Final Results of the LIPER Project in Japan
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Abstract

The LIPER (Library and Information Professionals and Education Renewal), a three-year research project to study library and information science (LIS) education systems and curricula in Japan and overseas for a possible reform of the Japanese LIS education system, was completed in March 2006. The major findings were: (1) the structure of Japanese LIS education has remained unchanged for 50 years, and the gap between it and overseas LIS education has been ever increasing; (2) the curricula and contents of LIS education are not well standardized nor integrated into higher education programs and very few people who obtain a librarian's certificate get employed in library markets; (3) new areas of education including IT skills and

user behavior are sought; and (4) many people seek to obtain LIS education for certification as librarians even though employment opportunities for full-time librarians are quite limited. These findings lead the LIPER project to make the following proposals: (1) establish LIS examination for students so that they are able to self-evaluate what they have learned through LIS education and obtain better employment opportunities; (2) introduce a new standard curriculum for information professional education to emphasize core areas of information organization, information resources and services, information systems and retrieval, management, IT, and a better understanding of user behavior.

I. Introduction

The LIPER (Library and Information Professionals and Education Renewal) project examined the general trends of library and information science (LIS) education for librarians in Japan. We have examined the current situation of LIS education in order to identify the need for a possible reform, and propose a framework for new curricula as well as an accrediting examination for future LIS education in Japan. In Japan, a cross-sectional study of the education and training of information professionals had not been conducted prior to the LIPER project, though surveys of each area of the library profession have been conducted by designated professional associations [1].

A great deal of effort has been expended to modernize LIS education worldwide. The International Federation of Library Associations (IFLA) published Guidelines for Professional Library and Information Educational Programs in 2000 to propose basic issues for consideration in restructuring LIS education systems [2]. In England, the Library Association (LA) and the Institute of Information Scientists (IIS) were consolidated to form the Chartered Institute of Library and Information Professionals (CILIP), and defined a broad framework of areas of knowledge and practice in order to characterize the nature of library and information work [3]. In North America, the KALIPER (Kellog-ALISE Information Professionals and Educational Reform) was conducted to determine the nature and extent of major curricular changes in LIS education across the region [4]. In Asia, a gradual shift of librarianship toward an IT-oriented information profession was observed in LIS education [5].

Japanese LIS education, however, has not experienced basic structural change since 1950 when the Library Law was enacted, though it's curriculum has been revised several times by the ordinance of the Minister of Education, Science, Sports and Culture (MEXT). The current LIS education system in Japan does not, therefore, meet the contemporary needs of library and information service operations. The gap between Japanese and overseas LIS education is bewildering. Thus, we recognized the need for a drastic reform of the basic framework of the LIS education system.

II. Research Design

The global research design of the LIPER project is presented in Figure 1.

LIPER: Library and Information Professionals and Education Renewal

CILIP 2002	☺Japan Society of Library and Information Science	$ Grant in Aid for Scientific Research
KALIPER 1998-2000		

2003 ──────────► 2004 ──────────► 2005 ──────────►

| Lecture by Dr. Durrance | International Seminars on LIS education in Asia | |
| Symposium | Symposium | Symposium |

Education Team
Public Library Team
Academic Library Team
School Library Team
Independent Groups

Discussion & Synthesis

Proposal Development & Reporting
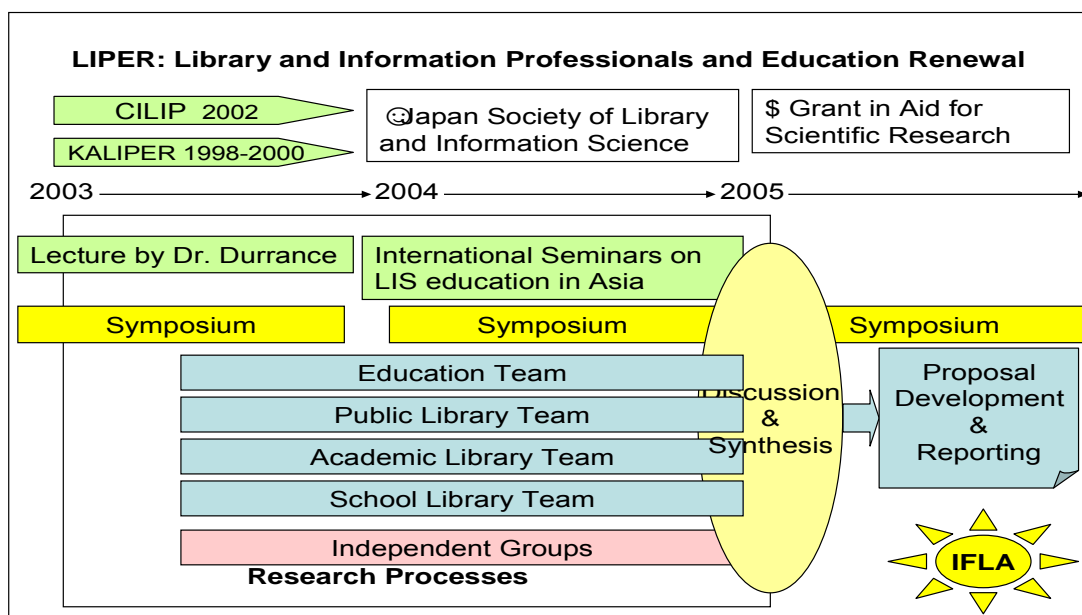
IFLA

Research Processes

Figure 1: Global Research Design of the LIPER Project

Under the LIPER project, we held symposia every year to share our study plans and findings with stakeholders in the library field, and in order to get feedback from them. In addition, we held nine forums: we invited five recognized speakers from Korea, China, Taiwan, Thailand, and Singapore to share with us trends and issues of LIS education in their countries.

