UNIT 10  STEPS IN CLASSIFICATION

Structure

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10.0 OBJECTIVES

In Units 8 and 9, we have discussed about the general structure of Colon Classification scheme, its features and various devices used in CC to classify documents. In this Unit, we will discuss the steps to be followed in classifying a document. The steps are logical and if you follow them methodically it will yield good result.

After reading this Unit, you will be able to:

- explain the three planes of work in classifying documents;
- describe the eight-step method of classifying documents enunciated by Ranganathan; and
- classify subjects of different levels of complexity with the help of the eight-step method.

10.1 INTRODUCTION

You have been so far introduced to the different techniques of classification used in CC. In this Unit, you will be familiarised with the three planes of work, i.e., Idea Plane, Verbal Plane and the Notational Plane and the various steps of classification carried out in these three planes of work. The 'Eight-Step Method' enunciated by Ranganathan provides a systematic method of classifying documents. It helps in simplification of the classification process. The solved examples in this Unit will help you in understating the entire process of classification.

10.2 THREE PLANES OF WORK

According to Ranganathan, there are three planes of work through which a scheme of Library Classification passes. The three planes are: Idea Plane, Verbal Plane and Notational Plane. The work of analysis of a subject begins at the Idea Plan. The next step is to transform the name of a subject by rearranging the word groups representing the subject into a meaningful sequence and replacing these word groups into its focal or isolate terms. The work carried out at this stage is the work in the Verbal Plane. Finally the basic subject and all the isolate terms identified in the verbal plane is translated into notation. These notation are then synthesised with the help of connecting symbols to the basic class and the isolate ideas and the synthesis of these notation to form the class number is known as Notational Plane. Therefore, the analytico-synthetic process of classification in CC is carried out at three levels:

1) Idea Plane  →  Analysis of the subject;
2) Verbal Plane  →  Identification of the Basic Subject and the Isolate terms and re-arranging them; and
3) Notational Plane → Translation of the Basic Subject and Isolate terms into Notation and finally synthesizing the notations.

10.2.1 Idea Plane

A scheme of library classification has to first enumerate the universe of subjects, state their interrelation and fix their order. This is done in the idea plane. Idea plane also known as the invisible plane, as the ideas lie hidden behind the numbers representing them and the words denoting them. The work of analysis of the subject of a document is carried out in the Idea Plane. The first task in the Idea Plane is to identify the name of the Basic Class (BC). The Idea Plane involves study and analysis of universe of subjects, and isolates in order to arrange them in a helpful sequence.

The work of Idea Plane is not only limited to the analysis and arrangement of existing known subjects and their isolates, but also includes the recognition of newly emerging and unknown subjects, and determination of their proper places among the already existing subjects without disturbing the infrastructure of the scheme.

The Idea Plane is the most vital, and controlling plane because the degree of finesse of analysis in this plane is reflected in other two planes.

The following steps are carried out in the Idea Plane:

1) Breaking up derived composite terms;
2) Full expression of the Name of the Subject;
3) Analysis in Facets;
   i) Time and Space manifestation;
   ii) Energy manifestation;
   iii) Matter manifestation; and
   iv) Personality manifestation, and finally
4) Synthesis of the analysed facets.

The above mentioned steps could be better explained with the help of an example.

Example

Title : Circulation of Newspapers in Research Libraries in India in 1995

Step 1 : Circulation, Newspapers, Research, India, 1995


Step 3 : Library Science → Basic Class
         India → Space facet
         1995 → Time facet
         Circulation → Energy facet
         Newspapers → Matter facet
         Research Libraries → Personality facet

Step 4 : Library Science (Basic Class), Research Libraries [P], Newspapers [M], Circulation [E], India [S], 1995 [T]

10.2.2 Verbal Plane

The next phase of classification is done at the Verbal Plane. After analysis and synthesis of Basic Class and the isolated ideas, the next step transforms them into standard terms in natural language or in technical terminology. The work in this plane involves the expression of concepts in a natural language or in technical terminology provided in the schedule of classification. The Verbal Plane, however, has certain problems due to the following reasons:

i) Vagueness in the meaning of ordinary words;
ii) Incidence of homonyms and synonym; and
iii) Continuous creation of new terms makes it difficult to maintain currency.
Example: Library Science, [B.C.], Research Libraries [P], Newspapers [M], Circulation [E], India [S], 1995 [T].

