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Cataloging and Classification Skills of Library and Information Science Practitioners in their Workplaces: A Case Analysis

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Abstract

Information resources are useless when access is not provided. This fundamental function is within the concept of cataloging. Thus, cataloging is an essential process that provides access to all acquired information resources of the library for it allows people to find information needed for their personal and professional growth and development. It also provides access points to information resources in a way that users will be able to find the need information or resources.

With this, the study determined the cataloging and classification skills of library and information science graduates which is centered on assessing the cataloging and classification skills of academic and school librarians in three areas namely, descriptive cataloging, subject analysis and classification. Case analysis was used to five practicing librarians who graduated with the degree Bachelor of Secondary Education major in Library Science and Bachelor of Library and Information Science from the College of Teacher Education, Benguet State University (BSU).

Findings of the study revealed that the cataloging and classification skills of the five library and information science graduates of BSU are generally proficient in the basic areas of descriptive cataloging, subject analysis and classification but found greatest difficulty on subject.

Keywords: Cataloging skills, Catalogers, Subject analysis, Descriptive cataloging, Subject cataloging, Case analysis, Library practitioners

Introduction

According to Gorman (1998), technical services are the tasks carried on in a library that are concerned with the processing of library materials in order to make them accessible to the users of the library. Generally, it has two major administrative divisions, namely acquisitions and cataloging. Acquisition work includes selecting, ordering and receiving library materials while cataloging work consists of two components namely, descriptive and subject cataloging.

The standards that structure the niche in the library information sphere known as cataloging are based on principles articulated by Anthony Panizzi, Charles Coffin Jewett, Charles A. Cutter, S.R. Sears, and Seymour Lubetzky, about which every first year library and information science student learns. Collectively, the intellectual work of these men form the core of cataloging theory and influence the way catalogers construct and amend existing standards. These principles, although developed by generations past primarily for printed materials collocated in a linear, analog card or book catalog, still serve us in our contemporary age dominated by non-print materials described in machine-readable form in a nonlinear, digital space (Bothmann, 2011).

Cataloging is an essential process in any library or information center in order to provide information access to all learning resources to library patrons. All careers in librarianship include work in cataloging, which is always understood to be a major part of library functioning (Marcum, 2006). In like manner, Luther (2010) said, cataloging and classification have always held a position in the curricula of library schools. He further explains, although concepts are changing in regard to the amount and nature of the training, some work in cataloging and classification is still required of students following prescribed courses of study in library training,

Benguet State University (BSU) as one of the forerunner of Library and Information Science education in the Cordillera Administrative Region (CAR) also aspires to create this vision and mission viable. The College of Teacher Education of BSU with its former Bachelor of Secondary Education (BSEd) major in Library Science, legally approved through Board Resolution No. 276, Series of 1989, advocated to develop new curricular programs in 2004, thus, the revision of the BSEd - Library Science curriculum to Bachelor of Science in Library and Information Science (BLIS).

Library and information science education in BSU has never been the same since then. Both degree programs, the former BSEd - Library Science and BLIS, exceeded the national passing rate. Further, ranks, especially for the past recent years, are within the ten (10) top performing schools nationwide. Foregoing is the BSU PRC results (Table 1) for the Librarians' Licensure Examination (LLE) for the past 6 years.

Table 1: BSU Number of Graduates per Year and Librarians' Licensure Exam Results

Year	Number of Graduates	PRC LLE Results First Timers	National Result
2012	28	66.67%	46.67%
2011	18	70%	27.62%
2010	6	85.71%	27.32%
2009	16	93.33%	29.99%
2008	21	36%	23.63%
2007	7	57%	32.03%

The board exam results as presented in Table 1 are comparable and can be at par with the top performing library education institutions in the Philippines. But these should not particularly stop the university, specifically the college or department to promote better strategic programs and activities to enhance the skills as per competencies required by the Professional Regulation Commission (PRC). Common assumptions claim that cataloging is the most difficult major subject in the LLE. Most takers of the licensure exam flank in this subject. Oftentimes, board exam takers expect that if ever they cannot make it, it would be because they failed in cataloging and classification.

Figure 1 presents the elements of cataloging consisting of bibliographic description, subject analysis, and classification. These are the required skills and competencies of catalogers or librarians but considered to be the most difficult.

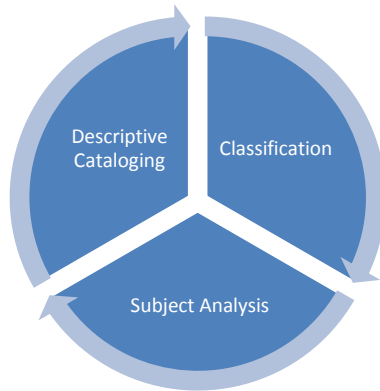


Figure 1: Skills in Cataloging and Classification

Indeed, cataloging is very important in keeping all the materials in the library organized because it provides regularity within the library. This role of cataloging gives a vivid picture how important a catalog is in the society or community. The library, through the technical services provided by LIS practitioners can deliver the most efficient and highest quality service so that library users may identify and retrieve appropriate materials to meet their information needs. Thus the study determined the profile and cataloging skills of the LIS practitioners as presented in Figure 2.

The research paradigm focuses on the professional profile and assessment of cataloging skills of the LIS practitioners which will be the basis for recommending enhancement of the LIS teaching strategy, syllabi content and faculty competencies in teaching. This is the continuous and evolving practice involved in the processing of materials for efficient dissemination of information.

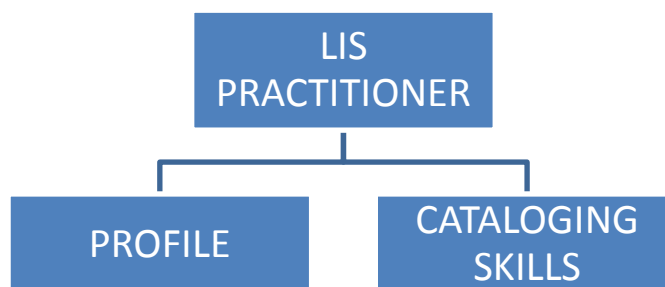


Figure 2. Paradigm of the Study

Clack (1993) as cited by De Boer (2001) conveyed that cataloging is one of the primary functions of librarianship. It is the core of the profession, the cohesive force that binds the library into a unified whole. Since cataloging and classification focuses on the intelligibility of bibliographic records and the findability of material, a study of cataloging is beneficial to the success of every library function. The information worker will in future not only need the basic core of traditional skills and professional knowledge, but a number of new competencies to be competitive in the changing working conditions (Buttlar & Du Mont 1996; Hjørland 2000 as cited by De Boer (2001).

As to the skills of librarians, Svenonius (2000) and Hyatt (2003) said that people not involved with cataloging have never really understood or sympathized with the difficulties involved in creating and maintaining a library catalog. The perception that only catalogers need to know about cataloging is also not true (Hill & Intner, 1999). The authors (Buttlar & Du Mont 1996) said that it is needed for design, implementation and customization of information systems, as well as for the input of data into them.

Byrd et al (2006) generally concluded that the need for expert catalogers will not be diminished in the coming years. They need to be key players in addressing the many challenges facing the libraries and the overall management and organization of information. The future of cataloging in today's world of internet access, improved indexing and retrieval tools and utilization and mass digitization projects (Marcum, 2005 and Miksa, 2004).

The Problem and Its Methodology

In recent years a number of experts on cataloging have expressed themselves in favor of the value of retaining cataloging in the LIS curriculum. Clack (1993) as quoted by Saye, J. D., & Bohannon, A.I J. (2000) and Spillane (1999) declare "cataloging is the centrality, the core, the heart of education for technical service and has been an important element of library education and remains one today.

With this, the study assessed the cataloging and classification skills of LIS practitioners. Specifically, it aimed to: 1. describe the LIS practitioners' professional profile; 2. assess their cataloging skills along the following areas of cataloging namely:

a) descriptive cataloging; b) subject analysis; and c) classification; and 3. suggest recommendations for improvement on relevant subjects for the BLIS curriculum. It was conducted in Baguio City during the second semester of school year 2012-2013 to assess closely the cataloging skills of the graduates of the Bachelor of Secondary Education with specialization in Library Science and the Bachelor of Library and Information Science courses of the College of Teacher Education of Benguet State University, and are employed as professional librarians in different types of libraries.

Table 2. Composition of Subjects

Libraries in Baguio- Benguet		Number of Subjects
School Libraries	Saint Louis Center (SLC - HSD)	1
	Saint Louis School Center (SLSC-ED)	1
Academic Libraries	University of the Cordilleras (UC)	2
	Saint Louis University (SLU)	1

Descriptive-case study method of research was used to determine the cataloging skills and difficulty of LIS practitioners. Moreover, a sequential method of analysis was also used in the presentation and discussion of cases and activities and interview was conducted to check, verify and validate the results. The processing of answers was done on a post activity discussion.