Main research activities have been conducted by four special teams: (1) an education team that identified the current situation of LIS education programs, instructors, and students; (2) a public library team that identified skills and knowledge required by public librarians and ways of acquiring and maintaining them; (3) an academic library team that identified skills and knowledge required by academic librarians and ways of acquiring and maintaining them; and (4) a school library team that developed ideal images of school librarians or school media specialists and ways of attaining them. Some additional studies were conducted of medical and law libraries, art documentation, as well as overseas LIS programs. The progress of the research and interim findings were reported at research meetings hosted by the Japan Association of Library and Information Science and other relevant academic societies.

III. Background

Japanese formal education of librarians aims to produce qualified librarians or "shisho" and assistant librarians, "shishoho", for public libraries as set out in the Library Law enacted in 1950 [6]. On the other hand, the goal of the formal education of teacher-librarians or

"shisho-kyoyu" is to produce teachers who, in addition, also hold a teacher-librarian certificate as set out in the School Library Law enacted in 1953 [7]. There is no formal education system in place for other types of LIS professionals. No legal ground or qualification system has been established for information professionals in academic and special libraries.

Currently, there are five types of LIS education offered at colleges and universities in Japan:
(1) Shisho training: provided by more than 250 colleges and universities.
(2) Shisho-kyoyu training: provided by more than 100 colleges and universities.
(3) Undergraduate LIS programs: offered by less than 10 colleges and universities.
(4) Master-level LIS program: offered by eight colleges and universities.
(5) Doctoral level LIS program: offered by six colleges and universities.
These courses or programs produce more than 12,000 qualified "shisho" and more than 12,500 qualified "shisho-kyoyu" every year. Apparently, knowledge and skills held by graduates of these programs are quite diverse.

The current educational system, based on the two Laws mentioned above, seems to be stable. Students of the library-training programs have some opportunistic hope that the national certificate of librarians may be useful in the future, though they know that there is very limited opportunity to get employment in public libraries. The administrators of colleges and universities anticipate that the provision of training programs for national certificates for librarians or teacher-librarians should help attract more applicants. Faculty members who teach these training programs recognize the problem of producing too many certified professionals with limited skills compared to the market demands, but accept teaching duty to keep their status in academia. On the other hand, library practitioners recognize inherent problems of the current training system for librarians, but hold back from poaching on or claiming the system that is considered as within the preserve of colleges and universities.

Other stakeholders, such as relevant professional organizations, try to improve the current situation by hosting workshops and introducing independent qualification systems, but hesitate to undertake the educational reform that requires a revision of Laws. However, most of the stakeholders, including us, recognize the need for a drastic reform of the outmoded LIS training system in order to produce efficient information professionals able to respond to the needs of a knowledge- or information-based society as well as to bridge the widening gap between our training and that of overseas counterparts.

At the initial stage of the LIPER project, we developed the following basic premises:
> Though we understand that training for incumbents and information literacy education for the general public are within the domain of LIS education, the LIPER project will focus on the reform of the formal training programs for LIS offered by colleges and universities.

Though our long-term goal is the establishment of a professional training system at the graduate level, our immediate outcome is a proposal of possible reform within the current legal framework. This way, we strategically introduce more drastic reform in the near future.

Though the current LIS education system is segmented by the type of library, we recognize there exists much overlap in general areas of the discipline. Thus, we propose a system to cover a basic initial core for all types of libraries and information professions.

Four special teams independently conducted a respective study by developing their respective goals and reported results at relevant academic and research meetings to obtain feedback. These teams continually exchange findings and opinions to be able to produce a well-organized proposal to cover all areas of LIS education.

IV. Findings

In this section, we report on findings of the four special teams of the LIPER project.

1. Education Team

The education team recognized a variability of goals, curricula, and educational system of Japanese LIS programs and defined the focus of data collection and analysis through a series of discussions among members at the early stage of the project. As a result, the major goal of the team was defined as identifying factors that can describe characteristics of the Japanese LIS education and training programs as well as overseas trends, and conducted a series of studies as shown in the Table 1.

Table 1: Research Activity of Education Team

Time	Study	Description
2003/7–2004/8	Case study	Interviews with faculty members of 16 colleges and universities to identify general trends in the LIS education and training system and curricula to generate hypotheses to be tested.
2004/4–8	Student survey	In-class questionnaire survey of some 1,900 students in the librarian or teacher-librarian training programs of 18 colleges and universities to identify the motivation of students in entering such programs.
2004/10	Institutional survey	Postal survey of 296 colleges and universities offering librarian or teacher-librarian training programs to identify current situations and recent changes in the curricula, teachers, and students (response rate, 78.0%).
2004/12	Faculty survey	Postal survey of 833 faculty members (including adjuncts) to identify their perception of the current state of LIS education and training programs and systems as well as their expectation for future changes (response rate, 38.0%).
2004/4–2005/3	Researcher trends analysis	Study of 247 LIS educators' academic qualifications and research productivity based on the content analysis of online directories and homepages.

The findings and implications of these studies have been reported at relevant academic and research meetings, consecutively as they were completed, in order to get feedback from stakeholders [8].

Through these studies the education team identified issues in the Japanese LIS education system as described in the following:

(1). Gap between Supply and Demand for Qualified Librarians
The education team identified the following discrepancies between formal training of librarians and actual demands of the library market:

Library-training courses offered by colleges and universities produce more than 120,000 qualified graduates every year, while only about 30 new qualified graduates find full-time positions in public libraries.

