

SURVEY ON FACULTY OF LIBRARY AND INFORMATION SCIENCE EDUCATION IN JAPAN

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As a part of LIPER research, a questionnaire survey was performed on Library & Information Science instructors in Japanese universities. In quantitative terms, this research revealed the characteristics and teaching goals of LIS instructors, the similarities of librarian certification courses, and the overlap with instructors of those courses. Also, an analysis of freeform question responses about LIS education revealed the instructor's varied thoughts on LIS education and also revealed awareness of problems related to profession and curriculum issues and education goals.

1. Introduction

As a part of Library and Information Professions and Education Renewal (LIPER) project (Ueda et al. (2005)) which studies the LIS education systems in Japan with the goal of possible reform of them, a questionnaire survey was performed on LIS instructors in Japan. Japanese formal education of librarians aims to produce qualified librarians (*Shisho*) and assistant librarians (*Shishoho*) for public libraries, and qualified teacher-librarians (*Shisho-kyouyu*) for school libraries. There is no formal education system in place for other types of library and information professionals such as in academic and special libraries. *Shisho* are set out in the Japanese Library Law and any student who takes all the 12 required courses and two elective courses out of five courses (completing a minimum of 20 credits as requested by the ordinance) in universities or colleges is eligible to obtain a *Shisho* certificate.

Concerning *Shisho* certificate, in particular, there are many problems. For instance, Miwa et al. (2005) estimated that more than 10 thousand students obtained the certificates in 2003 while the total number of full-time public librarians was only 14,664 (*Statistics on libraries in Japan 2004*) as of 2004.¹ Therefore,

¹ *Shisho* certificate is not an academic degree and we should avoid naive comparison but the situation seems quite different from that in US, where the number of public librarians and that of qualified students seems

only a few students can get the full-time jobs in public libraries even if they get the *Shisho* certificates. In this situation, what are the university LIS instructors thinking? What kind of educational goal are they setting and what are the problems? While surveys have been conducted by the *Nihon toshokan kyokai toshokangaku kyoiku bukai* (Japan Library Association library education committee) (2000) and Shibata (2002), there are few attitude surveys that investigated the broad ranging attitudes of individual instructors. The aim of this research is to reveal the current state of and problems facing LIS education in Japan, by forming the data associated with *Shisho* certification instructors, such as their attitudes toward education, what competencies they think necessary, their background and affiliation.²

2. Method

Miwa et al. (2005) found that there were 296 universities and colleges which provided *Shisho* or *Shisho-kyouyu* certification courses in 2004 in Japan by using *Nihon toshokan kyokai toshokangaku kyoiku bukai* (Japan Library Association library education committee) (2000) and some directories as sources. An anonymous survey questionnaire was sent to 835 full and part time instructors who led *Shisho* certification courses in universities and colleges in 2004. The survey had multiple choice and freeform response sections that asked respondents about the current state of and problems surrounding LIS.

3. Results

397 responses were received for a response ratio of 47.5%. An estimated 1,449 LIS instructors were thought to be in Japan as of 1998 (*Library year book 2001*, p.106). If still valid, this estimate suggests that replies were obtained from approximately 30% of all instructors in Japan. 105 responses were obtained from women (26.4%), 288 from men (72.5%), and no sex was indicated on 4 responses.

As we previously mentioned, *Shisho* certification program consists of 12 required courses and five elective courses. The required courses and the numbers of their instructors (i.e., respondents to the questionnaire) are as follows: Lecture on Lifelong Learning (50), Introduction to Libraries (124), Lecture on Library Management (97), Lecture on Library Services (102), Lecture on Information Services (106), Practice of Reference Services (116), Lecture on Library Materials (86), Lecture on Specialized Materials (96), Lecture on Organization of Library Materials (117), Practice of Organization of Library Materials (131), Practice of Information Retrieval (100), Lecture on Children's Services (60). The elective courses are as follows: History of Books and Libraries (72), Lecture on Special Materials (61), Lecture on Information Machinery (38), Lecture on Communication (21), Special Lecture on Libraries (76).