The five subjects as shown in Table 3 were composed of three female and two male librarians. Names of great catalogers were used as pseudo names for the five subjects. Of the five librarians, three were batch mates; they graduated two school years ago with the Bachelor of Library and Information Science (BLIS) degree specifically Librarian Cutter, Sears and Lubetzky. The other two LIS practitioners, Librarian Panizzi and Jewett, were graduates of Bachelor of Secondary Education major in Library Science in 2008. Together with Librarian Panizzi and Jewett, Librarian Cutter was working as an academic librarian in a Higher Education Institution. Librarian Sears and Lubetzky were both working as school librarians, in a secondary and elementary school respectively.

Table 3. Demographic Profile of the Library and Information Science Practitioners

Librarian	Age	Degree	Occupation	Place of Work	Gender
Panizzi	26	BSE Major in Library Science	Section Head Librarian	Academic Library	Male
Jewett	27	BSE Major in Library Science	Section Head Librarian	Academic Library	Female
Cutter	23	BLIS	Section Head Librarian	Academic Library	Male
Sears	23	BLIS	Section Head Librarian	School Library	Female
Lubetzky	23	BLIS	Section Head Librarian	School Library	Female

Figure 4 is a map showing the location of the study. Two were employed as school librarians and the other three were connected in academic libraries in different learning institution in the City of Baguio.

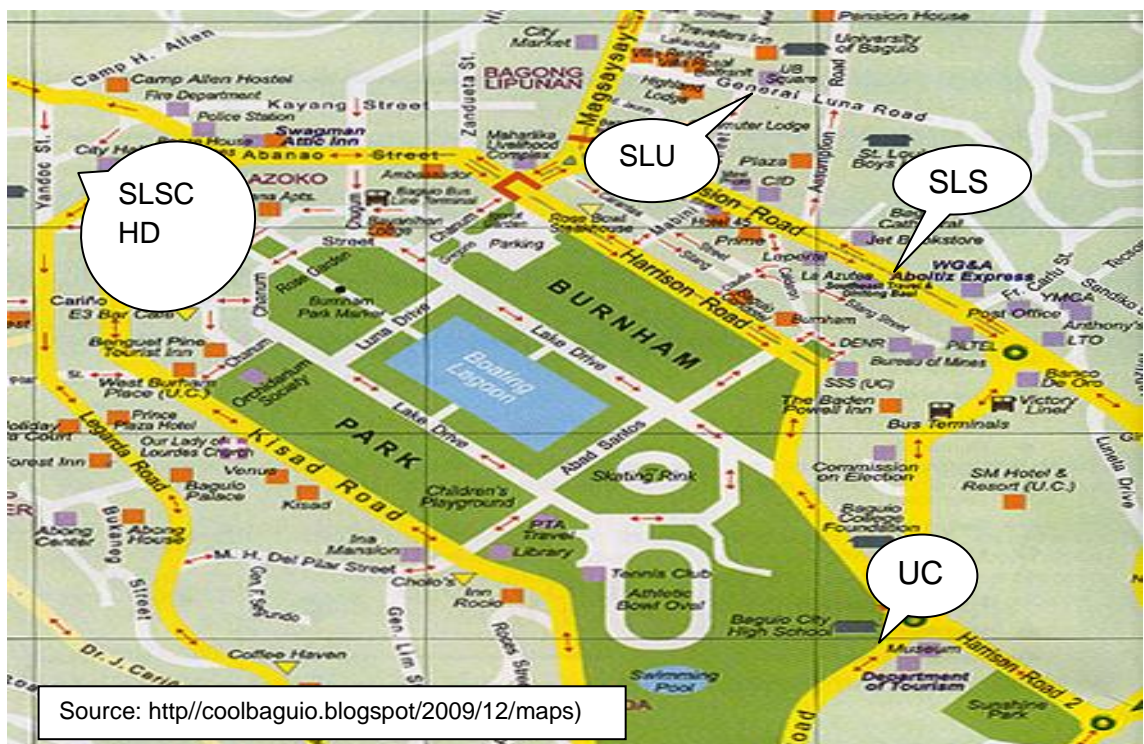


Figure 4: A map showing the location of the study

The rubric in Table 4 was used to determine the different areas in cataloging and classification where the LIS practitioners find difficulty. The assessment will foster student learning, at the same time, help teachers evaluate student progress more effectively. The rubric, essentially qualitative and criterion-referenced in nature, were developed to guide the assessment of student outputs which could bring about the creation of guidelines that state the dimensions to be assessed, accompanied by a set of specific criteria that spelled out the required characteristics for each achievement level and then assigned corresponding values to these levels.

Table 4. Rubric for Assessing Cataloging Skills

Cataloging Skills	Novice	Developing	Proficient	Accomplished
	1	2	3	4
Descriptive Cataloging				
1. Identification of access points Main entry Added entry	Does not know how to identify access points	Limited ability in identifying access points	Can identify more appropriate access points	Demonstrate ability in access points identification
2. Use of the ISBD (International Standards Bibliographic Description)	Commits error in the identification and use of punctuation marks and identification of elements	Commits error in the use of punctuation marks and indentions	Shows an increase ability in the application of ISBD standards	Can create an ISBD records appropriately and completely.
Subject Analysis				
3. Subject of the work (and tracings) <i>Demonstrate an ability in identifying catalog entry - directly under the most specific subject heading that accurately represents its content</i>	Catalog entries - Subjects headings / tracings is misleading	Catalog entries - Subjects headings / tracings are very broad	Catalog entries - Subjects headings / tracings is appropriate but not specific	Catalog entries - Subjects headings / tracings is specific and most appropriate
Classification				
4. Assigning of class number	Class numbers are misleading	Class numbers are broad	Class numbers are specific	Class numbers are direct and very definite

In essence, these proficiency levels clearly defined the continuum from excellent to unacceptable (or vice versa) in reference to the output being evaluated. On a greater magnitude, this can result to the assumption that more effective and efficient services should be offered and a human resources development plan or program for librarians be developed.

For purposes of the study, each skill category, where there are two sub-areas for the descriptive cataloging, subject analysis and classification, the following score ranges was used. With four being the highest multiplied by the four basic cataloging skills areas of the study, the maximum possible score is 16.

The descriptive equivalent for the scores is shown in Table 5. “Novice,” when the LIS practitioner was a beginner or on the process of learning and acquired modest skill in cataloging and classification. “Developing,” when the LIS practitioners had acquired the basic skills and his knowledge and expertise in cataloging and classification was emergent. Further, the term “proficient” was used when the LIS practitioners’ knowledge and skills in cataloging and classification was adequate and “accomplished” when the knowledge and skills was consummate.

Table 5. Qualitative Description for Assessing Cataloging Skills

Raw Score Areas	Score - Ranges	Qualitative Description
4	13 - 16	Accomplished (A) – knowledge and skills in cataloging and classification are very extensive
3	9 – 12	Proficient (P) – knowledge and skills in cataloging and classification are adequate
2	5 – 8	Developing (D) – knowledge and skill in cataloging and classification are emergent
1	1 - 4	Novice (N) – knowledge and cataloging skills is limited

Results and Discussions

Professional Profile of LIS Practitioners

Librarian Panizzi is a graduate of Bachelor of Secondary Education major in Library Science on April 2008. In his curriculum, he had two major courses dealing on cataloging and classification of materials (LS 103 and LS 104) which had a descriptive title of Organization of Information Sources 1 and 2 respectively. Both are counterparts

of the basic and advanced cataloging of reference materials (for the old curriculum). If the researcher has to base it on the standard acceptable passing mark for general weighted computation for academic achievers, Librarian Panizzi's grade for both subjects correspond to 1.5 and 1.75 (88 to 93) respectively which is quite remarkable.

He took both licensure examinations for teachers and librarians on the same year, in September and November of 2008, respectively and successfully passed both examinations. He got an overall rating of 81 for cataloging and classification in the licensure examination with 20 percent of the total score.

When it comes to professional experiences, Librarian Panizzi is first assigned as chief cataloger in a private university. He was assigned as a section head for more than a year prior to his being tasked as the chief cataloger. Now, he is working as a full-time academic librarian for almost three years. He also worked as a librarian and became a section head in another private Higher Education Institution in Baguio before his transfer to his current job.

Librarian Jewett is female, 27 years old, and a graduate of Bachelor of Secondary Education major in Library Science in 2008. Just like Librarian Panizzi, Librarian Jewett took two of the major courses in cataloging and classification and got quite a very good grade for both subjects, which is 1.75 and 2.0 (85 to 90) respectively. Jewett took her licensure examination in 2008 and got an eighty one percent average for cataloging and classification.

As section head, she also performs the monitoring and assessment of the technical processing of materials in the library section by re-checking all processed materials before they are shelved. Librarian Panizzi and Jewett graduated in the same year with the same degree program and both are working as academic librarians.

