Library Of Congress Classification Scheme: Its Structure And Current Trend

Dr. Pranali Bhavik Gedam
Librarian
Yashwantrao Chavan Mahavidyalaya, Pachwad,
Tal- Wai, Dist- Satara
Mob. No. 9767224489

Abstracts:- The research emphasizes on the oldest ' of Congress Classification Scheme' which is purely an enumerative classification. It is very much influenced by Cutter's Expansive Classification in lots of parts of its basic structure. It a renowned library classification scheme originally created to classify only the huge vast collection of LC America. It is widely known and utilised in research and academic libraries mainly in the U.S. and in numerous countries. In this paper, it emphasizes its structure, advantages and disadvantageous, main features etc. Over a period, it has brought about numerous changes and developed an online version named 'Classification Web' which is weekly updated regularly. 'Classification Web' is doing quite a brilliant job providing with powerful searching, browsing indexes and automatic calculation of classification table numbers.

Keywords:- Classification Scheme, Library of Congress Classification, Classification Web

1. Library of Congress Classification(LCC)

Dr. Herbert Putnam and his chief cataloguer Charles Martel decided to design a new library classification system which would be easy and helpful to arrange, organize, and perfectly arrange the collections in the LC. Thereafter, it was originally developed in 1897.[1] It was influenced by CEC and was specially designed as per the requirements of LC. It would include one or at least two capital letters to indicate classes, Arabic numerals in integral, not decimal sequence with gaps for subdivisions and cutter numbers for individual books. Class Z - 'Bibliography and Library Science'[2] was chosen as the first schedule to be developed because it covered the bibliographical works necessary for the reclassification project. And in 1898, its first version was ready. By the time of Putnam's departure from his post in 1939, all the classes except K (Law) and parts of B (Philosophy and Religion) were well developed.

The users can see that each volume has a different date of last edition. Now in the 6th edition, which provides second and tertiary subclass spans for most classes!

The Re-classification was a popular trend during 1960s and 1970s for many academic libraries expecting to change from DDC to LCC. But, there are some libraries still using DDC with its advantages.[3]

Library of Congress Classification was the first classification system by size and arranged the books by accession number. It was developed in each schedule separately. The print edition issues a separate print schedule. It was based primarily on 21 categories labeled A-Z. The letters 'I, O, W, X and Y' have not been

used. The scheme in majority is based on discipline. As a result, various aspects of subjects are not together but they are appropriately classed with discipline. LCC has individual voluminous schedules recently converted into MARC format.

2. Individual Schedules

LCC consists of nearly 50 individual volumes for main classes, subclasses and tables. A full set of schedules contains more than ten thousand pages.

Although each schedule is developed separately, there is similarity in the layout and printing of these schedules. The followings are six important sections of every schedule:[4]

- A Preface
- A broad outline displaying the subclasses
- A detailed outline displaying a two-or three-level hierarchical structure of the classes or subclasses covered in the schedule
- The main classes represent separately in individual schedules
- Any necessary auxiliary tables
- A detailed index

3. Manuals for LCC

It is found that LCC does not provide any manual to explain classification. But to some extent, LC published its 'Subject Cataloguing Manual: Shelflisting'[5] to explain shelf listing policies procedures in 1987 and its 2nd ed. published in 1995. LC also published manual entitled 'Subject Cataloguing Manual: Classification'[6] in 1992 describing library policies on developing schedules and assigning class numbers. These two manuals are more helpful to describe the information about application of LC classification.

4. Notation of LCC

It is observed that LCC's notational base is very strong. It is broader than DDC. It is a mixed notational system that includes a combination of Capital letters and Arabic Numerals.