3.1 Instructor academic background

Table 1 shows respondent replies about their academic background. The columns and rows of Table 1 represent the types of academic degrees and the fields they majored in, respectively. We can see in Table 1 that only a half of the instructors have Master's degree (51.4%). And the number of instructors who majored in LIS is relatively small.

3.2 Instructor work experience

Table 2 shows respondent replies about their work experience as information professionals for more than one year (multiple replies were allowed). The most common type of work experience was working university libraries, at 38.3%. Of all respondents, 25.9% replied that they had no experience. Incidentally, Shibata (2002) found that 13 of 79 respondents (16.5%) had no experience. Whether the difference has some meanings or just due to samples is interesting to consider.

well-balanced. For instance, the number of public librarians among the paid full-time-equivalent staff was 45,114.5 in the fiscal year 2003 (National Center for Education Statistics (2005)) while the number of students who got the ALA-MLS was 4,923 during the 2001-2002 academic year (ALISE (2004)).

² While Buttler & Du Mont (1996) investigated the attitudes of 726 library school alumni regarding the value of competencies in an LIS program, we focused on the attitudes of LIS instructors.

Table 3 shows respondent replies about their ages and how many years they worked as instructors. One of the most common type of instructors was the ones who were more than 60 years old and had worked as instructors for four years or less (9.3%). We can see in Table 3 that relatively large number of instructors are aged and have not worked as instructors for many years. Many of them might be librarian-turned-instructors as shown in Table 2.

Table 1: Instructor academic background

| | College | University | Master | Doctoral | Other |
|-------------------------------|----------|------------|------------|------------|----------|
| Library & Information Science | 17 (4.3) | 51 (12.8) | 86 (21.7) | 41 (10.3) | 14 (3.5) |
| Education | 1 (0.3) | 52 (13.1) | 49 (12.3) | 35 (8.8) | 0 (0.0) |
| Humanities | 11 (2.8) | 131 (33.0) | 43 (10.8) | 25 (6.3) | 3 (0.8) |
| Social Science | 1 (0.3) | 67 (16.9) | 22 (5.5) | 9 (2.3) | 1 (0.3) |
| Natural Science | 1 (0.3) | 14 (3.5) | 3 (0.8) | 3 (0.8) | 0 (0.0) |
| Engineering | 0 (0.0) | 16 (4.0) | 5 (1.3) | 6 (1.5) | 0 (0.0) |
| Other | 2 (0.5) | 9 (2.3) | 6 (1.5) | 3 (0.8) | 1 (0.3) |
| No response | 1 (0.3) | 2 (0.5) | 0 (0.0) | 0 (0.0) | 6 (1.5) |
| Total | 33 (8.3) | 331 (83.4) | 204 (51.4) | 122 (30.7) | 25 (6.3) |

Table 2: Work experience greater than 1 year as an information professional

| Work experience | N (Ratio) |
|---------------------------------|------------|
| Public Library | 86 (21.7) |
| University Library | 152 (38.3) |
| School Library | 17 (4.3) |
| Special Library | 31 (7.8) |
| National Diet Library | 10 (2.5) |
| Database Producing Organization | 14 (3.5) |
| Database Surrogate Searcher | 4 (1.0) |
| No experience | 103 (25.9) |
| Other | 41 (10.3) |
| No response | 13 (3.3) |