She is working as a fulltime librarian particularly as a section head of the nursing and law libraries of a private higher institution of learning. Jewett is on her third year in the job. She also became a school librarian in a special science high school as a one-man librarian for more than a year prior to her current position.

Librarian Cutter is a young male librarian, 23 years old, and a graduate of Bachelor of Library and Information Science (BLIS) program in 2011. In the BLIS program, there are three major courses for cataloging and classification: Introduction to

Cataloging, Advance Cataloging, and Classification of Information Sources. Librarian Cutter got a very good grade for all three ranging from 1.75 to 2.0 (85 to 90). Cutter took the Librarians' Licensure Examination in 2011, the same year as his graduation and got a 72 point average for cataloging and classification, still, a credit to his accomplishments.

He is now working as a section head librarian, particularly at the engineering library of an academic institution of higher learning. Prior to this, Cutter worked as College Librarian for more than a year. Although they have a technical department in the library, as part of Librarian Cutter's job is to make sure that all materials are processed properly.

Librarian Sears is a female and about the same age as Librarian Cutter. She graduated with the degree BLIS in 2011. The curriculum offers three courses in cataloging and classification. Sears got a grade of 1.75 (88 – 90), 2.75 (76 – 78) and 1.75 (88 – 90) in the order of offering for said three courses.

Since graduation, Sears has been working as a school librarian in two different private sectarian schools as a one-man librarian and a section librarian respectively. As one-man librarian, Sears performed all related skills including the technical areas.

Librarian Lubetzky is female born in the year 1990. She graduated as a Cum Laude with the degree Bachelor of Library and Information Science. Lubetzky finished the same year with Librarian Cutter and Sears. For her grades in the three major technical courses, she got 1.5, 1.25 and 1.5. The grades range from 91 to 96 percent. Her grades for the cataloging and classification subjects are outstanding especially in the technical requirements of her subjects when compared to the whole class.

She is now working as a librarian in a sectarian elementary school for almost two years and also assumes various functions in the library.

Overall Cataloging Skills of the LIS Practitioners

The elements of cataloging are bibliographic description, subject analysis or assigning subject headings, and assignment of classification number or notation. Cataloging is an important aspect of a library particularly on accessing the library collection.

As seen from Table 6, three of the LIS practitioners got an over-all score ranging from 10 -12 with a descriptive equivalent of proficient. Meaning, they have sufficient knowledge and skill in the three basic skills in cataloging and classification as per study rubric. The scores are computed by adding the individual scores of the LIS practitioners corresponding to the four areas of the cataloging exercise.

Table 6: Original Cataloging Results

Librarian	Raw Score	Descriptive Equivalent
Panizzi	12	Proficient (P)
Jewett	15	Accomplished (A)
Cutter	10	Proficient (P)
Sears	11	Proficient (P)
Lubetzky	14	Accomplished (A)

The proficient result, which somehow is still a quarter away from excellence, can be attributed to the fact that the librarians are still very young and four (4) or eighty percent are not assigned as the chief cataloger of their respective libraries. They do not have enough chances to practice their cataloging and classification skills. There is still a lot of room for improvement.

The findings is supported by Widdows (2010) as he posted about the kind of skills librarians need to develop, the "traditional" skill set might be said to include among others: Indexing, Classification, Cataloging and Assessing quality and reliability of information.

Librarian Jewett and Lubetzky got a score of 14 and 15 respectively with a descriptive equivalent of accomplished implying that the librarians' knowledge and skills in cataloging and classification are extensive and admirable. This can be attributed to the fact that the LIS practitioners are trained correspondingly or their capabilities are laid from a very good foundation.

Generally, the proficient and accomplished results show that the instructive foundation of the LIS practitioners in terms of their knowledge and skills in cataloging and classification are adequate. This can be an advantage for having one classroom

mentor for the technical skills. Recognizing the fact that they are all taught the same basic principles as per standard rules; experiential learning opportunities are specified and prearranged. It means that the subject specifications and provisions are within the competencies required for the curriculum which are set by Commission on Higher Education particularly by Memorandum Order Number 8 series of 2005.

Cataloging, Classification, and Subject Analysis Skills of LIS Practitioners

In Table, the outcome proves that it is in the area of subject analysis that the LIS practitioners has difficulty with. The interview responses of the LIS practitioners also substantiate this effect. Although there is no obvious disparity of the compared general results, it is still evident that it is in the determination of subject content of the material that the LIS practitioners found to be intricate. Miller (2007) expounds that only when the cataloger had determined the subject area of a work and identified it with explicit terms can the Sears List be of advantage.

Table 7: Comparative Cataloging and Classification Results

Librarian	Cataloging: Access Points	Cataloging: Use of ISBD	Subject Analysis	Classification
Panizzi	Proficient	Proficient	Proficient	Proficient
Jewett	Accomplished	Accomplished	Proficient	Accomplished
Cutter	Proficient	Proficient	Developing	Developing
Sears	Proficient	Developing	Proficient	Proficient
Lubetzky	Accomplished	Proficient	Accomplished	Proficient
Average	Proficient	Proficient	Proficient	Proficient

Descriptive Cataloging Skills of LIS Practitioners

Description, which is central in the cataloging process, is the part concerned with the identification of an item and with recording information about the item in such a way that the item is identified exactly and cannot be confused with any other item.

The average skills of LIS practitioners for both sub areas in descriptive cataloging, particularly in the identification of access points and use of the ISBD is proficient. The results denote that the LIS practitioner's knowledge and skills in said

areas are sufficient in quality or quantity to meet the need for quality resource identification and accessibility.

Distinctively, the marks for the five LIS practitioners in descriptive cataloging ranges from two to four or from developing to accomplished. For the basic area on bibliographic description, three of the five LIS practitioners get a three or proficient equivalent. This conveys that the LIS practitioners, in terms of their skills in the identification of access points, the main entry headings, added entries, and their use of the ISBD are quite adept.

But the need for emphasizing the acquisition of an accomplished assessment in the basic descriptive cataloging skills should still be not discounted. It should be the very first area where librarians are most familiar with. However, there are no distinct differences between the academic and schools librarians' level of skill as evaluated in the study. True to the fact that the same required standards and processes in cataloging materials should be implemented and practiced in the different types of libraries following the standards set internationally.

On the Identification of Access Points.

For this specific area, the LIS practitioners got a proficient score. The sample output below by Librarian Panizzi (Figure 5) shows minimal error. Many pieces of information about an item contribute to its identification. A title is almost always the first identifying element, followed by the name(s) of a person or persons responsible for the contents of the item. Next, one looks for information identifying an edition: the name of the edition; the name of an editor or a reviser. Even the size, the type or number of illustrations, or the extent of the item (e.g., number of pages of a book) may be helpful information for a patron seeking a specific edition of a work (Penn State University Libraries, 2013).

The access points, as expounded in the same website, are constructed in a form that will make them readily accessible in the catalog. This is done following cataloging rules at minimum level processing, following copy in copy processing, and following cataloging rules and reference to the authority file in original cataloging.

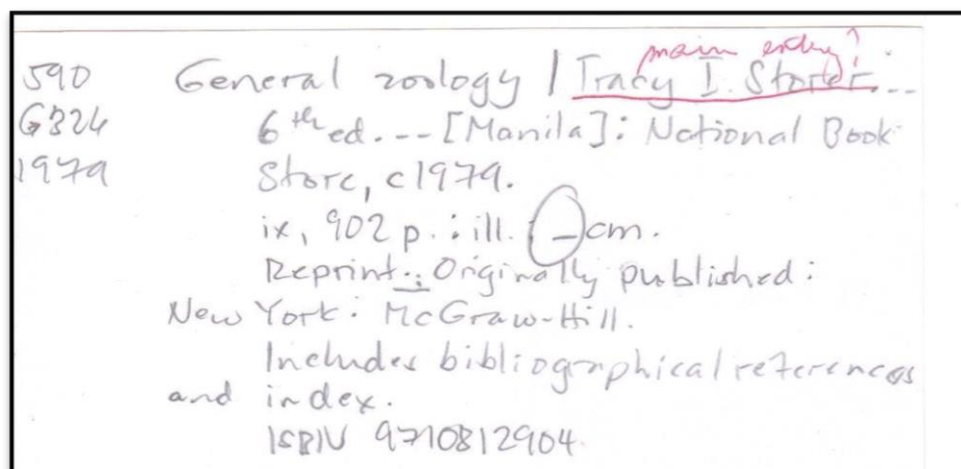


Figure 5: Sample P-slip cataloged by Librarian Panizzi

However, selection of access points is done after describing an item. Names of persons and corporate bodies associated with the work are chosen according to cataloging rules while title access points also are chosen when, in addition to the title proper, there is an alternative title or variant title.