1. First Single Capital Letter indicates Main Class of LCC:
   Ex. L- Education, Z- Bibliography and Library Science
2. Two or three capital letters combination describe Subclasses:
   Ex. NA- Architecture[7], PR- English Literature[8]
3. Triple letters figure are seen to some extent in classes D and K.
   Ex. KDZ - America. North America[9]
4. The numerals – 1-9999 as an entire range is used for subdivisions. Most of the numbers are left for future use.
   Ex. SD 144 – Forest conditions in United States, by region or state, A-W

The Gaps/empty digits I, O, W, X, Y which still are vacant in the sequence in LCC provide hospitality to the new subjects.

It is definitely important that a class number becomes a complete call number, when author number (Book Number) is added to the class number. In LCC system, it provides that Cutter numbers as author numbers. Example -

SD 144.N4- The first Cutter number (based on the table, United States) for New Hampshire.[10]

SD 144.N49- The second Cutter number for the main entry under the title, New Hampshire.[11]

5. Tables

LC has no combined common auxiliary tables. It is the system where each class schedule is separately maintained. Tables generally found at the end of schedule immediately before an index. Thus, the form, geographical and chronological divisions are found as per the needs of the class.

6. Index

LCC doesn't provide general index.[12] Each schedule publishes its own index and the alphabetical authority list LCSH in print.

7. Main Features of LCC

1. LCC is purely enumerative classification system which enumerates common isolates and geographical divisions.
2. It is practically influenced and featured by CEC.
3. LCC is principally based on Literary Warrant which reflects the period i.e. late nineteenth and early twentieth century.
4. It is a comprehensive classification, but not truly Universal at the present situation. It provides the class number to those subjects included in the LC collection.
5. Alphabetical device is used excessively. But, it is not helpful in sequence.
6. Especially, the tables of subdivisions are unique to each schedule and are not applicable throughout the entire system.
7. It has been noted that LCC is now available online. Its web version called 'Classification Web' make available from Cataloguing Distribution Service.
8. LCC has individual schedule volumes regularly kept up-to-date, flexible and hospitable to develop interdisciplinary new subjects in the universe.

8. Structure of LCC

It has been observed that LCC is arranged by disciplines such as Social Sciences, Science etc.

- Each letter indicates a main class. Ex. Main class G (Geography, Anthropology, Recreation)
- The main classes are further divided into subclasses representing branches of those disciplines. Ex. GE (Environmental Science).
- The double letters are used for subclasses in all schedules except E-F.
- The triple letters also use to some extent in Classes D and K.
- Each such subclass is further divided into subdivisions numbered from 1-9999 arithmetically. Expansions are made in three different ways. First, by leaving gaps in the system. Five letters I, O, and W, X, Y in the sequence have been left vacant for main classes; and if these are used as main classes, it will be increased to 26. In each of the subclasses many of the letters have not yet been used. Like-subclass, many numbers are left untouched.
- It is observed that at the second level, addition of a letter in the subclass is done; e.g. in the section for Physics, QC462-Spectra of special elements, A-Z, B4 Beryllium, C8 Copper and so on.
- At the third level, it is done by providing decimals to the subclasses, e.g. QP88 (Physiology of the tissues) general may be further divided to produce QP88.2 Bone, QP88.5 Skin. It has been seen that LC call numbers can provide greater details and they appear often shorter than DC call numbers.
- After completing the first set of letters and numerals in a given class number, another set is followed that is called Cutter numbers taken from Cutters Tables developed by Charles Ami Cutter. It is based on Alpha Numeric Book Numbering System.

9. Advantages and Disadvantages

9.1 Advantages

- LCC is provided in print version, electronic version and CD-ROM version also.
- The users can find cross references and also see references throughout the schedules.
- LCC uses USMARC classification format.
- LCC schedules update separately by subject experts.

9.2 Disadvantages

- The major disadvantage in LCC is that it does not support for mnemonics.
- The repetition of tables indicates that the classifiers have no common practice.
- There is no any provision for such subjects which are not in the collection of LC.
- LCC provides lack of guidance and instructions to the users. It has lack of theory. It is effective practically in libraries.
- The classifiers have to handle more schedules in print while doing class numbers to the books.

