Application of UBLIS571 Course Concepts to School Librarianship
Eileen Gardner
UB LIS 571 Spring 2013

LMS: Required, read carefully
Others: Optional

Summary of main points, with some additions

Tasks of a Library Media Specialist and related course concepts

The information age requires a much expanded role for Library Media Specialists

1   **Foster student's thinking and writing skills from an early age**

Help students organize information in their minds and connect pieces of information.

Help students acquire mind tools for organizing their thoughts and make sense of information:
Graphic organizers, including Concept maps and templates.
Introduce students to mind tool software.

Help students produce well-structured and well-presented papers.

Teach students how to use a word processor and other productivity software intelligently.

Related course concepts
Nature and types of information
Nature of concepts and concept formation, abstraction
Hierarchical inheritance
Inference. Special case: Chained searching
Entity-relationship modeling
Facets, concept hierarchy, meaningful arrangement
Templates in general, document templates
Document design

2   **Help teachers find learning objects and produce lesson plans. Help teachers collaborate and share materials**.

Introduce teachers to websites where they can find and possibly contribute learning objects.

Introduce teachers and school administrators to software that supports collaborative development of learning objects and/or make sure software already available in the school is used to its full potential.

Related course concepts

      Templates, specifically lesson plan templates
      Taxonomy of educational objectives (learning objectives)
      Good searching techniques to get good results for teachers

3   Help students find materials for school work and pleasure reading and in the process teach traditional information literacy skills

Related course concepts

      User requirements analysis

      Good searching techniques (both to use and to teach students)

      Evaluating / analyzing documents

      Evaluating / analyzing databases, including the interface

      Request orientation: Be aware of student needs that require searching by criteria absent from many library catalogs, such as finding material suitable for students with a given disability, students with very high ability (a student may belong to both groups).

      Cataloging. Here: Producing bibliographic records in APA style, Turabian, or whatever is used in the school. Use software for the purpose.

4   Maintain the library+

Note: Usually, much of this function is done in the central office

Participate in decisions on software used in the library
Watch for integration with other software systems used in the school, esp. student records and learning management system (LMS), if the school uses one.
In sone cases: Do all cataloging needed for the building library. If that is the case, it is your job to enlighten management that this is not cost-effective and a waste of time and suggest better solutions
If possible: Amend cataloging to provide for non-traditional access points.
Participate in or lead design and maintenance of the school website

Related course concepts

      All under *Help students*
      Cataloging. Here: Produce simple MARC records
      Document design. Here: Web design

Excellent
A very perceptive analysis of how
course concepts are fundamentally
the role of the school librarian.

A

Application of UBLIS571 Course Concepts to School Librarianship

Eileen Gardner

UB LIS 571 Spring 2013

1 Introduction

This paper is a reflective essay that discusses the application of course concepts from UBLIS 571 to a future career as a school library media specialist.

Today's students are expected to be information literate. At the same time our society in general, and schools specifically, question the necessity of employing a certified school librarian. These two ideas seem to be at odds with each other. Why would schools take away their designated information expert at a time when there is such an emphasis on information literacy? I believe one of the reasons is that school librarians either have not touted their crucial role in the information literacy process or have not fully accepted or taken advantage of their information expert role within in the school. After completing LIS571, I now understand the huge and necessary impact a school librarian can have on the information culture of a school.

For today's students, it is clear that access to information is not enough. As Neuman noted in her article, students are learning in an information-rich environment. They are surrounded by information in a way past generations cannot fathom. However, to be successful, students must be able to locate, organize, interpret, and use information in a meaningful way. The sheer amount of information alone threatens to overwhelm school students at all levels. Students need a teacher-librarian skilled in search and information organization strategies and techniques. They need an information professional who can teach them how to use the structure of information to their advantage and how to formulate good search queries.

Therefore, it is imperative in today's economic climate that school librarians, if not already, become the uncontested information experts in their respective schools. It is through this role as information expert that school librarians will become invaluable to the educational process and to the school culture as a whole.