One of these access points is chosen as the main access point. This is called the main entry heading. The remaining access points are called added entries. A combination of main entry and title is the most common way of referring to a work in the realm of cataloging.

International Standard Bibliographic Description.

While the second sub-area of descriptive cataloging, the LIS practitioners skills show a significant divergence. Rubric equivalent in the area ranges from two to four or from developing to accomplished. This can be attributed to the years of experience as seen between the scores of Librarian Panizzi and Jewett who are of the same age, against the score of Cutter who is at least three to four years younger. This means that they have been doing the activity longer that they somehow acquired a certain level of technical know-how.

The sample p-slip (Figure 6) cataloged by Librarian Jewett showing minor correction in the identification of the ISBD.

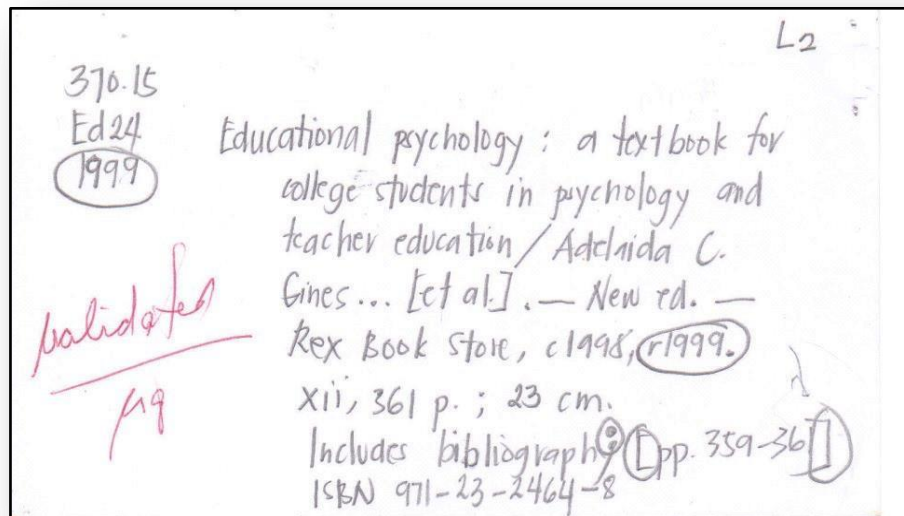


Figure 6 – Sample p-slip cataloged by Librarian Jewett

On the average, the LIS practitioners' score is three which fall categorically as proficient. The frequency of practice and type of materials processed somehow lead to the differences in the scores of the three LIS practitioners assigned in academic libraries and that of Librarian Sears and Lubetzky who are assigned in school libraries. It is a known fact that there are more and wide-ranging resources that needs to be processed in an academic library than in a school library. Academic librarians often times handle only one section, within the same field, in the library.

The sample p-slip (Figure 7) cataloged by Librarian Sears presented below also shows a slight correction on the said area.

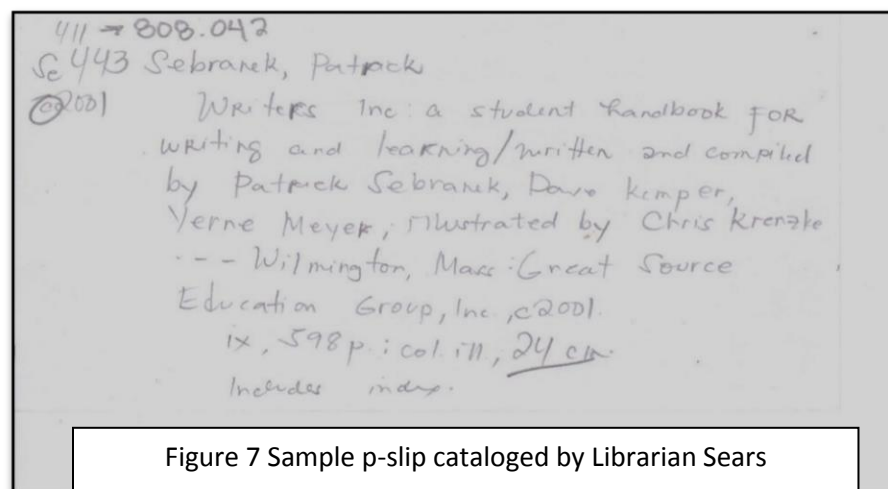


Figure 7 Sample p-slip cataloged by Librarian Sears

Library and Information Science Practitioners' Skills in Subject Analysis

In subject analysis, there are no hard and fast rules for assigning subject headings and call numbers. A lot of subject analysis relies on cataloger's judgment. The cataloger can look for key words in the title, table of contents, abstract (if present), foreword, introduction, conclusion, and cover.

From the results, a proficient descriptive equivalent of the scores, an average of three is derived. It signifies that the LIS practitioner's knowledge and skills in the conceptual analysis of an item is sufficient. They can fundamentally identify the subject class of a work for easy access. The sample p-slip (Figure 8 and 9), as per validated results, the LIS practitioner made a slight error in subject analysis.

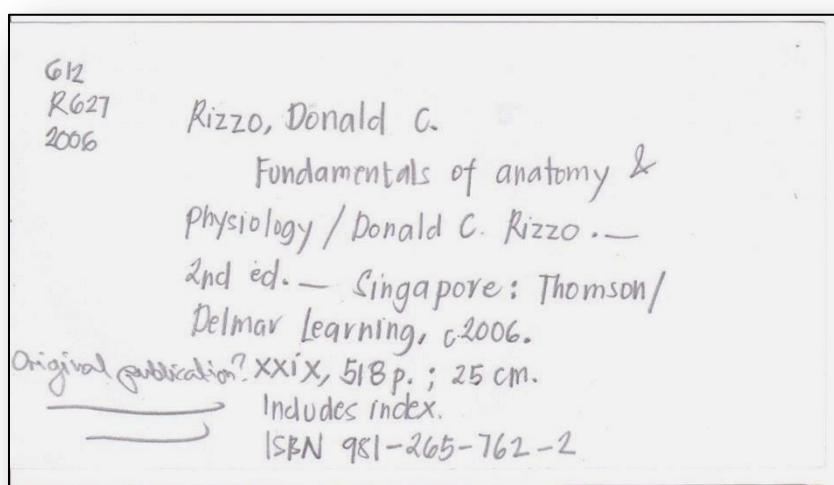


Figure 8: Sample p-slip cataloged by Librarian Jewett

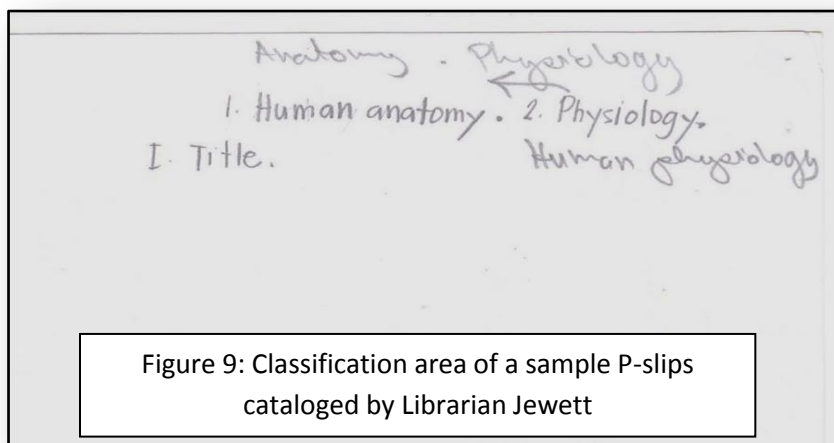


Figure 9: Classification area of a sample P-slips cataloged by Librarian Jewett

But taking advantage of the study output in terms of student difficulties in subject analysis, such difficulties can command a greater impact for librarians for not being able to create very good catalog cards due to lack of efficiency with related key terms for users to use. In essence, subject teachers need to put a greater stress on related activities or experiential learning programs specifically focusing on developing good vocabulary skills and comprehension of subject content.

Classification Skills of LIS Practitioners

In terms, the skill application of the LIS practitioners in terms of library resource classification still depends of factors like the need for an in dept understanding of how classification of materials is done and why it should be done appropriately. Properly classified materials in the library means a better chance for specific users to locate them and consequently, maximize content.

The classification skill of LIS practitioners is three or proficient. Meaning, the knowledge and skill of the librarians in classifying materials, which is the assigning of a given document to a class in a classification system, is adequate. They can facilitate access by allowing the user to find out what works or documents the library has on a certain subject and can provide a known location for the information source to be located.

The sample p - slips, Figure 10 and 11, shows that the librarian committed a trivial error in identification of class numbers.