10.2.3 Notational Plane

The final phase of classification is done in the Notational Plane. In this plane, the results derived in the Verbal Plane are transformed into classificatory language. Ordinal numbers are used to represent various subjects and isolate ideas. The system of ordinal numbers used to represent classes in a scheme of classification is called Notational System and the work of classification involved in this stage is known as Notational Plane.

The Notational Plane provides the most helpful arrangement of classes and isolate ideas. However, it is important that classification scheme should be flexible enough to accommodate new classes that emerge at a fast pace.

The first step in this plane is to represent the Basic Class and isolate ideas into notation. The notation used for the subject is known as Class Numbers and the ones used for isolate idea is known as Isolate Number.

There are two steps involved in the Notational Plane.

The first step is to translate the Basic Class and the isolate numbers into appropriate numbers taken from the scheme of classification, and the second step is to synthesis, the numbers with the help of appropriate connecting symbols in accordance with the facet formula provided in the schedule.

Example

Step 1: Library Science (M.C.) = 2
Research Libraries [P] = 36
Newspapers [M] = 44
Circulation [E] = 6
India (S) = 44
1995 (T) = N95

Step 2: Synthesis:
Facet Formula = 2[P]; [M]; [E][2P]
2 36 ; 44 : 6 44 'N95
(B.C.) [P] [M] [E] [S] T
Therefore, the Class Number is:
236; 44 : 6.44 'N95

10.3 EIGHT-STEP METHOD

Ranganathan has advocated eight steps to classify the subject of a document from natural language to classificatory language, i.e., the language of ordinal numbers. In the earlier section, you have seen how classification is done in three planes that is Idea Plane, Verbal Plane and Notational Plane. After combining all the steps in these three planes, we get the eight-steps of classification. The steps as per Ranganathan’s enunciation are:

Step 0 : Raw Title
Step 1 : Full Title
Step 2 : Kernel Title
Step 3 : Analysed Title
Step 4 : Transformed Title
Step 5 : Title in Standard Terms
Step 6 : Title in Focal Numbers
Step 7 : Class Number

The steps are:

- Step 0 : Raw Title
- Step 1 : Full Title
- Step 2 : Kernel Title
- Step 3 : Analysed Title
- Step 4 : Transformed Title
- Step 5 : Title in Standard Terms
- Step 6 : Title in Focal Numbers
- Step 7 : Class Number

These steps are connected by arrows indicating the flow from one step to the next, showing the progression from raw data to a final classified document.
The further details about these steps are given below:

**Step 0: Raw Title**

The actual title of the document.

**Step 1: Full Title**

The expressive title of the document. The raw title of the document may not be fully expressive in the sense that basic subject term or some isolate terms may be missing. At this stage, Raw Title is transformed into expressive title by filling in the missing terms.

**Step 2: Kernel Title**

Remove all the apparatus words, viz., prepositions, conjunctions and articles. Only the focal or the kernel terms should remain.

**Step 3: Analysed Title**

Find out the fundamental category to which each of the kernel terms belongs as well as rounds and levels of manifestation. Put the symbols of the fundamental category manifestation along with each of the kernel terms. It is important to note that the derived composite term has to be taken into its fundamental constituent terms which would render analysis easier operation.

**Step 4: Transformed Title**

Rearrange all the kernel terms along with their respective symbols, according to the facet formula.

**Step 5: Title in Standard Terms**

Replace the kernel terms by standard terms given in the schedule.

**Step 6: Title in Focal Numbers**

Replace each standard term by its Basic Class Number or Isolate Number.

**Step 7: Class Number**

Replace the symbol after each Focal Number by connecting symbols appropriate to each Focal Number.

Apart from the above eight-steps, one more step could be added for the purpose of verification. At this stage, synthesised class number is translated into natural language to verify its correctness.

Let us now try to understand the Eight-Step Method of classification with the help of an example.