Table 3: Ages of instructors and how many years they worked as instructors

| | 20-39 | 40-49 | 50-59 | 60- | No resp. | Total |
|----------|-----------|-----------|------------|------------|----------|------------|
| -4 | 40 (10.1) | 29 (7.3) | 32 (8.1) | 37 (9.3) | 0 (0.0) | 138 (34.8) |
| 5-9 | 15 (3.8) | 37 (9.3) | 24 (6.0) | 31 (7.8) | 2 (0.5) | 109 (27.5) |
| 10-14 | 1 (0.3) | 15 (3.8) | 23 (5.8) | 15 (3.8) | 0 (0.0) | 54 (13.6) |
| 15-19 | 0 (0.0) | 5 (1.3) | 19 (4.8) | 11 (2.8) | 0 (0.0) | 35 (8.8) |
| 20-29 | 0 (0.0) | 1 (0.3) | 14 (3.5) | 18 (4.5) | 1 (0.3) | 34 (8.6) |
| 30- | 0 (0.0) | 0 (0.0) | 0 (0.0) | 22 (5.5) | 0 (0.0) | 22 (5.5) |
| No resp. | 0 (0.0) | 0 (0.0) | 2 (0.5) | 3 (0.8) | 0 (0.0) | 5 (1.3) |
| Total | 56 (14.1) | 87 (21.9) | 114 (28.7) | 137 (34.5) | 3 (0.8) | 397(100.0) |

3.3 Course content and instructor overlap

The survey listed 51 knowledge skills required for library workers and for each item asked respondents whether they “especially emphasized” that item or covered it in the classroom.

To avoid complexity, instead of asking every respondent about every course, instructors were asked to reply based on all of their responsible courses. To do so, for only those instructors who were responsible for a single course, for each course, instructors were asked about “knowledge skills especially emphasized in the classroom.” The results are shown in Table 4. “N” in Table 4 refers to the number of instructors, and “Ratio” refers to the ratio of instructors who evaluated the item as “especially emphasized in the classroom.” For instance, we can see that for “Lecture on Library Management,” two of five instructors responded that they especially emphasize <maintenance and administration of library operation systems>. (It should be noted that there were less than two instructors who teach only Introduction to Libraries,

Lecture on Library Services, Lecture on Library Materials, Lecture on Organization of Library Materials, or Practice of Organization of Library Materials, so they were omitted.)

As shown in Table 4, <information retrieval>, <Internet literacy> and <computer literacy> were the top three knowledge skills emphasized for both “Practice of Information Retrieval” and “Lecture on Information Machinery,” suggesting that there are similarities in the subject matter of these courses.

The knowledge skill appearing most frequently in Table 4 is <copyright>. Currently, there is no *Shisho* certification course dealing mainly with the legal aspects of the discipline. Considering copyright awareness as a template of society and how overlap among the different subjects could be reduced, the development of a single, separate legal course to deal mainly with copyright issues could be considered.

Also from Table 4, for <Internet literacy>, for instance, “Practice of Information Retrieval” and “Lecture on Information Machinery” had ratios of 0.54 and 0.57, respectively. Courses like these with similar ratios for skills and techniques also have a high likelihood of having similar subject matter. Thus, the function $t_i(x)$ for a given course x is set as the value for ratio for the number i knowledge technique ($1 \leq i \leq 51$). Then, correlations of $t_i(a)$ and $t_i(b)$ were investigated for all combinations of courses a and b . Table 5 shows the course combinations that had the highest correlation coefficients. The above correlation coefficients are shown in the “emphasis coefficient” column of Table 5. Similarly, function $s_i(x)$ for a given course x is 1 when the instructor number i ($1 \leq i \leq 397$) is responsible for that course, or 0 when not responsible for that course. Then, for all combinations of courses a and b , the correlation between $s_i(a)$ and $s_i(b)$ were determined. The correlation coefficients for instructors are shown under the “instructor coefficient” column in Table 5, and the ranks of these correlation coefficients are shown in the “Rank” column.

Table 5 shows that there is a strong overlap in emphasized knowledge skills for “Practice of Information Retrieval” and “Lecture on Information Machinery,” and also shows that instructor overlap is also relatively high, ranking 13th for correlation coefficient order. In other words, it is probable that one instructor appropriately divides subject matter between courses and takes care to teach without overlapping.