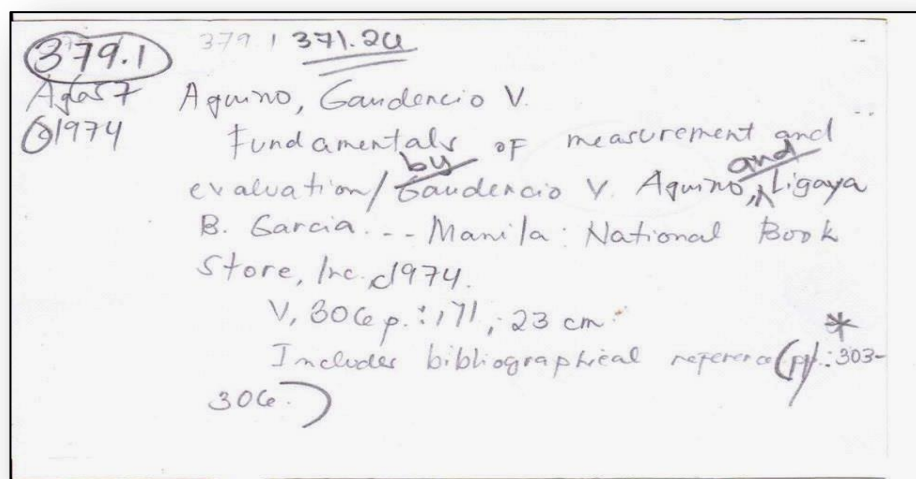


Figure 10: P-slip cataloged by Librarian Cutter

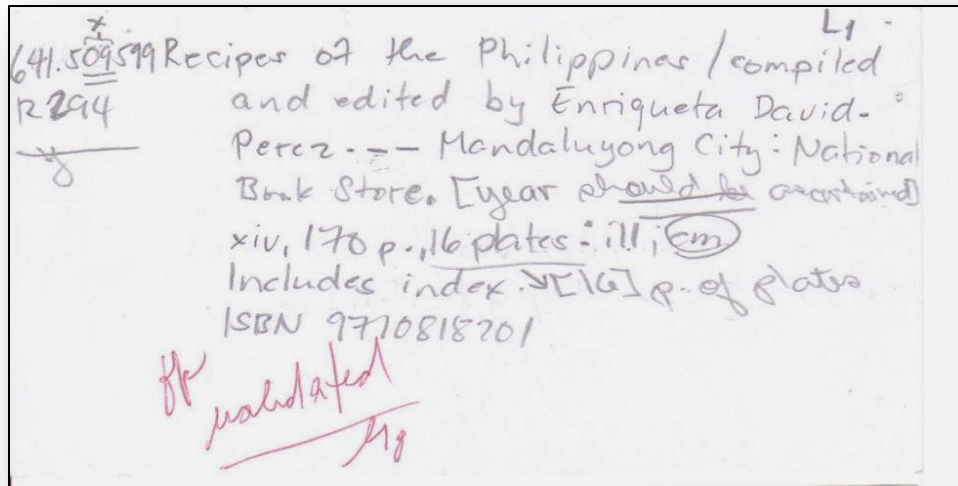


Figure 11: P-slip cataloged by Librarian Panizzi

Individually, as based from Table 5, in terms of the cataloging skills considered in the study, Librarian Panizzi with a consistent score of three in the three areas is proficient as shown in the p-slips sample below (Figure 12). This can be attributed to his being designated as the technical section head. Although, an accomplished mark is highly recommended for the job, it opens an avenue where the development of knowledge and skills in cataloging and classification can still be highly suggested.

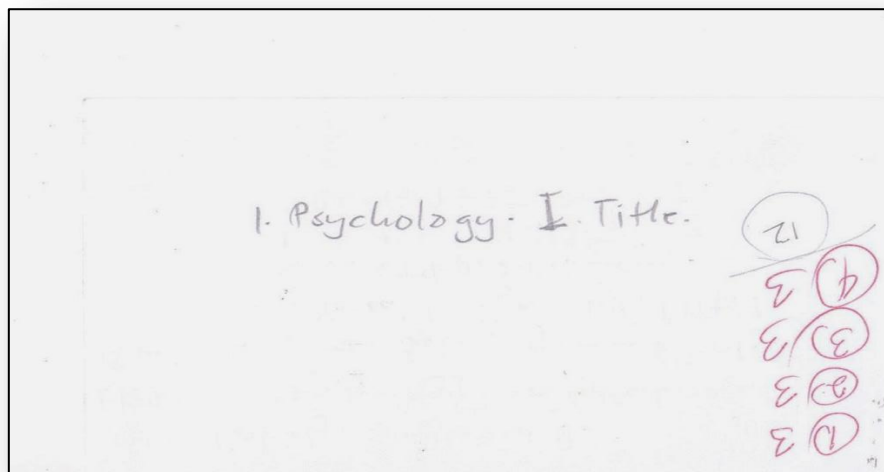


Figure 12: P-slip showing the scores of Librarian Panizzi

Librarian Jewett, from the marks given of four, four, three and four respectively (Figure 13) following the order of the areas presented in the study shows a generally

accomplished expertise in cataloging skills. But the mark of three, meaning proficient on subject analysis creates an end that it is the most difficult among the said areas. But from the scores of the five LIS practitioners, she got the most distinct, having a general accomplished result for the cataloging and classification areas.



Figure 13: P-slip showing scores of Librarian Jewett

A three, two, three, and two marks for descriptive cataloging, subject analysis and classification respectively is earned by Librarian Cutter from the results of the exercises with a descriptive equivalent of proficient. Significantly, the LIS practitioner's knowledge and skills in cataloging and classification is adequate. But since the score fall at the lower limit in the particular range, it is proposed that all skill areas included in the study be given focus in the application of cataloging and classification skills. She got two, as seen in Figure 14, described as developing in both subject analysis and classification.

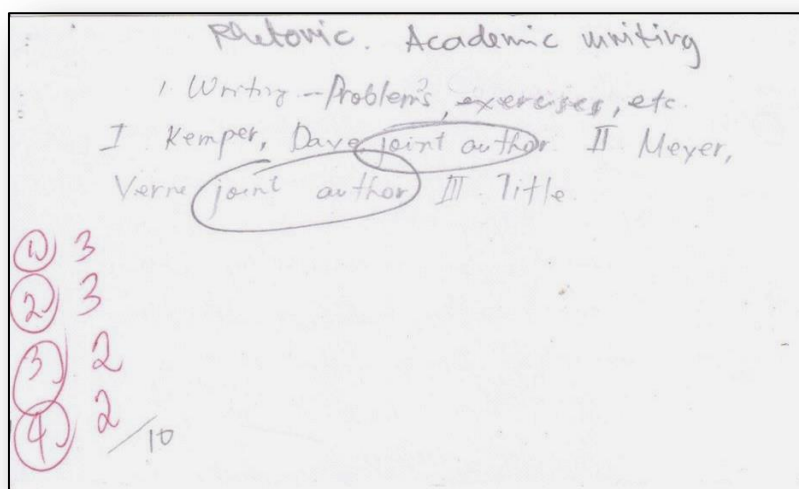
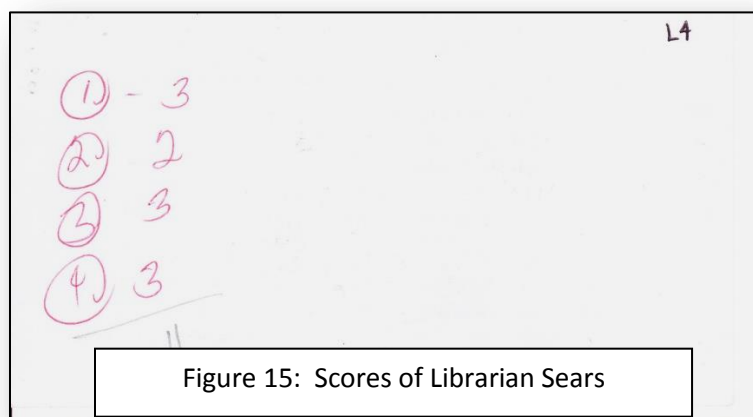


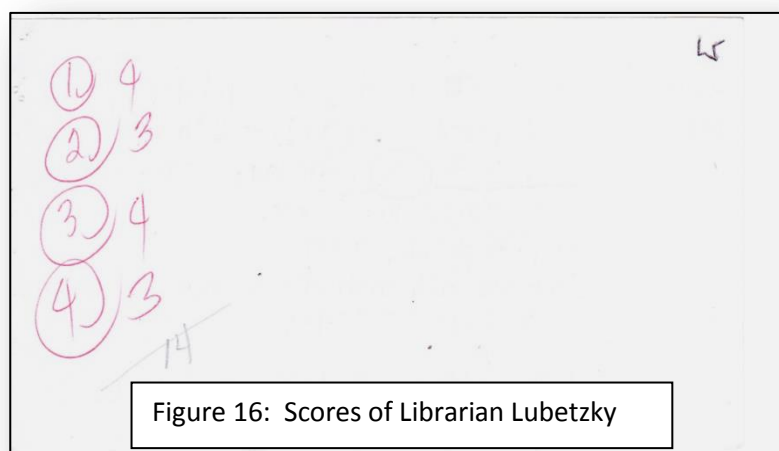
Figure 14: Librarian Cutters' scores

This can be attributed also to the limited exposure of the LIS practitioner to other sections in the library as he is only confined to related or common vocabulary used in a particular discipline (like engineering materials). The common set up in university academic libraries are special section or college libraries.