**Step 0:** Raw Title: Documentation of Newspaper Clippings in Research Libraries in India during 1989

**Step 1:** Full Title: Documentation of Newspaper Clippings in Research Libraries (in Library Science) in India during 1989

**Step 2:** Kernel Title: Documentation, Newspaper Clippings, Research Libraries, Library Science, India, 1989

**Step 3:** Analysed Title: Documentation [E], Newspaper Clippings [M], Research Libraries [P], Library Science (M.C.), India [S], 1989 [T]

**Step 4:** Transformed Title: Library Science (M.C.), Research Libraries [P], Newspaper Clippings [M], Documentation [E], India [S], 1989 [T]

**Step 5:** Title in Standard Terms: Library Science (M.C.), Research Library [P], Newspaper [M], (The focus in [M], taken, from Main Class 'General Bibliography as instructed in the schedule of Main Class Library Science), Documentation [E], India [S], 1989 [T]

**Step 6:** Title in Focal Numbers: 2 (M.C.), 36[P], 44[M], 97[E], 44[S], N89 [T]

**Step 7:** Class Number: 236; 44:97.44*N89
Note: You will notice that no connecting symbol is used before the fundamental category personality. This is so because the facet formula in the Main Class, 'Library Science' does not provide for the connecting symbol before the personality facet. While constructing class numbers, we have to strictly adhere to the facet formula given in each main class.

The Eight-Step Method has been found to be very useful during the process of learning. It is not implied here that in practical classification in libraries, a classifier has to classify documents writing out each one of these steps. In fact, it is not necessary. But, the practice the person gets in the method of systematic thinking in applying the technique of facet analysis and syntheses will be essential. The students are advised to cultivate this method of learning.

Self Check Exercise

1) Construct Class Number for the following title by the Eight-Step Method.

Title: Audio-visual aids in higher education

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.

10.4 SOLVED EXAMPLES

In this section, we will show you how to classify subjects having different levels of difficulty by using the eight-step method.

Title 1: Treatment of Lung Tuberculosis

Step 0: Raw Title : Treatment of Lung Tuberculosis
Step 1: Full Title : Treatment of the Disease of the Lung Caused by the Infection Tuberculosis in Medicine
Step 2: Kernel Title : Treatment, Disease, Lung, Tuberculosis Infection, Medicine
Step 3: Analyzed Title : Treatment [2E], Disease [E], Lung[P], Tuberculosis Infection[2P], Medicine[M.C.]
Step 4: Transformed Title : Medicine(M.C.), Lung[P], Disease[E], Tuberculosis Infection[2P], Treatment[2E]
Step 5: Title in Standard Terms : Medicine (M.C.), Lung[2P], Disease[E], Tuberculosis[2P], Therapeutics[2E]
Step 6: Title in Focal Numbers : L(M.C.), 45[P], 4[E], 21[2P], 6[2E]
Step 7: Class Number : L45 : 421 : 6

Title 2: Curing of Viral Diseases of Tulip

Step 0: Raw Title : Curing of Viral Diseases of Tulip
Step 1: Full Title : Curing of Viral Diseases of the Floral Plant Tulip in Agriculture
Step 2: Kernel Title : Curing, Viral Disease, Floral Plant Tulip, Agriculture
Step 3: Analyzed Title : Curing[2E], Viral[2P], Disease[E], Floral Plant Tulip[P], Agriculture(M.C.)
Step 4 : Transformed Title : Agriculture(M.C.), Floral Plant Tulip[P], Disease[E], Viral[2P], Curing[2E]

Step 5 : Title in Standard Terms : Agriculture(M.C.), Tulip[P], Disease[E], Virus[2P], Curing[2E]

Step 6 : Title in Focal Numbers : J(M.C.), 1692[2], 4(E), 23[2], 6[2E]

Step 7 : Class Number : J 16912 : 423 : 6

Title 3 : Influence of Humidity on Atmospheric Pressure

Step 0 : Raw Title : Influence of Humidity on Atmospheric Pressure

Step 1 : Full Title : Meteorological Study of Influence of Humidity on Atmospheric Pressure in Geography

Step 2 : Kernel Title : Influence, Humidity, Atmospheric Pressure, Geography


Step 4 : Transformed Title : Geography(M.C.), Meteorology[P], Atmospheric Pressure (Isolate idea under [P]) Influence (Phase Relation), Humidity (Isolate idea under[P] Meteorology)