2 Roles of the School Library Media Specialist

In *Empowering Learners: Guidelines for School Library Programs* the American Association of School Librarians (AASL) determined four key roles of the 21st century school librarian. The following outline depicts these roles as applied to LIS571 course concepts:

1. **Teacher**
   a. Teach effective search techniques
   b. Teach students how to formulate queries
   c. Help students produce information

   2. **Information Specialist**
       a. Generate information for diverse users
       b. Organize things so they can be found
       c. Technology guru
   3. **Instructional Partner**
       a. Information Resource Person
       b. Help with lesson planning
       c. Document templates
       d. Efficient web design

Leadership is the fourth role identified by the AASL. It is not listed as a separate item in this outline because informational leadership is implied throughout the other three roles. It is understood that the school librarian will/should be the school's leader on issues pertaining to information literacy. It is also implies that the successful school librarian will actively seek those areas where information expertise can be applied and use her skills to enhance the organization and how it functions. The next part of this paper discusses how concepts learned in the course apply to each of these roles.

2.1 Teacher

The school librarian is charged with the duty of creating information literate students. We are living in an information age. Those students who are better at locating, accessing, and analyzing information will be the students who are career and college-ready upon graduation from high school. Therefore, school librarians must strive to develop the information literacy skills of every student.

In teaching information literacy, it is important for the school librarian to be mindful of the ways in which students learn new information. As discussed in lecture 2.2, information is not just transmitted from teacher to student. Information must be actively assimilated by the learner. Students must be able to take new information and make personal sense of it by using what they already know. As detailed in the Lindsay article about the structure of memory, the way students will understand the meaning of a concept is embedded into its relationship to other concepts in the memory. As a teacher, a school librarian must find creative and innovative access points for all students to understand new information. She must also find creative ways for students to integrate new knowledge into their existing cognitive schemas.

As a school librarian, one must keep in mind the constructivist theory of learning. Constructivist theory explains that it is the job of the teacher to create an environment that enables students to do their own discovery and knowledge construction with guidance provided only to the extent necessary. School librarians must act as information guides to their students. One of the most important ways a school librarian can serve the information guide role is to teach her students how to make searching easier and more productive i.e. more relevant documents found. Students need to learn that there is a "method to the madness" of searching and that there are learnable skills they can use to execute a successful search for information.

Students should be taught that all searches have things in common:

1. One or more search steps
2. Each step starts from something know or a type of link
3. Leads to something wanted but unknown
4. System finds or creates what is wanted.

Students are capable of understanding the idea of entity relationships and how information is linked through these relationships. From early in their education, students should be taught about these entity relationships and how these relationships are used to form query statements. The idea of a chained search within an information and retrieval system should also be introduced and how finding one piece of information can lead to the next piece.

Another important skill that school librarians can impart to their students is the ability to analyze their problems and to break their research questions down by types of knowledge. A school librarian can ask students to examine their questions to determine what type of information they are actually seeking – for instance, students can be taught to ask themselves - do I need facts here or am I interested in a more abstract or broad concept? What type of search system will answer my question the best? It is important that students understand that their searches will be more successful if they look in the correct place and that different systems do different things.

Students should be educated to think about the possible conceptual data schema for a given system. For example, an elementary grade student using EBSCOhost's Searchasaurus database should be able to formulate some idea about what that particular system can provide and what type of searches it is capable of completing. Students should be able to understand that this would not be a good system for them to find all of the nonfiction books in their library on a given topic. They should understand that this system would be a good system to use to find magazine or journal articles about a limited number of topics.

After taking LIS571, it is clear that the heart of successful searching is excellent query formulation. School librarians must convey to their students that the search query is a paramount concern when seeking information; the better the query, the better the results. It would be beneficial to students if they were required to brainstorm all possible entity types and relationship types before starting a research project. This exercise would help students with their query formulation. Part of information literacy for students is the ability to figure out key search terms, how they can break larger more complicated concepts down into elemental concepts, as well as the correct usage of Boolean operators. Students who are able to develop a list of entity types and known relationships will have an easier time navigating the search system.