Table 4: Knowledge skills especially emphasized in the classroom

| Course | N | Knowledge skills especially emphasized in the classroom | Ratio |
|----------------------------------|----|---|-------|
| Lecture on Lifelong Learning | 27 | Social education/life education | 0.59 |
| | | Libraries and Intellectual Freedom | 0.37 |
| | | School/formal education | 0.30 |
| | | Communication ability | 0.30 |
| | | Basic knowledge of the social sciences | 0.26 |
| Lecture on Library Management | 5 | Business management | 0.60 |
| | | Library procedure application management | 0.40 |
| | | Library rules and regulations/standards | 0.40 |
| | | Inter-library cooperation / network | 0.40 |
| | | Other general education awareness | 0.20 |
| Lecture on Information Services | 3 | Confidentiality (Privacy) | 0.67 |
| | | Copyright | 0.67 |
| | | Information research – appropriate usage | 0.33 |
| | | Bibliography | 0.33 |
| | | Intellectual freedom/censorship | 0.33 |
| Practice of Reference Services | 7 | Information literacy education | 0.57 |
| | | Reference services | 0.57 |
| | | Information retrieval | 0.43 |
| | | Organization of information | 0.29 |
| | | Information research – appropriate usage | 0.14 |
| Lecture on Specialized Materials | 5 | Subject-independent knowledge | 0.40 |
| | | Basic knowledge of the social sciences | 0.40 |
| | | Data storage/preservation/bookmaking | 0.40 |
| | | Information retrieval | 0.40 |
| | | Library materials | 0.40 |

| | | | |
|-----------------------------------|----|---|------|
| Practice of Information Retrieval | 13 | Information retrieval | 0.77 |
| | | Computer literacy | 0.62 |
| | | Internet literacy | 0.54 |
| | | Information literacy education | 0.31 |
| | | Copyright | 0.23 |
| Lecture on Children's Services | 15 | Services for children | 0.93 |
| | | Library materials | 0.53 |
| | | Copyright | 0.47 |
| | | Material selection / collection development | 0.47 |
| | | Confidentiality (Privacy) | 0.40 |
| History of Books and Libraries | 5 | Intellectual freedom/censorship | 0.60 |
| | | Library history / media history | 0.40 |
| | | Availability of information | 0.40 |
| | | Confidentiality (Privacy) | 0.40 |
| | | Data storage/preservation/bookmaking | 0.40 |
| Lecture on Special Materials | 4 | Bibliography | 0.50 |
| | | Data storage/preservation/bookmaking | 0.50 |
| | | Basic knowledge of the humanities | 0.25 |
| | | Publication circulation | 0.25 |
| | | Social education/life education | 0.25 |
| Lecture on Information Machinery | 7 | Information retrieval | 0.71 |
| | | Internet literacy | 0.57 |
| | | Computer literacy | 0.57 |
| | | Availability of information | 0.43 |
| | | Copyright | 0.43 |
| Lecture on Communication | 5 | Information literacy education | 0.60 |
| | | Availability of information | 0.40 |
| | | Social education/life education | 0.40 |
| | | Communication ability | 0.40 |
| | | Cognitive Psychology | 0.20 |
| Special Lecture on Libraries | 5 | Copyright | 0.40 |
| | | Public relations | 0.40 |
| | | Information literacy education | 0.40 |
| | | Communication ability | 0.40 |
| | | Information research – appropriate usage | 0.20 |

Meanwhile, although there was strong overlap between the knowledge skills emphasized in "Lecture on Lifelong Learning" and "Lecture on Communication," instructor overlap correlation coefficient and rank were low, at 0.46 and 83rd place respectively. For these courses, we can see that instructors must communicate closely with each other and take efforts to teach classes with minimal overlap. The same can be said about "Practice of Reference Services" and "Practice of Information Retrieval," and for "Lecture on Information Services" and "Lecture on Information Machinery."

The similarity of the educational goals could also be useful in future course consolidations or course eliminations. Courses with similar educational goals and strong instructor overlap could be considered for consolidation. Incidentally, "Lecture on Library Management" appears frequently in course combinations and has the lowest overlap in emphasized knowledge skills, which suggests that course is relatively isolated from the others. The courses with the highest $s_i(a) - s_i(b)$ correlations are shown in Table 6. Table 6 shows that instructor overlap is greatest between "Lecture on Organization of Library Materials" and "Practice of Organization of Library Materials".