10. Synthesis

LCC is purely enumerative, but perhaps the least synthesized of all general schemes. Number building does not exist in LCC. It does not employ notational synthesis through the use of common form or geographic divisions or their equivalents does not make extensive use of the divide like concept which would allow use elsewhere of notation from one point in the schedules where it is appropriate.

11. Truncation

There is no simple method of truncation in print, but the users can do truncation search on web.

12. Abridged Edition

Abridged editions are provided for some parts of the scheme.

13. Literary Warrant

LCC is completely based on LC collection.[13]

14. Revision

Each main class is revised by subject specialist team. Information regarding revised edition of main classes are published in the 'Library of Congress Information Bulletin' -a weekly publication.[14]

15. LCC- Addition and Changes

The additional tables or extensions of important schedules that is found only in LCC, additions and changes or accessible through web.

16. Online LCC

LCC is playing a dynamic role on the web as it is accessible via WWW. It is available in print as well as on web. But, LCC is the scheme has a number of schedules individually including its own tables and index.

But the design of LCC on web is quite different. It designs the outline of LCC, but not hyperlinked webpages. If the users want to navigate LC class numbers or search terms, they can use various indexes main menu screen. The users can navigate through screen to screen. 'Class Plus' was the previous online version of LCC replaced with a new version i.e. Classification Web in April 2003.

LCC system does have, 'LC Classification/Dewey Classification Correlation Search'[15] in the menu. It indicates that this enables users to enter LCC number and also displays a list of corresponding DDC numbers, or vice versa. When LCC and DDC Correlations are used, it is found that equivalent DDC as they were applied to LC bibliographic records are available. It has been observed that there are various libraries want to change from DDC to LCC.

17. Classification Web (Online Product of LCC)

Classification Web is a web-based, effective and exclusive product of LCC Scheme.[16] It is provided by CDS. It provides the users with access to WWW to browse and search the full text of LCC schedules.

This product is powered by a customized classification version of Minaret®, a MARC-record-based database management program developed by the Minaret Corporation. It is also used by LC cataloguing staff in their daily classification activities.

The Classification Web contains

1. LCC Schedules.
2. LC Class and its Subdivisions.
3. LCSH.

Classification Web is the web-based database of LCC Scheme. However, it also facilitates correlation of WebDewey numbers and LCC numbers and LCSH. It supports to Netscape & Internet Explorer. There are three types of browsers available for browsing the LCC numbers. Every browser has its own characteristics and functions. Classification Web provides bibliographic records of 20 local different libraries using LCC and user can know well how the LC class is used for partial book. Thus, the users can see all when login to it. It provides more facilities than its print edition. The structure of LCC is quite

different from other library classification schemes. As, the users look on its schedule, each schedule is separate and their Tables and Indexes have their own and Geographical, Chronological characters found in each schedule enumerated as per the needs of the class. A great deal of windows open every time. It has an automatic logout after 1 hour in action.

But, the structure of Classification Web is really exclusive. It facilitates more to the users, but sometimes it looks critical. There are various indexes, like LCSH Keyword Index available and enumerating different rules when searching.

Each schedule of class is separated in LCC as the schedules are linked to the particular LC class. When clicked on the particular class Ex. T- it takes to the all subdivision of Class 'T' and instructions are found under the 'Class' on instruction linked. It automatically creates the class numbers further. The users can search separately for LC table numbers. It is important to note that the sign '#' indicates a gap.

Classification Web allows the users to browse or search LCC. They can browse for particular number in the box in LCC. There are other button links in main menu.

Classification Web associates classification numbers with corresponding subject headings. Classification Web is not a published edition. It is updated weekly so it is always changing, reflecting the most current information. The windows based CD-ROM tool updated quarterly. These tools contain not only LCC but also include the full text of LCSH with links.