Librarian Sears, from among the five LIS practitioners, get a low two points which means her cataloging and classification skills, in the second sub area under bibliographic description which is making an International Standard Bibliographic Description (ISBD), is developing. In the other area, she got a consistent three or proficient marks (Figure 15). Attributes can be traced to librarians past experiences of not having to do hands on or practice in cataloging and classification of materials. This fact, as per nature of function performed by librarians is common to school libraries. It is then wise to rotate the roles or functions that librarians perform for versatility.



Not to discount, the marks of four, three, four and three (Figure 16) respectively of Librarian Lubetzky for the cataloging areas creates an impression that all three areas need not be overlooked when applying the skills and competencies that goes with it.



They all have important contribution to the successful processing of materials for use by library clienteles, no matter what type of library it maybe. Although, she agreed that it is in subject analysis that she finds it most difficult, her rating says otherwise. The first sample output from Librarian Lubetzky shows an accomplished result in the first and second cataloging areas. The next sample shows a proficient result in terms of classification.

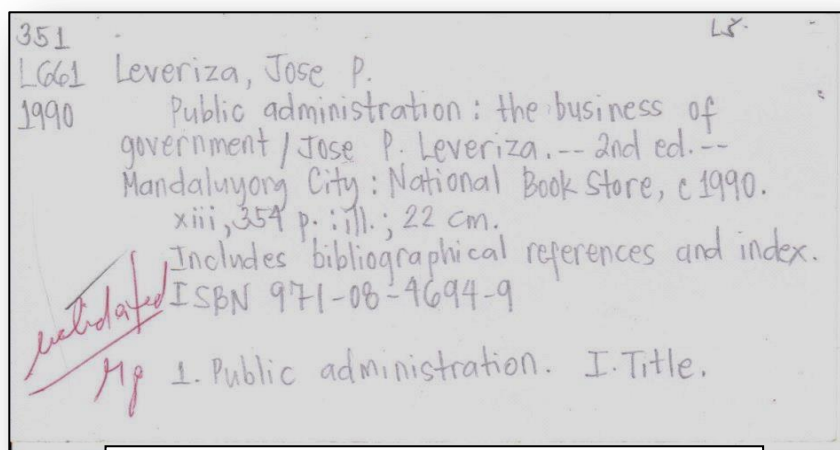


Figure 17: P-slip cataloged by Librarian Lubetzky

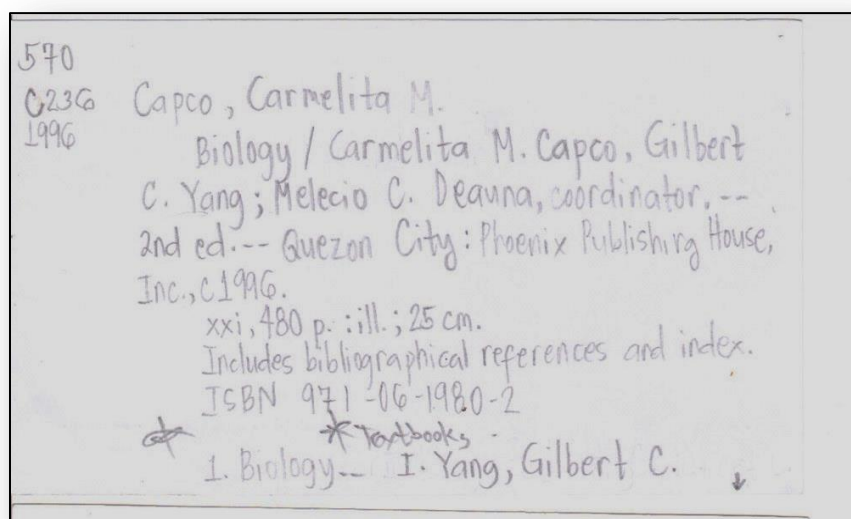


Figure 18: Sample p-slip cataloged by Librarian Lubetzky

Generally, librarians' cataloging and classification skills in the three study areas are proficient and can still be geared towards being accomplished. They are capable

and can be successful in the realm of information organization and access when avenues for better services are feasible.

Difficulties of the LIS Practitioners in Cataloging

Following are discussions spawn from the answers of LIS practitioners to questions regarding cataloging and classification in general. It also includes their thoughts and ideas engendered from the post activity.

When asked which among the areas in cataloging is most difficult as per interview guide. Four of the LIS practitioners declared subject analysis. Only one among them chose classification (Table 8). This can be attributed to the fact that subject analysis takes the most important spot or consideration in the organization of information sources.

Table 8. LIS Practitioners Difficulty in Cataloging

Cataloging Areas	Frequency (f)
Descriptive Cataloging	0
Subject Analysis	4
Classification	1
TOTAL	5

More profoundly, Librarian Panizzi who answered that it is on subject analysis that he finds difficult, expounded that in subject cataloging, one needs to read and understand the material at hand to be able to interpret the subject content and assign the correct and most appropriate terminology that will stand for the whole book.

The sample p-slip (Figure 19) shows minor error in subject analysis. Oftentimes, the cataloger needs to first determines the significant characteristics of a work and then translates the subject content into terms of the systems being used -- the notation of the classification scheme and terms selected from the library's authorized subject vocabulary.

Further, Librarian Panizzi explained that unlike in descriptive cataloging, one describes the material based on what one see on the book at hand and be consistent on structured principles of ISBD.

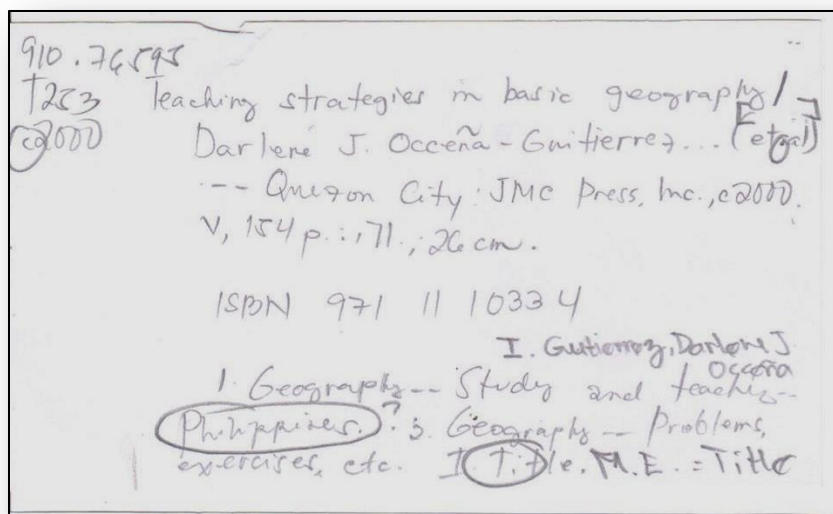


Figure 19: P- slip cataloged by Librarian Cutter

Librarian Cutter on the other hand expressed that subject analysis requires a wide range of knowledge on the different areas of knowledge in order to determine the appropriate subject and classification of the work.

The Areas of Difficulty in Subject Analysis

Although there is a standard rule to follow in cataloging, Lubetzky included the reason of works or materials with confusing titles or materials having multiple subjects or topics as problems being encountered in original cataloging. Subject analysis, as discussed by Librarian Cutter, requires wide range of knowledge on the different areas in order to determine the appropriate subject and classification of the work. Further, he also included works with very specific subject and those with technical terms, specifically those that have never been encountered, makes subject analysis difficult.

Table 9. LIS Practitioners Difficulty in Subject Analysis

Subject Analysis	Frequency (f)	Rank	Sample Responses
Standard Subject Heading	2	3	difficulty in determining the subject content of the text ... Librarian Cutter
Multiple Subject Heading	4	1	difficulty in doing subject analysis when 1 book has different subject... Librarian Sears
Technical Skills	3	2	read and understand the material to be able to interpret... Librarian Panizzi

Many times the subject of the work is readily available, but in other cases, Miller (2004) expounds that the subject is not so easy to discern. Materials with confusing titles as the specific area of difficulty in subject analysis in Table 9, was ranked first.

The subject of the work cannot be determined by the title alone, which is often uninformative or ambiguous. As such, the cataloger needs to inspect the other parts of the material, like the table of contents, the preface and/or introduction. If the subject is not so apparent, the content of the material have to be carefully read and analyzed. Librarian Panizzi added that the variety of subject content makes each material new to the cataloger. This somehow makes subject analysis difficult.