3.4 Instructor history for each course

Table 7 shows those course instructors who have experience working as a librarian as well as those with *Shisho* certificate or *Shisho-kyouyu* certificate. "Lecture on Library Management" was the course that had the greatest ratio of instructors with experience working as librarians or with *Shisho* or *Shisho-kyouyu* certificates. Meanwhile, "Lecture on Lifelong Learning" had the lowest ratio of instructors with no experience working as librarians or who did not have these certificates (68.0%), followed by "Lecture on Communication" and "Lecture on Information Machinery." These results could be useful when considering

whether LIS instructors should be expected to have much experience with libraries through work experience or certification.

Table 5: Courses with the highest correlations between emphasized knowledge skills

| Pair of Courses | Emphasis coefficient | Instructor coefficient | Rank |
|--|----------------------|------------------------|------|
| Practice of Information Retrieval / Lecture on Information Machinery | 0.847 | 0.285 | 13 |
| Lecture on Lifelong Learning / Lecture on Communication | 0.624 | 0.046 | 83 |
| Practice of Reference Services / Practice of Information Retrieval | 0.562 | 0.125 | 61 |
| Lecture on Information Services / Practice of Information Retrieval | 0.550 | 0.135 | 57 |
| Lecture on Specialized Materials / History of Books and Libraries | 0.510 | 0.146 | 56 |
| Lecture on Information Services / Special Lecture on Libraries | 0.501 | 0.242 | 19 |
| Lecture on Information Services / Lecture on Information Machinery | 0.479 | 0.017 | 92 |
| Lecture on Information Machinery / Lecture on Communication | 0.434 | 0.076 | 73 |
| Lecture on Information Services / History of Books and Libraries | 0.419 | 0.071 | 75 |
| Practice of Reference Services / Lecture on Information Machinery | 0.371 | -0.021 | 103 |

Table 6: Courses with greatest instructor overlap

| Pair of Courses | Instructor's corr. coeff. |
|--|---------------------------|
| Lecture on Organization of Library Materials / Practice of Organization of Library Materials | 0.752 |
| Lecture on Information Services / Practice of Reference Services | 0.626 |
| Lecture on Specialized Materials / Lecture on Special Materials | 0.363 |
| Introduction to Libraries / Lecture on Library Management | 0.350 |
| Introduction to Libraries / Lecture on Information Services | 0.343 |
| Introduction to Libraries / Lecture on Library Materials | 0.332 |
| Lecture on Library Materials / Lecture on Specialized Materials | 0.331 |
| Lecture on Library Management / Lecture on Library Services | 0.323 |
| Introduction to Libraries / Lecture on Library Services | 0.313 |
| Introduction to Libraries / Practice of Reference Services | 0.296 |

3.5. Instructors and especially emphasized knowledge skills

Of the 51 prerequisite knowledge skills for librarians, the following five items had the highest emphasis ratios. They are reference service (66.5%), confidentiality (56.9%), copyright (55.4%), information retrieval (51.1%), and communication ability (45.3%).