Students should have at minimum a rudimentary understanding of database design. They must understand that an information and retrieval system can only put out what was put in to it. Students must be taught that each system has its own language and own set of retrieval rules and that these both change according to each system. School librarians must teach their students to use the tools available to them, such as a thesaurus, index, or directory to increase the efficacy of their searches. The query statement must be formulated in the language of the system. Students must be able to determine which terms are mandatory in their query statement and how to express them to achieve the best search results. Inherent in this idea is that school librarians will teach their students how to use classification structures to clarify and focus their own image and concept of a need. An understanding of classification structures also allows students to narrow and broaden their searches as necessary. School librarians should educate students to use and rely on the structure of the index language of a system to crystallize their needs which will result in better query formulation and, in turn, better retrieval results.

School librarians must teach their students how to search and where to search, but they must also teach students the best ways to produce documents and show their results. Students must be taught how to organize their information. One of the methods we discussed in class is having students use the frames and slots method. This method works well to organize information but it also serves as a guide for students in the way in which they seek information as well. As noted in the Parsaye reading, a frame is a way of packaging knowledge in a well-defined structure. Slots are a way to capture the characteristics of each frame. The frame and slot method is a useful document structure, as it ensures that students have all of the information needed on a topic as they can go back over their research. When each slot is filled in correctly, students know they have the needed information.

As demonstrated by this section, teaching is clearly one of the most important roles of a school library media specialist. As schools' curriculums demand more information literacy from students, this is an area where school librarians must take the lead and make significant contributions to each student's education. School librarians have many skills and techniques to share with their students, chief among them are efficient search strategies. The students who are able to understand and implement effective search strategies will be the students who excel in our current information rich society.

2.2 Information Specialist

As mentioned previously, school library media specialists must be the information expert of the school. To this end, the school librarian must always approach her position from a user-oriented model. Who are a school's users? A school has many different consumers of information. As a school librarian, it is likely the one would receive information requests from:

1. administrators, such as the principal or the superintendent
2. classroom teachers
3. students
4. parents
5. support staff

These user groups will all have unique problems that need to be solved. As a school librarian, one must take into account who is requesting the information and for what purpose. As an information specialist, the school librarian must seek to design information systems that are able to adequately meet the needs of all users. As noted in the Soergel linked data reading, for an information professional to serve a user confronting a problem, the goal is to bring the user from her present state of knowledge to a state of knowledge that enables her to solve her problem.

A librarian must match users with needs to available information. As an information specialist, the school librarian needs to actively work to identify and understand the needs of all of her users. This can be accomplished by developing one's reference interview skills. During the reference interview, a school librarian works together with the user to analyze the user's current problem and to determine what the user needs. As noted in one of the course lectures, the information professional has to think about a user's question where clues other than words expressing the search concept might be useful. A good reference librarian is imaginative in thinking of different clues that could lead to relevant items.

A school librarian must also be able to recognize when a user's search request is difficult to handle in a system that does not use request-oriented indexing and be able to compensate by using creativity to find other avenues for searching. As the information expert of the school, the school librarian has to thoroughly understand the information systems used by the school. The librarian must know what the system can do, what it can handle in terms of searching, as well as the conceptual data schema of the system. The school librarian must also understand the limitations of certain cataloging methods, e.g. the Dewey Decimal Classification and be able to anticipate and alleviate some of these issues for users. One of the ways this can be accomplished is by creating pathfinders and other library guides for younger students for use as guided practice in locating and accessing information for research.

As an information specialist, a school librarian's job does not end once information is retrieved. A school librarian has to make sure the user understands the delivered material and why it is relevant to his problem. The librarian may have to explain why the document is useful, highlight search terms in the text, or give user additional documents to understand if needed.