Step 5 : Title in Standard Terms : Geography (M.C.), Meteorology [P], Atmospheric Pressure (Isolate idea under [P] Meteorology), Influence (Phase Relation), Humidity (Isolate idea under[P] Meteorology)

Step 6 : Title in Focal Numbers : U(M.C.), 28[P], 2 (Isolate under [P]), 0y (Intra-Array Influence Phase Relation), 5 (Isolate under [P])

Step 7 : Class Number : U 2820y5

Note: In this title, you will notice that title Humidity and Atmospheric Pressure part of the personality facet Meteorology.

Title 4 : Mathematics for Engineers

Step 0 : Raw Title : Mathematics for Engineers

Step 1 : Full Title : Mathematics basically meant for the Study of Engineering

Step 2 : Kernel Title : Mathematics, biased to, Engineers (Engineering)

Step 3 : Analysed Title : Mathematics (M.C.) biased to (Biased Relationship), Engineers (M.C.)

Step 4 : Transformed Title : Mathematics (M.C.), Bias Phase Relation, Engineers (M.C.)

Step 5 : Title in Standard Terms : Mathematics (M.C.), Bias Phase Relation, Engineering (M.C.)

Step 6 : Title in Focal Numbers : B(M.C.) 0b (Bias Phase Relation) D (M.C.)

Step 7 : Class Number : B 0bD

Self Check Exercise

2) Classify the following titles using the eight-step method.

a) Audio-visual method of teaching algebra in secondary schools

b) Atlas of natural resources in the world

c) Treatment of eye diseases in children
Note: i) Write your answers in the space given below.

ii) Check your answers with the answers given at the end of this Unit.

10.5 SUMMARY

In this Unit, you have been familiarised with the process of classification, which is carried out in the three planes of work. The entire process of classification is carried out in eight major steps. The three planes of work are: Idea Plane, Verbal Plane and the Notational Plane. By further breaking down these three planes of work, we get the eight-steps for classification. The eight-steps as enunciated by Dr. Ranganathan are: Raw Title, Full Title, Kernel Title, Analysed Title, Transformed Title, Title in Standard Terms, Title in Focal Numbers, and finally, the Class Number, by using these eight-steps of classification one can classify systematically all type of subjects simple to complex.

10.6 ANSWERS TO SELF CHECK EXERCISES

1) Step 0: Raw Title
   Step 1: Full Title
   Step 2: Kernel Title
   Step 3: Analysed Title
   Step 4: Transformed Title
   Step 5: Title in Standard Terms
   Step 6: Title in Focal Numbers
   Step 7: Class Number

Audio-visual Aids in Higher Education
Audio-visual Method of Teaching Used in Higher Education
Audio-visual, Method of Teaching, Higher Education
Audio-visual [2P], Method of Teaching [E], Higher [P], Education (M.C.)
Education (M.C.), Higher [P], Method of Teaching [E], Audio-visual [2P]
Education (M.C.), University [P], Teaching Technique [E], Audio-visual [2P]
T(M.C.), 4[P], 3[E], 1[2P]
T4:31

Note: In the above example, you will notice that isolate Audio-visual is enumerated under [2P] in the schedule of Main Class ‘Education’ but we have taken it as [2P]. Why is it so? For this purpose, refer to pages 23 and 24 of the Annexure of Colon Classification. There it is clearly indicated that when [2P] is obtained by Subject Device [SD], then the isolates under different teaching techniques will come under [2P2]: otherwise, it will be considered as [2P].

2) a) Step 0: Raw Title
    Step 1: Full Title
    Step 2: Full Title

Audio-visual Method of Teaching Algebra in Secondary Schools
Use of Audio-visual Programmes/Gadgets for Teaching of the Subject Algebra for Secondary School Children (in Education)
Audio-visual, Teaching, Algebra, Secondary School Children, Education
10.7 KEY WORDS

Focal Number : Notation representing an isolate idea or a basic class.

Kernel Title : Title without the apparatus words, viz., prepositions, conjunctions and articles.
1.8 REFERENCES AND FURTHER READING