Even though formal librarian (shisho) training courses offered by colleges and universities are intended for public library professionals, the actual ratio of qualified personnel is larger in academic libraries than in public libraries.

New employment opportunities for full-time professionals in all types of libraries is decreasing drastically due to an increase of outsourcing and part-time workers.

The student survey identified that a majority of students in library-training courses do not seek to be professional librarians, but rather are attracted by an easily attainable national certificate. On the other hand, there exists a group of students who are fully motivated to become librarians, and whose motivation started at an early age, reflecting their experiences of using public libraries. Thus, we need to reduce the gap between supply and demand by introducing a mechanism to identify that highly motivated minority of students and provide them with a better opportunity to become professional librarians.

(2). Limitations in the Curricula
The faculty survey identified the following limitations in the formal library-training program stipulated by the ordinance of MEXT and offered by colleges and universities:

Allocated time (20 units) is too limiting to provide required skills and knowledge.

Some of the contents are overlapping.

Contents are not relevant to actual library practices.

There is limited flexibility in curriculum design.

The range of ability and experiences of students are not fully taken into account.

Digital and multimedia information resources are not fully taken into consideration.

Applications relevant to human (user) information behavior are quite limiting.

Library-training programs do not fully integrate aspects of ICT and knowledge management skills required to respond to the increasing demands of the knowledge or information society.

These findings call for a drastic revision of the curriculum.

(3). Absence of Quality Assurance

The case study and the institutional survey revealed the lack of a quality-assuring mechanism in the formal library-training programs at the following two levels:

  Most of the courses offered within the framework of the library-training program are placed as external to the formal college and university curricula. Thus, they are not included as objects of institutional evaluation systems.

  The newly introduced quality-assuring system for higher education, started in 2004, requires third-party evaluation of college and university programs every seven years. The system evaluates only formal programs, but does not cover the extra curricula library-training programs.

These findings urge us to introduce a formal quality-assuring mechanism for the library-training program either by integrating it into the formal college and university curricula or developing an independent quality assurance system for overall education of information professionals and integrating the library-training program within that framework.

(4). Lack of Global Acceptability

The international forums held as a part of the LIPER project informed us of recent trends and issues of LIS education in China, Korea, Singapore, Taiwan, and Thailand. Content analysis of papers, presentations, and discussions from these forums identified bewildering gaps in LIS education between Japan and these five countries in the following aspects [5]:

  The mission of LIS education in neighboring countries has been shifting from librarian training into provision of skills and knowledge required for a wide range of information professionals required for the knowledge and information society, while Japanese LIS education is still focusing on training of librarians for public and school libraries.

  Emphasis in curricula in neighboring countries are ICT-based knowledge and information organization, management and services, while Japanese librarian-training programs still focus on collection development and reference services based on printed library materials in public libraries.

  The level of LIS education in neighboring countries is shifting from courses and programs at two-year college and university undergraduate level into graduate-level professional education, while Japanese library-training programs are provided as two-year college and undergraduate-level professional training.

  The size of the faculty for LIS education programs in each institution is between five and 80 in neighboring countries, while only one or two full-time faculty teach library-training courses, helped by many adjuncts, in Japan.

  Graduates of LIS education programs in neighboring countries seek employment in private companies, government organizations, and academic libraries, while Japanese graduates of

library-training programs tend to seek jobs in public and academic libraries.

The strategy for developing LIS education in neighboring countries reflects market demands; colleges and universities offering LIS education programs have modified their curricula to introduce ICT and knowledge management skills in response to increasing demands for such skills in society. On the other hand, Japanese library-training programs may not have reflected such market demands.

These findings indicate that we need to revise LIS education programs in aspects of mission, curricula, level of education, number of faculty, and employment support for students, by revising the entire LIS education strategy in order to make it more globally acceptable.

Based on the recognition of factors described above, the education team developed a draft of a new curriculum for LIS education. In developing the draft curriculum the team surveyed courses offered by overseas LIS programs as well as courses offered by several departments and schools of library and information science in Japan. Through this process, the team identified the core areas of the contemporary LIS program of education and training for information professionals. These core areas are considered as required skills and knowledge for all types of information professionals including library professionals. The draft of the curriculum was revised through intensive discussion with the other three teams to reflect their findings, and finalized (see Appendix 1).

2. Public Library Team

Environments of Japanese public libraries are drastically changing due to factors including the consolidation of municipal governments, launching of private finance initiatives (PFI) and outsourcing, increased awareness of the needs for planning and evaluation of services, and the introduction of business information services and school library services. These changes call for a new framework for the library-training program, not only taking into account the knowledge and skills required for public librarians, but also opportunities and methods to obtain them. Based on this recognition, the public library team conducted a series of studies as shown in Table 2. The goals of these studies were: (1) to identify knowledge skills that public librarians perceive as important; and (2) to recommend an appropriate approach to acquiring such knowledge and skills.

Table 2: Research Activity of the Public Library Team

Time	Study	Description
2003	Preliminary study	Interviews with different levels of library personnel of 11 public libraries to identify knowledge and skills required for each level of library personnel, opinions on current LIS education system and expected revisions to generate hypotheses to be tested.
2004/9–10	Library survey	Postal survey of library personnel working at public libraries of 175 municipal governments identified by a stratified sampling method. The questionnaire was designed based on a previous study [9] and hypotheses obtained in the preliminary study.
2005	Expert interview	Interviews with nine faculty members of different universities who have published research or opinions on and are knowledgeable about LIS education in order to verify findings of the library survey. Personal opinions on current LIS education system, rather than teaching practices of affiliated universities were sought.

Findings and implications of these studies have been reported at relevant academic and research meetings, consecutively as they were completed, in order to get feedback from stakeholders.