Determining the subject is simply a matter of examining an item and determining what it is all about. Unfortunately, it is not actually that easy since people do not use the same terminology to describe things. However, there are methods for selecting terms which are more likely to occur to users. Like terms that directly comes from the text for or are prominent in the field (Kipp, 2012).

To balance the output, second in rank is the technical skills of librarians, which is an important consideration. Kipp (2012) further gave details about initial steps in cataloging and indexing that involve examining the important parts of the item as identified in a technical reading.

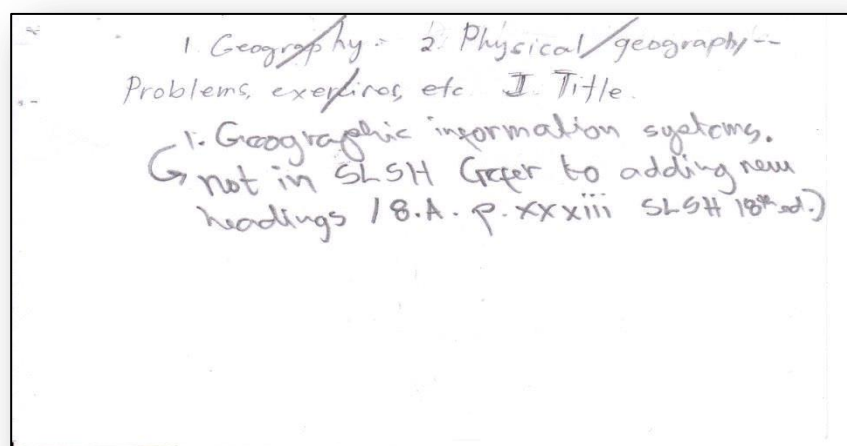


Figure 20: P-slips cataloged by Librarian Cutter

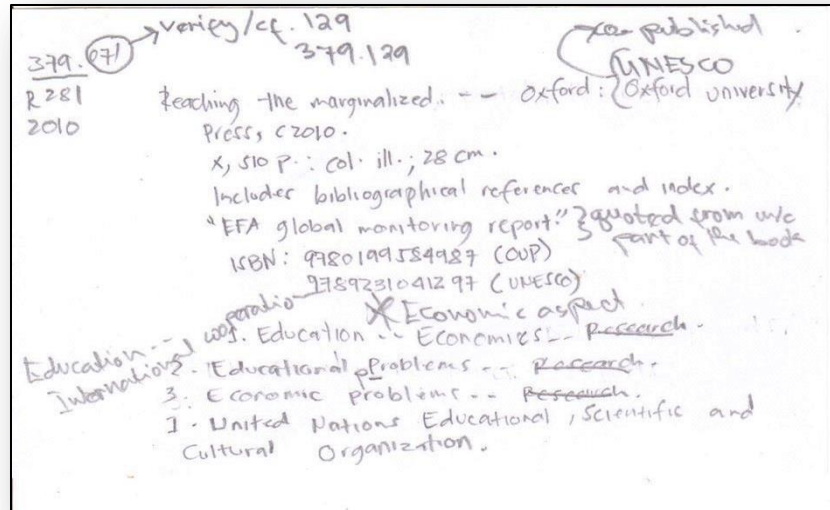


Figure 21: Sample p-slip cataloged by Librarian Sears

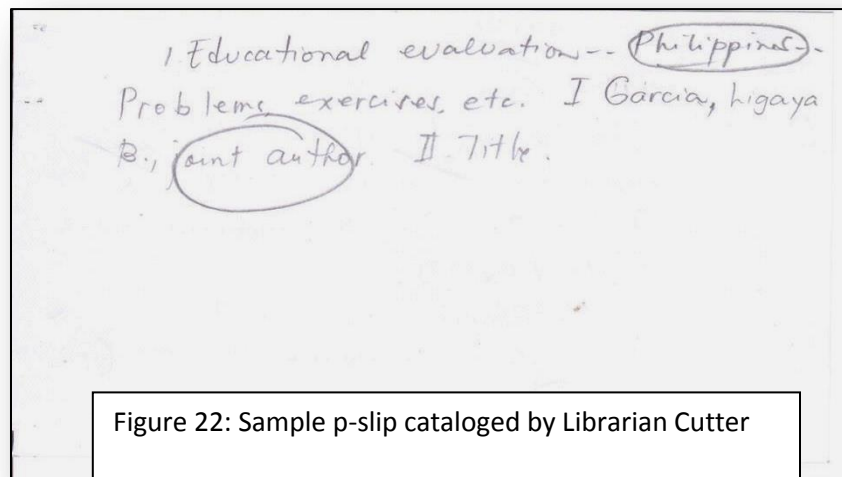


Figure 22: Sample p-slip cataloged by Librarian Cutter

The sample p-slips (Figure 21 and 22) shows that the librarian should be able to skilfully identify where to get information to be used in determining the subject. The title and subtitle may give an impression of the theme of the work, but may also be misleading if author has chosen a "cool" title to attract attention. The table of contents is an excellent source of information about the subject of a work since it is often a list of the topics covered, though again this may be obscured by cool titles. The introduction or preface of a work often contains the author's description of why the work was created. Other items worth examining for subject information are indexes, items in different fonts, abstracts, hyperlinks, which all contain potentially important terms and illustrations,

captions, etc, which contain potentially important contextual information about the subject of a work.

Standard subject heading ranked third. Standardization, as cited by Library Media Program (2005) allows a collection to be efficiently searched for each user's information needs. It also allows resources to be shared with other libraries -- a "two-way" street. Drawing on the resources of bibliographic utilities and library networks is an important part of running an effective library media program.

Librarian Panizzi said that the terminologies in cataloging tools, example in the Sears List, are abridged though there is what they call natural language, uniformity and standardization of entries should have to be considered and this makes the searching for the most suitable term obligatory.

Also, he recommended that the cataloger must read and understand the material being processed so as to identify and categorize it properly. Understanding would entail a good grasp of different subject fields or topics with in general concepts until its specific sub contents. A sample p-slip is shown below.

This would make it possible for patrons to locate what they need because materials are cataloged according to their physical nature and subject matter and are sorted by the type of information (class) they hold and the author. From there, they are assigned call numbers that are organized numerically by subject for reference.

When things are found in the places you expect to be, that real organization. Being able to organize materials appropriately is an advantage not only to the technical aspect being examined but in general managerial skills as well.

Factors that Contribute to the Difficulty

In doing original cataloging, Librarian Jewett claimed that there are some factors (Table 10) that contribute to the difficulty. One of which is when the material has more than one subject which creates confusion as to what class number that will be assigned. This was ranked first. Some materials have subjects that have more than one class number. In so doing, Librarian Jewett suggested that the cataloger must check the material first as to where it should be added or classified. Further, she recommended

that library materials that were earlier processed can serve as a basis as to where the new material should be included.

Table 10. Factors that Contribute to the Difficulty

Factors	Frequency (f)	Rank	Sample Responses
Time Consuming	2	3	time is also considered in making bibliographic record.. Librarian Panizzi
Type of Material	4	1	contribute to the difficulty are the library material itself.. Librarian Jewett cataloger must check the material...Librarian Cutter
Vocabulary Skills	3	2	knowledge about the subject of the work.. Librarian Lubetzky

There are occasions that LIS practitioners differ in the interpretation, application or implementation of new concepts that are introduced in terms of cataloging and classification. The entry of Resource Description and Access is not an exemption.

From among the factors cited, the vocabulary skill of the librarian is ranked second. Librarian Lubetzky makes clear that the knowledge about the subject of the work is a must. Vocabulary for this purpose is the capability of the librarian for the expressive use of words. This is attributed to the fact that cataloging remains to be a fundamental component of library and information science and has many lessons to teach the architects of the internet age. Librarians should design the information highway for an easier dissemination of information. Similarly, Librarian Cutter includes language used for the work as contributory factor for the difficulty.

Holley as cited by Hill (1999) corroborate that all students can benefit from taking cataloging course, especially if it stresses cataloging as one specific answer to the problems of managing information and places cataloging within a larger context that also includes indexing and internet search engines. Students, he said, deserve cataloging courses that combine theory and practice and require them to show a mastery of core principles.

Vocabulary usage entails a lot of word comprehension and command an in depth understanding of how specific terminologies are used in specific fields. This is

particularly so that there are a lot of specialized courses that requires unique categories used only within their field. Command of good vocabulary somehow allows easier processing of materials that can consequently make the whole procedure faster and more reliable.

Reflectively, this signifies the role of the librarian particularly in evaluating the resources or materials that can basically be of used to the readers or students within a particular field, like in science and math or engineering. This is done by knowing and being involved in curriculum planning, like syllabus making activities. Reference sources and instructional materials play an important part in the delivery of knowledge, where in part, the librarian has to provide.