17.1 History of Classification Web
- LCC was launched online in the year 2000 for the first time.
- Classification Web database is available online since May 2002.
- The database was originally designed to assist LC staff in editing MARC classification records.
- It has been made more facilitative and attractive to the end-user to search and browse the LC Class numbers, LCSH Online.
- The decision was made for CDS to Pilot test and eventually makes Classification Web available to users outside of LC.

17.2 Advantages of Classification Web
- Classification Web includes full-text schedule display of all LCC schedules--including G class geographic cutters.
- It provides online access of LCSH in familiar thesaurus style display and the user can browse and search in style Structured Subject Heading, Unstructured Subject Heading, Structured Free-Floating subdivision, Unstructured Free-Floating subdivision, Keyword, Classification Number.
- The users can access the data anywhere with access to WWW and Classification Web subscription.
- The user can access the correlations between LC classification numbers and LCSH and DDC.
- All files of Classification Web are updated daily.
- Classification Web makes available various browsable and searchable indexes to the users.
- All hypertext links within and between classes and subclasses have a speedier access to data.
- It provides powerful search & navigation tools to the users.
- It gives automatic calculation of classification table numbers.
- The users can build permanently institutional or personal notes file.
- It has a facility to link to local Web OPAC for many major vendor systems.
- It provides preset list of institutional OPACs (bibliographic links) to which users can link.
- It displays non-roman characters also.
- It provides different kinds of indexes to browse and search.
- There is no stoplist of common words in Classification Web.

17.3 Aims of Classification Web
- The main objective of Classification Web is to provide the up-to-date class numbers and its subdivisions easily and save time.
- Online tutorial[17] to provide the basic information how to search, brows look up subject headings and class numbers in the database.

- To provide different indexes to find LC numbers easily and quickly.
- Context-sensitive help: solving problem

17.4 Features of Classification Web

- **Updating:** Classification Web is the most up-to-date Web version of LCC, updated by weekly.
- **Search and Browse:** Classification Web provides Browse screens and Search screens to access LC class numbers for users. Through Web pages are hyperlink, users can access to search the schedules by captions, index terms, or even keywords. The users can do both simple searches and complex Boolean searches.
- **Enhanced Browser**: It has a powerful calculator function which automatically combines table and schedule data and displays fully calculated numbers together with their corresponding captions.
- **Hierarchy Browser**: It provides access of LC schedules at any level of the hierarchy from the most general to the most specific.
- **User Notes:** Classification Web gives the opportunity to write and save user own notes and hot links at any location in any of the classification schedules.
- **Subject Correlations**: It provides correspondences between subject headings and classification numbers.
- **Subject Headings:** Search online LCSH.
- **OPAC Links:** It links to local OPACs of a number of libraries and has ability to create a link to the user own local OPAC.
- **Hypertext links:** LC classification schedules and subject headings can be accessed through hypertext links.
- **LC Tutorial:** Classification Web tutorial[18] provide the user a quick introduction of all its features so that the user can understand how to browse and search LC class numbers and search LCSH. The option 'Help'[19] gives detailed information of most features solving problems.
- **Automatic Calculation:** LCC facilitates automatic calculation of table numbers.

17.5   Current Status of Classification Web

- There are about 1,500 sites around the world currently subscribed to Class Web with over 9,000 concurrent users.[20]
- In June 2004, CDS negotiated with OCLC to enable Classification Web to display correlations between DDC numbers and LC classification or LCSH as they appear in LC bibliographic records.[21]
- It provides the access of LCSH List, Juvenile Subject Heading List to browse and search.
- Hard-coded link to bibliographic records in LC OPAC

17.6   Ordering of Classification Web

The CDS offers how to subscribe Classification Web:

- Sell as an annual subscription.
- Offers solo user and site license options.
- Site usage is priced on a concurrent user basis.
- One-month trial accounts for users are also available.