There are two alternative approaches for obtaining insights for possible reform of LIS education: one is to change the very framework of the current system; the other is to modify the contents, time allocation, and methods within the existing framework. The public library team attempted to explore the former approach, but could not reach a settlement. Therefore, the team took the latter approach and proposes the following revisions:

Revise the structure of the current curriculum and rearrange courses around a core that covers knowledge and skills considered important by public library personnel. Allocation of time for each course should also be reviewed.

Make the curriculum more flexible by keeping content on general knowledge and skills considered important for public libraries, while revising other areas more frequently to be responsive to changing environments.

Use appropriate teaching methods with seminars and practicums for practical courses expected to be taught on the job.

These improvements could be introduced without revising the current ordinance of MEXT based on the Library Law. Courses covered by the current curriculum may be shored up by revising time allocation, depth and width of contents, and learning orders.

3. Academic Library Team

In response to the changing nature of higher education due to globalization and introduction of ICT, academic libraries are under pressure to revise their role to provide new services with more efficient management practices. The academic library team aimed to identify the position of

academic library personnel, knowledge and skills expected of them, as well as desirable training methods, through a series of studies described in Table 3.

Table 3: Research Activity of Academic Library Team

Time	Study	Description
2003	Group interview	23 group interviews of academic library staff were conducted at eight colleges and universities. Interviewed were several groups of directors, management personnel, middle-standing personnel, and young personnel in order to identify different skills and knowledge required of them. Contents of transcribed interviews were analyzed in detail to elicit characteristics of each group to develop hypotheses to be tested.
2004/6–8	Library survey	Postal survey of library personnel at 687 Japanese academic libraries was conducted and one representative of each of four levels was asked to respond. The questionnaire was designed based on a previous study [10] and hypotheses drawn from group interviews. (response ratio: directors, 55.6%; management, 57.4%; middle-standing, 58.8%; young, 55.8%).

Findings and implications of these studies have been reported at relevant academic and research meetings, consecutively as they were completed, in order to get feedback from stakeholders [11].

It is meaningless to draw a conclusion on the relative importance of all 52 skills in a single dimension. Thus, these 52 skills were grouped into three areas of "core schema", "application environment", and "generic and transferable skills," using the framework derived from the "Body of Professional Knowledge (BPK)" proposed by the British Chartered Institute of Library and Information Professionals (CILIP) [3]. A factor analysis was conducted for each of these three areas. As a result, the body of knowledge and skills necessary for Japanese academic libraries are identified as shown in Table 4. The names of factors drawn from the analysis are underlined and printed in bold italic in the right-hand columns, and items representing the 52 skills are listed under these headings in the table with relative importance. It should be noted that the relative importance of each group of skills differs depending upon the rank of academic library personnel.

Table 4: Body of Knowledge and Skills Necessary for Academic Librarians

Area	Knowledge & Skills
Core scheme	1. *Traditional services*: Secondary information compilation, Cataloging/Online catalog, Reference service, Information retrieval skills, Bibliographic instruction (information literacy), Reader services 2. *Books and libraries*: Antiquarians, Preservation/Conservation, History of media, Services for handicapped, Library buildings, History of libraries, Bibliographies 3. *New services*: Network information resources, Serials control, Electronic journals, Government publications/Patents, Nonbook materials and their equipment, Document delivery services, Library system management 4. *Organization of information*: Metadata, Classification/Subject heading, Indexing and Abstracting, Secondary information compilation. 5. *Collection building*: Specialized materials/Sources, Selection of materials, Collection building/Evaluation, Knowledge of academic subjects
Application environment	1. *Library standards and network*: Intellectual property/Copyright, Library network/Corporation, User privacy, Library statute and standards. 2. *Information flow / publishing industry*: Intellectual freedom/Censorship, Overseas academic libraries, Higher education.
Generic and transferable skills	1. *Communication*: Customer care, Public relations, Building/Maintenance of web content, Presentation skills, Writing skills/Planning, Oral communication skills, Research methods, Teaching methods for library use instruction. 2. *IT technology*: Database management, Network management, Programming. 3. *Business administration*: Management theory/Methods, College/University administration, Budget control/Accounting. 4. *Foreign language*: English, Other foreign languages.

Note: the table is obtained from Nagata et al. (2006) by permission from authors.

Surprisingly, the ratio of qualified librarian or "shisho" is higher in academic libraries than public libraries in Japan even though the certificate only applies to public librarians. This is probably because a majority of academic library staff seek approval as professionals. However, training programs provided by colleges and universities are not always appropriate or sufficient for academic librarians.

The academic library group contributed to the LIPER Project by developing the "body of knowledge and skills necessary for academic librarians" as the basis for identifying core areas of LIS education for academic librarians. These basic skills and knowledge should be considered for a new framework for education and training of information professionals in academic libraries.

4. School Library Team

The school library team considers functionality of a school library as indispensable in attaining the teaching goals of schools, and defines the role of "information and media specialists" who take on the overall information- and media-related responsibilities in organization, utilization, and instruction in all formats, including audio–visual materials and computers. The team explored this idea through a series of studies as described in Table 5.