There are still a lot of factors that should be considered but Librarian Panizzi accentuated on the point that the time spent is considered in making bibliographic record especially if the book at hand is highly demanded (often asked for) in the circulation area. He also added that the variety of subject content makes each material new to a cataloger. This somehow makes subject analysis difficult. Every librarian then should enhance her skills especially in vocabulary usage to promote efficient and effective cataloging and classification of materials.

Mitigating Activities for the Difficulty

To mitigate the difficulties of the librarians, some activities are spelled out by the LIS practitioners to include: On-line cataloging, hands-on practice and training among others in order of rank (Table 11).

Table 11: Mitigating Activities for the Difficulty

Activities	Frequency (f)	Rank	Sample Responses
Online Cataloging	3	1.5	Use of online cataloging skills to maximize time and lessen difficulty.. Librarian Jewett, Cutter and Sears
Hands on Practice	3	1.5	Advisable to do original cataloging to review basic principles Librarian Panizzi
Training	2	4	continuing professional development – improvement of cataloging skills...Librarian Cutter

As articulated by Librarian Cutter, most libraries now practice digital catalogs than printed formats or card catalogs. These, he said, can affect the descriptive cataloging between traditional card cataloging and the MARC format. Further, card format requires proper indentation, punctuations, while MARC21 format requires proper input of data in the tag numbers and subfield codes. These in turn requires continues practice. In essence the two should work together.

Greenberg (as cited by Horvarth, 2010) said that automated metadata generation is now necessary because traditional, manual cataloging approaches are costly and too slow to keep up with current trends in cataloging and user behavior. With the entry of RDA (Resource Description Analysis), cataloging and classification eventually venture into a new dimension, but these should be so if a fundamental understanding and skill would have been established, and a positive interest and behavior of catalogers or librarians could have been inculcated.

The librarian performs original cataloging by inputting a new master record, cataloged according to AACR2 or RDA protocols and current cataloging practice (McKenzie, 2002). Librarian Panizzi reaffirms the statement saying that it is advisable to do original cataloging so as to review the basic principles as these still applies even in the presence of a library management system.

Ranked third is the provision for training. Librarian Cutter suggests that in order to lessen the difficulty for librarians is to go for continues professional development. Attendance to training and attendance to advance studies can greatly contribute to the development of the knowledge and skills of LIS practitioners. Librarian Panizzi on the other hand, suggested experiential learning activities. He expounded that it is still advisable to do original cataloging so as to review the basic principles of cataloging. The basic principles are still applied even when automated systems are available in the library.

Considerations for the Difficulty

Academic librarians, because of the wide service area, need to have more balanced identification and classification of the subject of material so as to provide more

extensively. Academic librarians tend to adopt according to user demands versus availability of information sources.

The school librarians somehow are restricted to the basic or general subject content as provided for the secondary and elementary curriculums used by the school. Library users are the most important consideration when making decision for what and most distinctly how LIS practitioners catalog and classify for easy access. Table 12 presents the different consideration for the cataloging difficulties.

This accentuates the different cataloging practices being utilized by the institutions. This marks the differences in the pattern or sequence, materials used and other components in doing original cataloging.

Table 12: Considerations for the Difficulty

Items	Frequency (f)	Rank	Sample Responses
Cataloging Standards	2	2	also use the DDC to check if subject is applicable..Librarian Sears and Librarian Lubetzky
Type of Users	1	3	users way of searching for queries.. Librarian Jewett
Cataloging Practice	3	1	somehow that depends on institutional practices...Librarian Sears

Recognizing that students and many other information users increasingly go to Google before going to a physical library for what they need, libraries and publishers are converting their print collections to digital formats so that high-quality, authentic resources will be electrically accessible. Librarians, particularly those who serve students, believe this is important for educational reasons. But as LIS practitioners create services like the development of digital resources, the internal policies of the institution, including the different library programs they have and their capacity to implement and sustain these programs, is still an important consideration for the difficulty.

As LIS practitioners continually rethink who does what in cataloging. For example, with the advent of ever more automated sophistication, the detailed attention

that LIS practitioners have been paying to descriptive cataloging may no longer be justified. If descriptive cataloging can be assumed by technicians, then professional catalogers can give more emphasis to authority control, subject analysis, resource identification and evaluation. Collaboration with information technology units on automated applications and digitization projects is also recommended.

Although it ranked last, Librarian Jewett exclaimed that the library materials used and its users is still an important consideration. Further, she said that librarians need to consider the type of researchers, their way of searching for answers and on how to locate library materials.

Different personalities would mean different needs, user's different behaviors and purposes for information gathering, use and dissemination techniques are also considered when there is difficulty encountered by the LIS practitioner in cataloging. The competencies identified in the cataloging and classification skills to include the development and improvement of all related skills. It is depended on a lot of factors. It means that the proficient cataloging skills of librarians are attributed to their preparation, exposure or learning experiences, practice and the type of library where they work. As such, LIS practitioners, LIS teachers and library administrators should coordinate with each other to enhance these skills and to alleviate the causes of disparities. Thus, a recommended program to be used for curriculum enhancement is in place.

Recommendations for Curriculum Enhancement Program

With the foregoing findings and discussions as to the cataloging and classification skills of Library and Information Science practitioners, the following recommendations, on the next pages (Table 13), are set forth that can be adopted or integrated in the enrichment of curricular programs of library schools offering the Library and Information Science degrees.

Table 13: Recommendations for Curriculum Enhancement Program

Target	Objective	Recommended Activities/ Programs/Tools or Techniques
Cataloging Perceptions	To create initiatives that might improve perceptions and enable advancement of cataloging agenda.	<ul style="list-style-type: none"> • Seek administrations support for provisions for efficient application of cataloging and classification skills. • Conduct fora on the nature of LIS faculty as influencing the role of cataloging in the professional education of librarians. • Analyze by putting emphasis on the changing perception of the importance of cataloging in professional library education programs. Issues can include one or more of the following: background/contextual information, theory versus practice, responsibilities and skills needed by catalogers, relations between educators and practitioners
Learning	To develop the library and information science students' Skills, Knowledge and Attitudes	<ul style="list-style-type: none"> • Redesign curricula putting importance on cataloging competencies for all level entry librarians. Placed emphasis on cataloging instruction and particularly cataloging as a required course. <ul style="list-style-type: none"> ➤ Introduction of new areas of study, corresponding curricular changes. ➤ Cataloging courses that combine theory and practice, and require them to show a mastery of core principles. • Review curricula regularly. Examination of course description and the syllabus for each course. Format integration in structure of curricula for cataloging and classification is stressed. Integration of cataloging concepts to relevant LIS courses. • Develop long-term plans and specific training programs which will involve specific outlines of the major technical skills and competencies needed by a professional librarian <ul style="list-style-type: none"> ➤ Attend trainings to include new competencies on the primary areas of bibliographic control education examined like areas on organizing information, technical services, classification theory, indexing, thesaurus construction, cataloging technology, and basic, advanced, descriptive, subject, non-book, internet resources, and music cataloging courses. • Use comprehensive and objective evaluation techniques for all experiential learning activities given. <ul style="list-style-type: none"> ➤ Evaluation forms or action plans for implementing new knowledge. ➤ Tests given must be assessed for validity and reliability. • Continue professional education by attending Graduate School studies.

Conclusions and Recommendations

The cataloging skills of the five LIS practitioners are considered proficient in the basic areas of descriptive cataloging, subject analysis and classification. Four out of the five LIS practitioners found subject analysis to be the most difficult, especially on materials with confusing titles.

Generally, the proficient and accomplished results show that the instructive foundation of the LIS practitioners in terms of their knowledge and skills in cataloging and classification are adequate. This can be an advantage for having a one-classroom mentor for the technical skills in cataloging and classification. Recognizing the fact that they are all taught the same basic principles as per standard rules and the experiential learning opportunities are specified and prearranged. It means that the subject specifications and provisions are within the competencies required for the curriculum which are set by Philippine government through the Commission on Higher Education particularly the Memorandum Order Number 8 series of 2005.

The perceived factors that affect the cataloging and classification skills of the LIS practitioners are the type of materials, vocabulary skills and time constraints. One way to mitigate is through enhancement programs for both cognitive and technical skill requirements of library information science program can be established and continuing professional education can greatly help them succeed as expert catalogers.

Designing other evaluation tools (rubrics among others) in the different skill competencies needed in processing library materials specifically those that are included in the technical processing of information sources is highly endorsed. This will make evaluation or assessment of skills objective and definite. Identification of skill difficulties would be easier and somehow would guide library or technical instructions a basis for training activities.

As an offshoot of this paper, a study on the changing phase of cataloging in the Library and Information Science curriculum is advised. Thus, a curriculum enhancement program is highly recommended by integrating the concepts, with all required competencies in cataloging and classification, in the other subjects like in the different types of libraries.

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