Table 7: Instructors having work experience or librarian-related certification

| | N | Work exp. | Certif. | No exp. / certif. |
|---|-----|-----------|---------|-------------------|
| Lecture on Lifelong Learning | 50 | 30.0 | 28.0 | 68.0 |
| Introduction to Libraries | 124 | 80.6 | 85.5 | 3.2 |
| Lecture on Library Management | 97 | 89.7 | 89.7 | 2.1 |
| Lecture on Library Services | 102 | 79.4 | 89.2 | 2.9 |
| Lecture on Information Services | 106 | 84.9 | 89.6 | 3.8 |
| Practice of Reference Services | 116 | 83.6 | 86.2 | 4.3 |
| Lecture on Library Materials | 86 | 81.4 | 84.9 | 2.3 |
| Lecture on Specialized Materials | 96 | 76.0 | 78.1 | 12.5 |
| Lecture on Organization of Library Materials | 117 | 80.3 | 85.5 | 4.3 |
| Practice of Organization of Library Materials | 132 | 79.5 | 86.4 | 4.5 |
| Practice of Information Retrieval | 100 | 59.0 | 68.0 | 22.0 |
| Lecture on Children's Services | 60 | 78.3 | 85.0 | 10.0 |
| History of Books and Libraries | 72 | 72.2 | 77.8 | 9.7 |
| Lecture on Special Materials | 61 | 75.4 | 80.3 | 14.8 |
| Lecture on Information Machinery | 38 | 44.7 | 60.5 | 36.8 |
| Lecture on Communication | 21 | 42.9 | 47.6 | 42.9 |
| Special Lecture on Libraries | 76 | 76.3 | 82.9 | 10.5 |

Table 8: Knowledge skills in which differences were seen for instructor groups

| Knowledge skill | Work exp. | No work exp. |
|---|---------------|--------------|
| Bibliography | 20.7 | 10.2 |
| Publication circulation | 21.5 | 8.2 |
| Foreign language (English) | 39.8 | 26.5 |
| Organization of Internet data | 24.8 | 35.7 |
| Data storage/preservation/bookmaking | 11.8 | 24.5 |
| Social education/life education | 19.5 | 36.7 |
| School/formal education | 9.8 | 21.4 |
| | <i>Shisho</i> | Specialized |
| Social survey / statistics | 7.3 | 22.6 |
| Administration of local public entities | 12.0 | 25.8 |

When investigating whether emphasized skills were different between those instructors who had and who did not have work experience, items with significance greater than 0.05 were obtained for the items listed in Table 8. The ratio of instructors emphasizing library studies or foreign language (English) was higher for instructors with work experience than for those without. Most of the above described individuals who had library work experience had university library backgrounds. These results may be due to their experience cataloguing Western books at universities. Although preservation of materials is regarded as the most important function of libraries, materials are disposed almost daily in actual libraries -- especially public libraries -- and bookmaking of magazines are frequently outsourced to external vendors, so storage knowledge is not necessarily a prerequisite for librarians. The difference seen in Table 8 for <material storage/protection/bookmaking> could be attributable to this difference between concept and reality.

This survey investigated whether the instructors belong to *Shisho* course or LIS specialized courses and found that 150 belonged to the former and 31 belonged to the latter. The bottom part of Table 8 shows those knowledge skills with a significant difference of 0.05 between them. While the small sample size of specialized course instructors may be the source of the observed effects, the number of knowledge skills showing significant differences was few. However, management and administration (14.7% vs. 29.0%), material selection/collection management (33.3% vs. 51.6%) showed significant differences when the significance criteria was set to 0.1. Judging from the results shown in Table 8, it is possible that there are many specialized subject instructors who place emphasis on the perspective of managers.

3.6 Current state of and issues facing LIS education

Table 9 shows the current state of and problems facing LIS education. Table 9 shows the ratio of instructors to overall respondents who responded "Agree" for the items listed on the left, with items with the highest ratios at the top. "*Shisho*" in Table 9 is the ratio of those instructors belonging to *Shisho* courses and answering "Agree" and "Specialized" is the ratio of those instructors belonging to specialized LIS courses who agreed. "*" in the rightmost "DF" column of Table 9 indicates items where the ratio of respondents who answered "Agree" for *Shisho* courses and specialized courses differed to a 0.05 degree of significance. For instance, although 66.7% of *Shisho* course instructors agreed that at their universities, librarian education is less emphasized than attracting students through certification, only 45.2% of specialized course instructors agreed, showing a difference with a 0.05 degree of significance. Table 9 reflects the strong dissatisfaction toward universities which tries to increase the number of students rather than improve the quality of education. Insufficient faculty and student abilities and motivation are other source of dissatisfaction. The results also suggest that *Shisho* course instructors struggle more with educational facilities and teaching environment than specialized course instructors.

