University of Denver," *Technical Services Quarterly* 15, no. 1/2 (1997): 35.

[3] Eloise M. Vondruska, "Continuing Education and Technical Services Librarians: Learning for 1965-1990 and the Future" (in *Technical Services Management, 1965-1990: A Quarter Century of Change and a Look to the Future:*

Festschrift for Kathryn Luther Henderson, Linda C. Smith and Ruth C. Carter, eds. New York: The Haworth Press, c1996), p. 310.
[4] Eloise M. Vondruska, "Education for Cataloging: An Open Entry," *Illinois Libraries* 67 (May 1985): 443.
[5] Sajjad ur Rehman, *Preparing the Information Professional: An Agenda for the Future* (Westport, Conn: Greenwood Press, 2000).
[6] Ibid., p. 124.
[7] Rebecca L. Mugridge and Kevin A. Furniss, "Education for Authority Control: Whose Responsibility Is It?" *Cataloging & Classification Quarterly* 34 nos. 1/2 (2002), p. 233-243.
[8] Ibid., p. 242
[9] The author wishes to acknowledge and thank the respondents (each name is followed in parentheses by the name of the university in which the person teaches): Jim Anderson (Rutgers University), Linda La Puma Bial (University of Illinois at Urbana), Rick Block (Long Island University), Cameron Campbell (Dominican University), Grant Campbell (University of Western Ontario), Lois Chan (University of Kentucky), Allyson Carlyle (University of Washington), Pauline Cochrane (University of Illinois at Urbana), Anita Coleman (University of Arizona), Ellen Crosby (Indiana University, IUPUI), Bruce Ford (Pratt Institute), Vania Goodwin (Indiana University, IUPUI), Rebecca Green (University of Maryland), Vicki Gregory (University of South Florida), Susan Hayes (Long Island University), Elizabeth Haynes (University of Southern Mississippi), Kathryn Henderson (University of Illinois at Urbana), Lynne Howarth (University of Toronto), Ingrid Hsieh-Yee (Catholic University of America), Sheila Intner (Simmons College), Long Hwey Jeng (University of Kentucky, Lexington), Frank Kellerman (University of Rhode Island), Jim Kelly (University of Rhode Island and Simmons College), Kathryn LaBarre (Indiana University), John Leide (McGill University), Yan Ma (University of Rhode Island), Shawne Miksa (University of North Texas), Kwong Bor Ng (Queens College), Hope Olson (University of Alberta), Larry Osborne (University of Hawaii), Taemin Park (Indiana University), Betsy Schoeller (University of Wisconsin, Milwaukee), Candy Schwartz (Simmons College), Lee Shifflett (University of North Carolina at Greensboro), Richard Smiraglia (Long Island University), Carol Truett (Appalachian State University), Yin Zhang (Kent State University)
[10] Arlene G. Taylor, *The Organization of Information* (Englewood, Colo.: Libraries Unlimited, 1999), p. 233.
[11] Anita Sundaram Coleman, "KS Toolbox: IRLS 401/501 – Knowledge Structures I, Fall 2002," School of Information Resources & Library Science, University of Arizona, available: http://www.sir.arizona.edu/faculty/coleman/501/kbox.html
[12] Mugridge and Furniss, "Education for Authority Control", p. 237.
[13] Rehman, *Preparing the Information Professional*, p. 57.

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