Table 5: Research Activity of the School Library Team

Time	Study	Description
2003	Expert interview	Interviews with five experts in the area of school library and instructional media to examine the possibility of establishing a new role for information and media specialists. Results revealed the need at schools for a new kind of professionals who are not pure engineers, but have extensive knowledge and skills in media use and learning. Interviewees recommended extending the role of teacher-librarian already established by the School Library Law to fulfill this role.
2004	School survey	A postal survey of elementary, middle, and high schools was conducted to identify the kinds of tasks actually performed at school libraries in order to compare them with the hypothetical roles of information and media specialists (response ratio, 36.0%). The results identified the kinds of tasks widely performed by many schools and the low use of IT among them.
2005	Focus group interview	Focus group interviews were conducted with representatives of six schools identified by the survey as high or low in the utilization of IT and support for teaching. Themes of the interviews included the current situation of IT use and library staff support for teaching, classes taken as a part of training programs for teacher-librarians, the need for funds for performing school library tasks, and opinions on the qualification and certification system of school library professionals.

Findings and implications of these studies have been reported at relevant academic and research meetings, consecutively as they were completed, in order to get feedback from stakeholders [13].

Study results confirmed the needs for information and media specialists, and identified three roles for them: (1) organization of knowledge; (2) sharing of knowledge, and (3) utilization of knowledge, as described in Figure 2 showing their interrelationship.
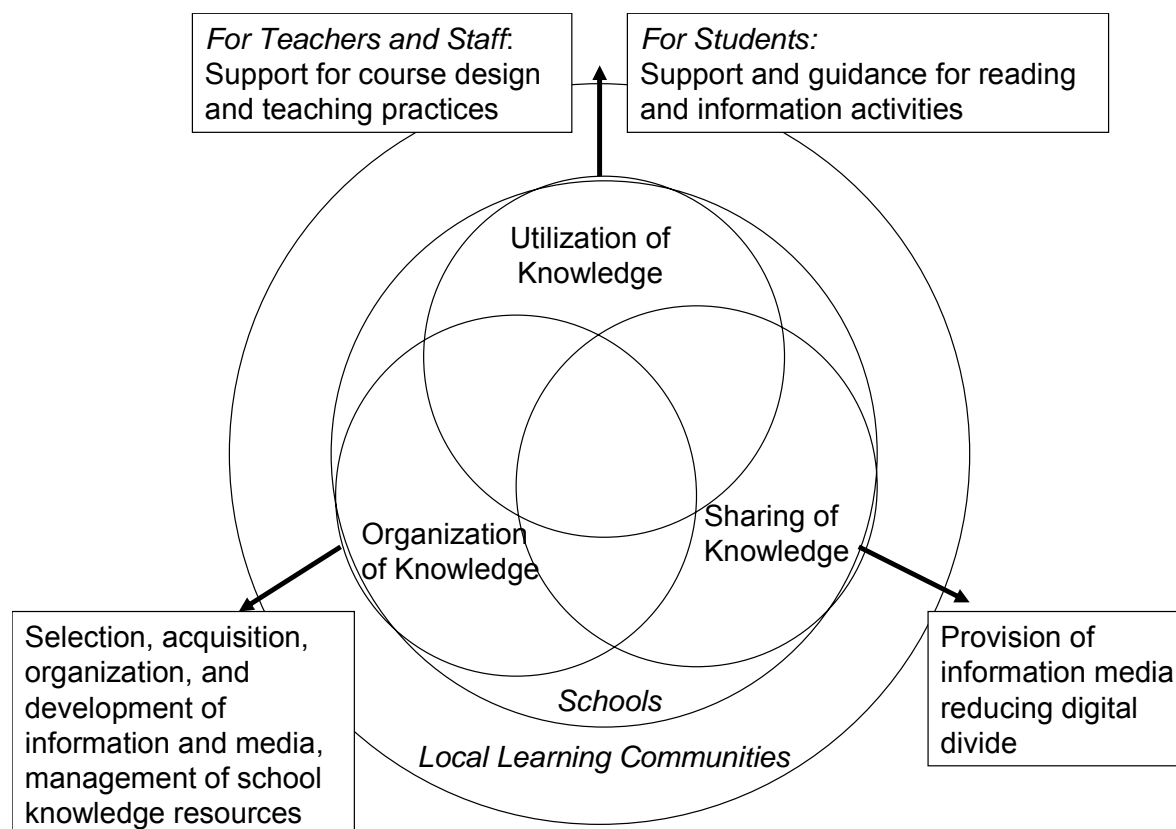
For Teachers and Staff: Support for course design and teaching practices

For Students: Support and guidance for reading and information activities

Utilization of Knowledge

Organization of Knowledge

Sharing of Knowledge

Schools

Local Learning Communities

Selection, acquisition, organization, and development of information and media, management of school knowledge resources

Provision of information media reducing digital divide

Figure 2: Three Roles of the Information Media Specialist

The information media specialists need to acquire a variety of knowledge, including the nature of information and media for learning and teaching, as well as characteristics of information behavior peculiar to students, teachers, and staff of the school to which they belong. In addition, they need to obtain skills and knowledge required for supporting and guiding their users. Based on this understanding, the school library team identified five areas of skills and knowledge as the basis of education and training for information and media specialists. These skills are integrated into the proposed LIS curriculum (see Appendix).

V. Summary of Findings

Through sharing results of studies conducted independently by the four study teams as well as by independent researchers, we reached the following common understanding of the current LIS education in Japan.

The legal basis of Japanese LIS education was established by the Library Law and School Library Law, both of which were enacted more than 50 years ago. According to these two laws, formal LIS education programs are given by colleges or universities in compliance with the MEXT as a training program. The current LIS education program based on the training program has remained unchanged and outdated compared to the needs of a

knowledge- and information-based society as well as to the trends in overseas counterparts. The legal framework for current LIS education is limited since it covers only those library professionals or "shisho" working at public and school libraries. There is no synthesized qualification system for all types of libraries. Only medical library associations have established a unique qualification system for health science information professionals. On the other hand, the certificate for "shisho" intended for public library professionals is considered as the basic requirement for other types of library professionals.