The user can give order to Classification Web on the following websites:

- **Official Address:**
  Library of Congress Cataloging Distribution Service,
  Washington, DC 20541-4912.[22]
- **CDS Web site at -**
  http://www.loc.gov/cds/classweb.html

17.7 Subscription Prices

There are different subscription rates to number of concurrent users for Classification Web.

Table No. 2
Subscription Rates for accessing Classification Web

S. N.	Subscription	Prices	Prices in Rs/-
1	1 to 4 concurrent users:	$ 525	23,517.38 INR
2	up to 9 concurrent users:	$ 640	28,668.80 INR
3	up to 14 concurrent users:	$ 775	34,716.13 INR
4	up to 19 concurrent users:	$ 910	40,763.45 INR
5	up to 24 concurrent users	$1,320	59.1294 INR
6	up to 29 concurrent users:	$1,825	81.7509 INR
7	30 or more concurrent users	call CDS	-

[Source : https://www.loc.gov/cds/classweb/classweborder.html (Last Access on dt. 10-12-2022]

17.8 Future Upgrades for Classification Web

- Upgrading to Minaret 3 Interface.[23]
- Implementing Non-Roman Character Set Display.[24]
- Moving to an external server.[25]

17.9 Future Enhancements for Classification Web[26]

- Ability to download MARC records from all files.
- Inclusion of LC name authority files as an optional feature.
- Navigation enhancements such as direct links from subject headings to local OPACs and the ability to include more locally defined OPACs.

17.10 Classification Web Up-to-date

- Classification Web is the most current up-to-date online version of LCC.

17.11   MARC Record in Classification Web

The record, the users view in Classification Web is the MARC authority record. This is the record that is stored in the library's database and contains important information about an authority record.

- **Schedule Record :** A classification data record in which 153 fields (Classification Number) contains a classification number or span from the schedule itself, including a number which has been build from applying add instructions.
- **Table Record :** A Classification data record in which 153 fields contains a classification number or span from a table. Table numbers generally can not stand alone and are intended to be added to a base number to form a synthesized classification number.
- **Index Term Record :** A record in which the 1XX field contains a general explanatory term in 154 fields (General Explanatory Index Term) that represents a concept that is not related to one classification number or span.

17.12   Tables in Classification Web

Classification Web automatically generates Tables to the class numbers which use it. In the days when a cataloguer consulted the printed schedules, the cataloguer would have to manually construct the table number, but Classification Web does this automatically. If there is no table reference in the class number, then the user does not use a table for that class. The Law Schedules use a lot of tables. Also the Literature schedules use tables, and other class numbers but only if instructed.

Another reference source for LC classification is Classification and Shelf-listing Manual which is available online via Cataloguers Desktop or in print through CDS. The standard classification browser does

not calculate tables for the users, but it does provide the users with a link that takes directly to the relevant table.

17.13 Index in Classification Web

In Classification Web, there are many indexes available for the user for searching and browsing the LC class numbers. Especially-

1. Caption Index
2. Keyword Index
3. Index Term Index
4. Caption or Index Term Index
5. Classification Number Index

Index is helpful for easy search and browsing the numbers which helps in turn to save actual time of the users.

17.14 Classification Web Uses Unicode to Display Content

Classification Web supports a full range of characters available in the Unicode Display. While vernacular language data will be added to areas of the classification database over time, any records that include diacritics will display in a more visually pleasing manner when using Unicode.

In addition to this, it is important to note that for a correct view the Unicode pages that are returned to the user's web browser, customers using Microsoft Internet Explorer are advised to change their browser font to Arial Unicode MS, provided it is installed on user's computer.

The Netscape, Mozilla and Firefox browsers are much better compatible for a very nice job of displaying diacritics using the regular Arial font.

18. Conclusion

It is concluded that Library of Congress is brilliant library classification scheme which is performing well in research and academic libraries in U.S. and in many countries. It is need of the hour, with many updates, it developed and sparkled on web and easily accessible to libraries subscribing its web version and providing its trial version.

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