A critical function of the librarian role is to be able to select the best methods/ classifications for supporting a user's work. We discussed in UBLIS571 the important role of collection development. Many schools are now implementing the Common Core Curriculum Standards. With the implementation of these standards, collection development within the school library takes on even greater significance. Classroom teachers will have a greater reliance on the library to provide their students with access to non-fiction books, as well as web search tools that provide access to primary documents, critical essays, and journal articles. As an information specialist, school librarians must work to cultivate a collection that meets the needs of their school users, and as much as possible, make their entire collection a request-oriented system. A better collection benefits students by providing more access points to needed information. Another important aspect of the role of information specialist is to make sure information in the library is organized in a way that makes sense for the school. All books and materials should be indexed according to the specific user needs of the students, which include those students with disabilities or special needs.

As an information specialist, the school librarian can also become a "secret weapon" for administrators. With her specific expertise and knowledge about information and retrieval systems, the school librarian can also take on the role of curriculum advisor. She can assist the principal or other administrators when they make decisions about software packages or which databases to purchase for the school. The school librarian can do cost-benefit analysis and user studies to help administrators determine which systems would be best for the school's needs. A school librarian's knowledge about information systems will save the school time and money.

2.3 Instructional Partner

One of the buzzwords used throughout school librarian education is collaboration. As library students, we are encouraged at all levels to collaborate with classroom teachers to enrich the educational experience for students. The role of instructional partner certainly goes beyond the idea of mere lesson collaboration. There are many ways that a school librarian can contribute to the total organization of information for a school.

An interesting way for school librarians to directly assist classroom teachers would be to create document templates that could be used school-wide. For instance, a lesson planning template could be ~~utilized~~ *used* by classroom teachers to make document creation easier and to save a lot of work and time. A lesson planning document would help streamline the lesson planning process and would give classroom teachers the ability to easily share their work with others. Document templates could also be created for documents that the principle regularly issues or newsletters or memos that are sent home with students.

As an instructional partner, the school librarian can also be ~~utilized~~ *used* as the main information resource person for classroom teachers. An effective school librarian will keep a collection of books and easily-accessed resources for classroom teachers' use. The school librarian should also be the person in the school who stays abreast of the current technology trends and works to integrate new technologies into the classroom. As instructional partners, a classroom teacher should be able to consult the school librarian to determine the best methods of instructional delivery. In a previous class, one of my professors encouraged us as the information specialist of the school to also become the "technology guru." To this end, school librarians must be extremely familiar with all of the computer systems and programs being used throughout the school. One must also be able to operate all computer hardware as well as audiovisual and presentation projection equipment, such as *SMARTBoards*. Inherent in the role of instructional partner is the necessity of keeping up with technology and any innovations that improve instruction and content delivery for students. The school librarian should be known throughout the school as the lead problem-solver when it comes to information or technology issues

online

As a school information leader, a school librarian will also make sure that the school website meets the needs of all of its users. This is an area where knowledge of document structure and efficient web design come into play. As an information expert, the school librarian should use his knowledge of web design to increase information organization on the website. The school librarian can make sure the website is structured in a recognizable format for easier searching and understandability. Good web design takes into account who the users of the system will be and their needs. Good web design also arranges information in a meaningful order and uses chunking to keep related pieces of information together. The website should make use of contrast and adhere to the principle of form following function. The school's website is one of the most important ways that parents, students, teachers, and the community access information about the school. A good website can be a powerful communication and information tool.

Along with web design for the school, the school librarian can also lend her expertise to helping students design and produce their own documents in a variety of formats. With the Common Core Learning Standards, students will be expected to produce their work using all types of media. An effective school librarian will focus some attention on teaching students how to create well-organized paper-based as well as web-based documents. School librarians will find innovative ways to help students structure these documents, for instance utilizing a graphic

organizer or frames and slots as previously mentioned. Students will be called on not only to find information but be able to analyze and make inferences from it. The more organized students are as they go about this endeavor, the more successful they will be.