Overseas formal LIS training is generally provided by professional education programs at undergraduate and Master levels. In addition, recent trends indicate that there is expansion from traditional print-oriented library education into ICT and knowledge-oriented informatics. Such trends are observed not only among western countries, but also among neighboring Asian nations as identified at a series of international seminars held within the framework of the LIPER project. During these seminars, some invited speakers proposed international exchange of credits and mutual certification of LIS curricula. The recognition urges us to develop an internationally acceptable LIS education system in Japan.

The certificate for "shisho" receives limited recognition in Japanese society due to problems inherent in the education system. Very small numbers of graduates with a librarian's certificate have opportunities to be hired by public or other types of libraries. Even though there are more than 2,700 public libraries, only 30 graduates were employed as professionals by public libraries in 2003.

On the other hand, Japanese colleges and universities produce more than 12,000 graduates certificated as "shisho". According to MIXT, 13 colleges and universities offer intensive courses of formal librarian training; seven offer correspondence training courses, and 246 offer semester-based formal library-training programs. The total number of people qualified annually is estimated to be more than 12,000.

Because the framework of the Japanese LIS education is based on the training program, courses in the program have seldom been included as the part of the university or college formal programs and, thus, units earned for the training program are not likely to be considered as contributing to the required units for graduation. The accreditation of the certificate is authorized by the college or university based on the required units for the training program, but the course grade itself is determined solely by the instructor. Therefore, the level of knowledge and skills acquired by students may be quite different among programs. On the other hand, the current quality assurance system for Japanese higher education assesses only those courses covered by the formal programs. Thus, there is no quality control mechanism for current Japanese LIS education.

The current curriculum for the formal library-training program, stipulated by the ordinance of MEXT and offered by colleges and universities, is problematic even for public librarians, particularly in the following aspects: time or units allocated are too limited for students to acquire the skills and knowledge required; some unit of contents are overlapping and not

relevant to public library practices; flexibility is lacking in curriculum design; ability and experience of students are not taken into consideration; skills and knowledge for handling digital and multimedia information resources are lacking; understanding of human information behavior is ignored; and ICT and knowledge management skills are lacking.

VI. Proposed Revision

Based on this shared understanding of current problems in LIS education, we propose two areas for reform of LIS education in Japan. They are: (1) introduction of an independent LIS examination as a formal quality-assuring mechanism for overall education of information professionals, and (2) provision of an integrated curriculum for information professionals overall.

1. **Introduction of an LIS Examination**

Article 5 of the Library Law defines the certificate required for librarians (shisho) of public and private libraries. The certificate for librarians can be obtained through (1) attending an intensive training program, (2) taking required courses from a correspondence program, (3) attending required courses offered as a training program at colleges, (4) attending required courses offered as a training program at universities, or (5) graduation from a school or department of library and information science. Though these five alternatives differ in their required number of courses as well as depth of their course contents, the certificate is the same. Thus, level of skill and knowledge held by qualified graduates are not standardized.

In order for every qualified librarian to attain a high level of standardized knowledge and skills, it would be desirable to offer library training as graduate-level professional training, as already occurs in North America. However, the Japanese social environment does not provide the necessary conditions for revision of the Library Law. Thus, we propose introducing an LIS examination for librarians to verify the level of knowledge and skills held by those who obtained the certificate for "shisho".

Recently, several Japanese academic societies in economics, law, and management areas have promoted or implemented an LIS examination for self-evaluation by their members of attained knowledge and skills. The proposed LIS examination for librarians may follow such trends, but differ in limiting examinees to those who are currently taking training programs or have recently obtained the certificate for "shisho". Specifically, we proposed to establish a committee for LIS examination to study and prepare for the test.

2. **New Standard Curriculum for Information Professional Education**

The study identified that the current framework of the formal library-training program, stipulated by the ordinance of MEXT, is not adequate for education and training required by

information professionals including all types of librarians. Instead of proposing a revision of the current curriculum for the formal library-training program, the LIPER project has resulted in the development of a draft of a new standard curriculum for education and training for a variety of information professionals, and posits LIS as a part of the program. The curriculum, presented in the Appendix, takes into account aspects identified as limitations of the current curriculum, as well as a wide range of knowledge and skills required for a range of information professionals including librarians.

The idea behind the proposed new curriculum is to base information professional training on a deep understanding of the information-seeking behavior of people in the society including those in academic and school communities. In these a variety of skills and knowledge have accumulated, including skills required for managing print, multimedia, or digital information resources; subject knowledge required for information services; communication skills required for serving clients and sharing professional practices with colleagues. Fundamentally, the new curriculum is intended for Master-level professional training programs. However, part of the curriculum may be applicable to undergraduate programs.

The need for graduate-level professional education has been recognized for a long time, reinforced through a series of international seminars hosted by the LIPER with invited speakers from five neighboring nations. The global acceptability of higher education programs is increasingly important not only for students and faculty exchange, but also for mutual accreditation and international credit transfer.

The draft curriculum, consisting of three categories of core, special, and professional with 45 courses, has been developed according to the following procedure:

Review of courses for MLS in North America, particularly offered by University of Washington, Syracuse University, University of North Carolina, University of Illinois, University of Michigan, and University of Texas (Austin). These universities were selected because their programs were studied by KALOPER or because they have recently revised their curricula. Courses offered by LIS programs offered by some Japanese universities were also examined.

Core areas of LIS were identified by reviewing existing programs as mentioned above. They include seven areas: (1) introduction to LIS; (2) information users; (3) organization of information resources; (4) information media; (5) information services; (6) information systems; and (7) management. Candidate courses for each of these seven areas were chosen based on the examination of required and selective courses of above-mentioned programs. Courses considered as important and helpful for designing actual programs are identified with asterisks (*) in Appendix 1.