Table 9: Current state of and problems surrounding LIS education

| Current State / Problem | Overall | <i>Shisho</i> | Specialized | DF |
|--|---------|---------------|-------------|----|
| University overall is emphasizing attracting students with degrees, not quality of librarian training. | 58.4 | 66.7 | 45.2 | * |
| Not enough dedicated instructors specializing in LIS. | 57.7 | 61.3 | 51.6 | |
| Basic academic abilities are growing worse every year. | 55.7 | 61.3 | 71.0 | |
| Many students have little awareness, motivation or interest in anything other than certification. | 48.6 | 51.3 | 35.5 | |
| Many students do not see any relation between studying LIS and non-library careers. | 42.3 | 48.7 | 35.5 | |
| Opportunities to consider curriculum or future plans are limited. | 41.8 | 45.3 | 41.9 | |
| Insufficient integration and balance with other certification courses. | 41.8 | 48.0 | 32.3 | |
| LIS discipline is not well understood within the campus. | 40.6 | 48.0 | 35.5 | |
| Difficult to find part time instructor candidates. | 40.6 | 46.0 | 41.9 | |
| Instructor workload is too great. | 39.5 | 40.7 | 58.1 | |
| Student numbers are too high. | 36.3 | 35.3 | 29.0 | |
| LIS has less clout and weaker voice than other certification courses. | 34.0 | 43.3 | 25.8 | |
| Instructor course load and administrative tasks interfere with research activities. | 32.2 | 34.7 | 48.4 | |
| Hiring of part time instructors is restricted by budget or headcount limitations. | 29.7 | 28.0 | 41.9 | |
| Little interest from students other than those planning careers in public or school libraries. | 29.0 | 27.3 | 32.3 | |
| Current curriculum is insufficient. | 27.5 | 34.0 | 12.9 | * |
| Restrictions or difficulties in utilizing campus library for lab work or reserving book collections. | 24.7 | 26.7 | 25.8 | |
| Difficult to obtain research materials. | 23.4 | 26.0 | 22.6 | |
| Difficult to obtain permission for library training or library tours. | 23.9 | 28.0 | 9.7 | * |
| Teaching materials for lab work are frequently in short supply. | 22.9 | 26.0 | 12.9 | |
| Difficult to find joint research partners in the same field. | 22.4 | 26.7 | 35.5 | |
| Difficult to get a seat in or join in academic societies or research. | 19.6 | 24.7 | 12.9 | |
| Course and curriculum area of responsibility not related to area of research. | 17.6 | 23.3 | 19.4 | |
| Difficult to secure classrooms with IT facilities (lab rooms, etc.). | 17.6 | 26.0 | 0.0 | * |
| Restricted access to of presentation equipment (DVD players, PC projectors, etc.). | 17.1 | 22.0 | 3.2 | * |
| Difficult to obtain research funding on campus. | 16.6 | 22.7 | 6.5 | * |
| Insufficient IT resources (server resources, etc.). | 15.4 | 20.0 | 3.2 | * |
| Overlap with other disciplines on campus, such as Information Science or Communication. | 12.1 | 10.7 | 22.6 | |

3.7 Responses to freeform questions

The response ratio for the freeform question “regarding the state of LIS education in Japan” was 59.2% (235 out of 397). Responses were sorted using content analysis software (ATLAS.ti ver.5). Analysis was performed by assigning keywords to each comment. A total of 380 keywords were extracted. By grouping similar items, these sorted into 11 categories, as shown in Table 10.

Below, we consider the (1) human aspect (items from 1 to 3), (2) educational aspect (items 4 to 8), and policy aspect (items 9 to 11).