In addition, as an instructional partner, school librarians also have the responsibility of teaching their students the proper way to cite sources used in their research. It is also important for school librarians to use the bibliography or works cited page from a current document as another way to find more sources for their own research.

3 Conclusion

As a future school librarian it is exciting/to understand the important roles the school librarian plays within the school culture. The school librarian has the opportunity to impact the life-long learning of many students and to contribute in a meaningful way to their future success. Students of today will undoubtedly go on to careers where information management and research are an integral part of their job duties. Those students who are able to understand how to successfully navigate information systems to find the information they need, will be prized future employees. As a school librarian, I can see that making students comfortable with information systems, teaching them how and where to look, and enabling them to execute many successful searches will aid them in their future endeavors.

From observing my own children, I understand the need for a focus on information retrieval in school library classrooms. Many students believe that Google is the only place they need to go for information and that is because it is quick and easy. Students know that they can type in a few words to the Google search engine and they will most likely retrieve something. I think it is important and invaluable to teach students from a young age that, while Google is one method of retrieving information, it is not the only method, and in most cases, it is not the best method. In addition, I believe today's students have an over-reliance on finding information online. As an information specialist and teacher, I believe it will be my job to teach students to look in more than one place, to open up their search strategies, and to take advantage of print, audio, and video resources that might not be found online.

As an educator, I believe it will be important to teach information retrieval from an early age. Just as the Common Core Learning Standards use the idea of scaffolding and a stair-step model to build upon learning each year, the same concept can be applied to information retrieval. Students as early as kindergarten can practice thinking of questions and figuring out the essence of what it is they would like to know. As a school librarian, I think it is important every year to work on these skills with students and to introduce search concepts by building on what they learned the previous year.

I know for myself that searching for information can sometimes result in frustration. By teaching students from the time they are young that information in the library is arranged in a meaningful way, that there are discernible patterns to this arrangement, and that there are methods to generating search terms – perhaps this will reduce students' frustration and allow them to view information retrieval as a set of tasks that can be mastered.

I also believe that teaching students all of the steps in identifying their problems, determining what information they need, seeking this information, and using it to make decisions will also increase their ability to solve problems outside of research in their lives. Problem-solving is an important skill. Learning to take a problem one piece at a time and to seek information when needed will also benefit my students as they make their way through the educational system and through life.

UBLIS 571 made me think about information in a new way. I never before thought about how much labor and decision-making goes into cataloging and indexing books and documents. I was very interested to learn about the entity-relationship theory, conceptual data schemas, and request-oriented indexing. I found it very interesting to compare classification systems and to understand how many different ways information can be classified and why. I also enjoyed learning about efficient document design, hierarchical inheritance, and meaningful arrangement of information to reduce redundancy and allow for faster reading and easier comprehension.

I believe I will certainly use these concepts in my career as a school librarian. Many of the concepts learned in this course helped to crystallize my own understanding of information literacy and what I must do as a school librarian to teach my students how to efficiently search for and retrieve information. True information literacy is knowing where to look, how to look, and what to do with the information once it is found. I hope I am able to teach these precious skills to my students.

American Association of School Librarians. 2009
>   **Empowering Learners: Guidelines for School Library Programs.**
>   Chicago, IL: AASL. 2009.

Lindsay, Peter H. and Norman, Donald H. 1972
>   **Human Information Processing: An Introduction to Psychology.**
>   New York: Academic Press, 1972.

Neuman, D.
>   **Learning in an information-rich environment: preliminary results.**
>   Course Materials UBLIS 571.

Parsaye, Kamran.
>   **Expert Systems for Experts.**
>   New York: John Wiley and Sons, Chap. 2, p. 48-57.

Soergel, D.
>   **A general model for searching linked data or Design of an integrated information structure interface.**
>   Course Materials UBLIS 571.

Soergel, D. 2013.
>   **UBLIS 571 Lecture Notes.**