Three special programs were chosen based on the requirements for specialized knowledge

about the discipline and profession, uniqueness of information and media, as well as particularity of users and their behavior. Only three courses are included in this category, which may be expandable.

Three types of information professionals are covered in this category. They are public library information professionals, academic library information professionals, and school information and media specialists. Required courses for each of these three professional categories were chosen based on the skills and knowledge required for them as identified by each of three respective special teams. This category is also expandable by adding other information professions such as archivists and curators.

Figure 3 describes the structure of the curriculum. Courses in the core category may be offered at undergraduate level by LIS programs. Graduate-level programs may require students to take all courses in one of the professional categories in addition to all courses in the core category. The level of higher education intended for each category is presented in Figure 4.
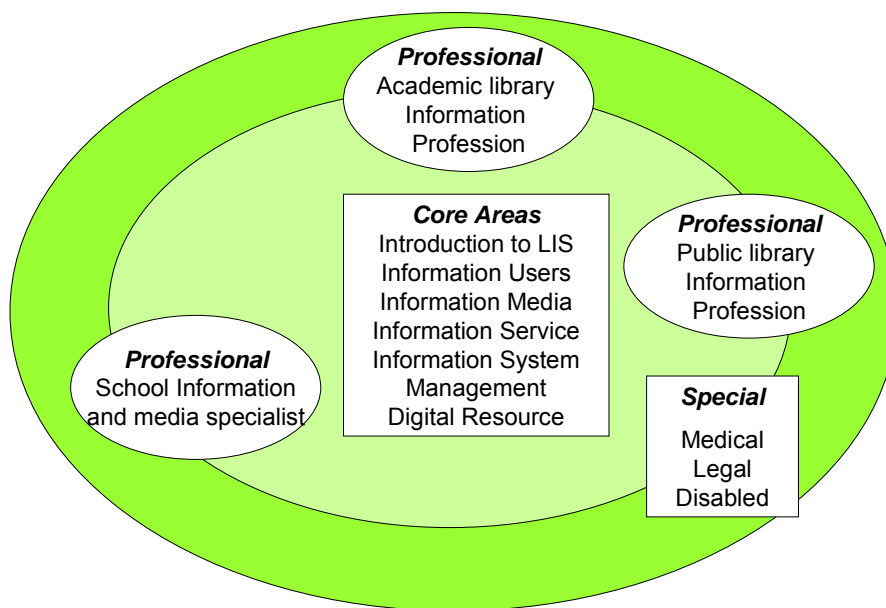

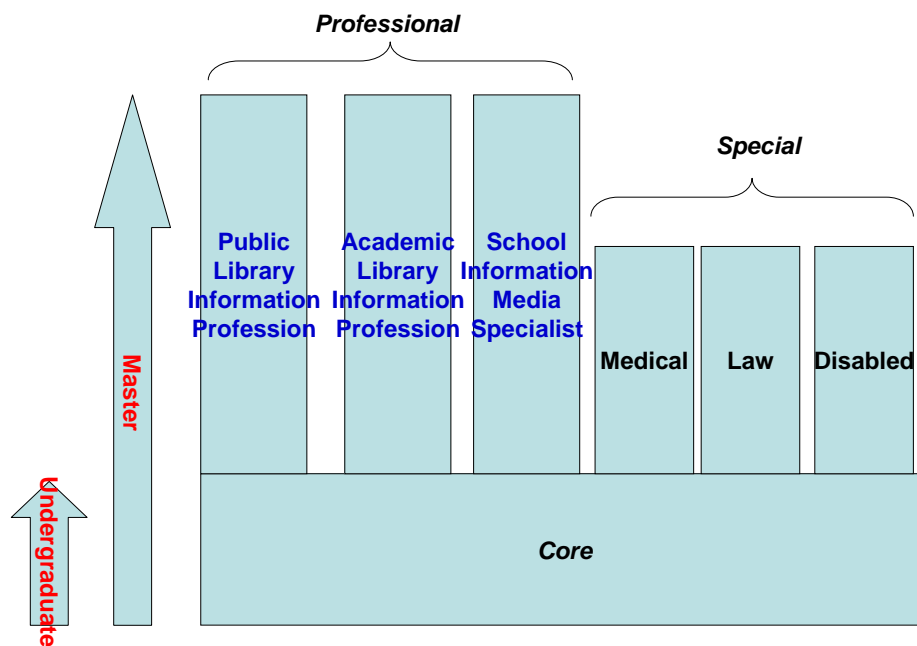**Figure 3: Structure of the Proposed Curriculum**

Figure 4: Level and Category of Courses in the Proposed Curriculum

VII. Conclusion

The LIPER project has been carried out by four special teams: the education team, which identified the current status of LIS education programs, instructors, and students; the public library team, which identified skills and knowledge required by public librarians and ways of acquiring and maintaining them; the academic library team, which identified skills and knowledge required by academic librarians and ways of acquiring and maintaining them; and the school library team, which developed ideal images of skills and knowledge required by school librarians or school media specialists and ways of producing them. Some additional studies were conducted of medical and law libraries, as well as overseas LIS programs. The project was completed in March, 2006.

The major findings of the LIPER project were:

(1) That the Japanese LIS education has remained unchanged for 50 years, and the gap between it and overseas LIS education has been ever increasing;

(2) The curriculum and contents of LIS education are not well standardized nor integrated into higher education programs and very few people who obtain the certificate for "shisho" find employment in library markets;

(3) That new areas of education including IT skills and user behavior are sought; and

(4) That many people seek to obtain LIS education in order to get the certificate for "shisho" even though employment opportunities for full-time librarians are quite limited, which has hindered LIS education renewal in Japan for a long time.