(1) The human aspect

Of the comments received, many pointed out the weak awareness of the conditions under which instructors conduct their activities. This is connected to the problem pointed out regarding the gap between curriculum and the instruction environment. There were also comments that students attending *Shisho* course lectures had simplistic attitudes or thoughts that *Shisho* certificate will be useful in finding a job. The problem of low awareness of the profession received by far the most comments. In addition to recalling the problem of lack of awareness of the profession, there were also many comments which aimed to increase the social awareness of the library profession. Many opinions were also received that suggested that in order to deal

with address problems with libraries not being regarded as a specialized profession, instructors should approach government to require placement of librarians. Also, while there is negative opinion that various professions other than full-time employees (part time workers, seasonal workers, temporary workers, contractors) are taking jobs away from full-time workers, some proposed that accepting the reality that the number of non-full-time workers is growing, and that non-full-time jobs should be regarded as the goal for *Shisho* certificate.

(2) The education aspect

Opinions were received suggesting both that LIS should be made into a general education course and that it should be made into a graduate course. With regards to education programs, negative opinions about the current state of *Shisho* courses being offered at colleges, the overall number of courses, and library programs, were prominent, and there were many opinions suggesting that efforts should be directed toward making specialized curriculum into graduate-level coursework. On the other hand, some proposed that the discipline should be divided into general education and professional librarian education. Opinions on this branched model were clearly split, either calling for specialized and general courses to be divided between different universities, or setting the specialized branch as graduate level coursework while keeping the general branch as a bachelor level coursework. This suggested the possibility of education programs run jointly by several schools, or the certification of curriculum by a related organization.

Advanced information professions were envisioned to be divided into (1) personnel that would work as librarians in specialized facilities or work in library-related organizations (museums, art galleries, or archives), (2) personnel with background knowledge in the main subject areas, and (3) personnel with high level IT skills that can gather, organize and make available digital content.

The low degree of freedom and the high degree of overlap for curriculum were pointed out. Also, there were several opinions pointing out that current core subjects are geared toward public libraries and are insufficient to develop the skills needed in non-public library and information professions, and that education on key issues is not being done. “Digital content / electronic library related courses,” “academic related courses” and “courses for each type of library” were suggested.

Regarding certification, an overwhelming number of comments suggested the establishment of different library grades, national testing, or the introduction of a licensing scheme. These comments indicate reveal that instructors view the current regulations as insufficient.

(3) The policy aspect

Many lamented the difficulty of finding work in libraries. Some comments also described the growing numbers of non-full-time workers working in libraries. These comments indicated that *Shisho* courses should aggressively teach students how to get the jobs.

In addition to citing problems with low understanding and awareness of libraries overall, comments that warned of the weakening and decay of libraries through outsourcing were also conspicuous. On the other hand, some offered opinions that these policies should be accurately understood. Many comments also urged appeal of the importance of libraries and their local contributions. There are mentions of government and related organizations in the environment surrounding LIS education. There were many opinions suggesting that LIS educators or library persons should reach out to government.

Table 10: Freeform question analysis results

| Category | Details | No. of Comments |
|------------------------------|--|-----------------|
| (1) Faculty | LIS instructors or researchers | 34 |
| (2) Students | <i>Shisho</i> course attendees | 17 |
| (3) specialized careers | Library / information related careers | 93 |
| (4) Research | Research related to <i>Shisho</i> course curriculum, LIS research | 21 |
| (5) Education goals | Education goals in the course being taught | 45 |
| (6) Education programs | Level of education, state of specialized education, curriculum development | 74 |
| (7) Curriculum | Education program details for library or information specialized careers | 144 |
| (8) Certification | <i>Shisho</i> certificate, credits, or LIS graduates | 65 |
| (9) Career | Human Resources or Market | 41 |
| (10) Libraries | Situation or problems facing libraries. | 21 |
| (11) Surrounding environment | Environment or society surrounding related groups, government, or universities | 22 |

4. Conclusion

Aiming at the reform of LIS education in Japan, a questionnaire survey was performed on *Shisho* certification instructors. This study showed their background and attitudes toward education which had not been clear so far and revealed the state of and problems facing LIS education. This time we focused on the instructor side. Next we would like to focus on student side and consider the effects of LIS education.

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