These findings lead to the following proposals:

(1) Establish an LIS examination for students to self-evaluate what they have learned through LIS education and to obtain better employment opportunities; and

(2) To introduce a new standard curriculum for education of information professionals.

We will make every effort to fulfill these proposed revisions in the near future.

References

1. Shuichi Ueda, et al. LIPER (Library and Information Professions and Education Renewal) Project in Japan. 71st IFLA Council and General Conference, Conference Programme and Proceedings. August 14–18, 2005. Retrieved Mar. 17, 2006 from: http://www.ifla.org/IV/ifla71/papers/051e-Ueda.pdf

2. International Federation of Library Association and Institutions. (2002). Guidelines for professional library/information educational programs – 2000. The Hague: IFLA. Retrieved Jan. 9, 2006 from http://www.ifla.org/VII/s23/bulletin/guidelines.htm

3. CILIP. (2005). Body of professional knowledge. Revised, 16 March 2005. Retrieved Mar. 17 from: http://www.cilip.org.uk/qualificationschartership/bpk/bpkword.htm

4. Pettigrew, K.E.; & Durrance, J.C. (2001). Final Report – KALIPER: Introduction and overviews of results. Journal of Education for Library and Information Science, 42(3), 170–180.

5. Makiko Miwa. (2006). Trends and issues of LIS education in Asia. Presented at Asia-Pacific Conference on Library & Information Education & Practice (A-LIEP): Preparing Information Professionals for Leadership in the New Age. Apr. 3–6, 2006. Nanyang Technology University, Singapore.

6. Toshokan Ho (The Library Law). Retrieved Mar. 17, 2006 from http://law.e-gov.gp.jp/fs/cgi-bin/strsearch.cgi

7. Gakko Toshokan Ho (The School Library Law). Retrieved Mar. 17, 2006 from http://law.e-gov.gp.jp/fs/cgi-bin/strsearch.cgi

8. Keita Tsuji, et al. (2006). Survey on faculty of library and information science education in Japan. Presented at Asia-Pacific Conference on Library & Information Education & Practice (A-LIEP): Preparing Information Professionals for Leadership in the New Age. Apr. 3–6, 2006. Nanyang Technology University, Singapore.

9. Shuichi Ueda. (2006). Joho-semmonnshoku no yousei ni muiketa toshokann jouhougaku kyouiku taisei no saikouchiku ni kannsuru sougouteki kennkyu (Library and Information Professions and Education Renewal Project): Final Report. (mostly in Japanese), 456 p.

10. Mitsuhiro Oda, et al. (2006). Kokyo-toshokan wo taisho ni shita toshokanngaku kyouiku ni kannsuru anketo chosa (1989) no shukei kekka (Temporary Results of the 1989 Survey of

the Opinions of Directors of Public Libraries on Education for Librarianship). Journal of Japan Society for Library and Information Science, 52(1) 16–23.

11. Itsuo Miura, et al. (1991). Daigaku toshokan no chisiki besu to toshokangaku kyoiku (Knowledge base for Academic Librarians and Library Science Education) (1)–(2), Annuals of Japan Society for Library Science, 37(2) 49–63; (3) 103–116.

12. Haruki Nagata, et al. (2006). Body of professional knowledge required for the academic librarians in Japan. Presented at Asia-Pacific Conference on Library & Information Education & Practice (A-LIEP): Preparing Information Professionals for Leadership in the New Age. Apr. 3–6, 2006. Nanyang Technology University, Singapore.

13. Yumiko Kasai. (2006). School library challenge in Japan – LIPER-SL: Library and Information Professions and Education Renewal, school library research group report. Presented at Asia-Pacific Conference on Library & Information Education & Practice (A-LIEP): Preparing Information Professionals for Leadership in the New Age. Apr. 3–6, 2006. Nanyang Technology University, Singapore.

Appendix: Proposed Standard Curriculum for Education of Information Professionals

Field	Category	Course
Core Field	Basics of Library and Information Science	Foundation of Library and Information Science*
		Foundation of Information
		Internship
		Research Methods
	Information Users	Information Behavior*
		Training of Users
	Information Resource Organization	Organization of Information and Resources a*
		Organization of Information and Resources b*
		Practicum of Information Organization*
		Practicum of Special Information Organization a
		Practicum of Special Information Organization b
	Information Media	Information Media*
		Collection Development
		Special Information Media
	Information Services	Information Services*
		Practicum of Information Services*
	Information Systems	Foundation of Library Information Systems*
		Information Retrieval*
		Practicum of Database Design and Development
		Practicum of Information Retrieval
	Management	Foundation of Management*
		Knowledge Resources Management*
		Practicum of Library and Information Service Planning
	Digital Information	Management of Digital Libraries*
		Foundation of Digital Contents
		Application of Digital Contents

Field	Category	Course
Informational Field (A variety of categories may be established.)	Medical/health Information	Medical/health Information
	Legal Information	Legal Information
	People with Disabilities	Services for People with Disabilities

Field	Category	Course
Information Professional Field	Information Professional (Public Library)	Local Community
		Public Library Media
		Services for Local Community
		Services for Children
		Management of Public Libraries
	Information Professional (Academic Library)	Higher Education
		Academic Information
		Academic Media a<Natural Science>
		Academic Media b<Humanities and Social Sciences>
		Academic Information Services
		Academic Information Resource Management
	Information Professional (School)	School Education
		Learning Information and Media
		Design of Learning Environment
		Support for Teaching and Learning
		Reading and Children