UNIT 1 BASIC CONCEPTS

Structure

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1.0 OBJECTIVES

After reading this Unit, you will be able to:

- define classification and know its various meanings;
- understand that it pervades every activity of life;
- explain the process of classification;
- discuss the various manifestations of library classification;
- state how it is vital to library management and services;
- understand classification as foundation study of library management, and also its limitations; and
- explain the basic concepts of classification.
1.1 INTRODUCTION

Classification is a process of making classes. A class is a set or group of entities (both abstract and concrete) having at least one similarity/commonality. This similarity is called characteristic and is the basis of grouping or sub-grouping of entities. For example, all the students of BLIS class, whether male or female, of any religion and caste, coming from different states or regions, speaking different languages, having different political ideologies, have one characteristic in common, that is all of them are candidates for BLIS degree. A class can be of any size. All human beings make one class called *homo sapiens* by scientists. All Indians make one class. Similarly, all Christians make one class, Roman Catholics make another class, Indian Roman Catholics make yet another class, or Keralite Roman Catholics may make yet another class. There seems no end to making classes and subclasses of people or of any other entity. A class may be of even a single entity.

1.2 MEANINGS OF CLASSIFICATION

Classification is a process of grouping of similar or like entities. It may be noted that there can be no grouping without division, as there can be no shadow without light, or no parting without meeting. Therefore, grouping implies division. Grouping and division are two sides of the same coin. We add a member to a group by separating it from other in the process of grouping and regrouping. Therefore, grouping and division are the basic processes of classification. But classification is more than endless grouping and sub-grouping. After grouping starts the process of ranking that is arranging the members of the group in a sequence. Even a small family can be divided further by status or age of its members. This is ranking. For example, say all the twenty students of a class may be further arranged in a row by age, height, educational merit or even alphabetically by name. Let us take the case of candidates appearing in IAS examination. The final result by UPSC divides them into two groups: successful and unsuccessful. Successful candidates are further ranked according to the marks obtained. That ranking is very vital. All this is classification. Classification is a systematic and predictable order. A group of chemical elements is a class by itself. Their grouping into Group 0, Group 1,2,3,…,8 is further classification. Their further arrangement according to their atomic number is classification and ranking. In the third sense, assigning each ranked entity a code or symbol to preserve their ranking is classification. For example, a class of 25 students may be first arranged according to educational merit then each students may be ranked 1, 2, ….. 25 or A to Y in order of merit for convenience of handling. This allocation of codes will mechanise and fix their ranking and consequent sequence.

Various manifestations of classification

Grouping and division seem primitive or elemental processes of classification. Looking at the bottom, classification is co-relation or discovering relations between entities. All members of a group are related to one another by some commonality. When we admit an entity into a group, a relation between that entity and group is discovered or created. For example, Potassium is not only a member of the class ‘inorganic substances’, but also bears relation to sodium on its left and copper on its right. Sodium, potassium and copper are related to one another. In a family, which is always a class by itself, all members are related by blood. Hence classification is relation.

1.2.1 Classification and Organisation

Since grouping and inter-group ranking are acts of organisation, thus classification is organisation. In fact classification and organisation are inseparable. Now classification
is considered as a tool for organising in every sense of the word. So classification is structuring and mapping. Difference between a heap of bricks and a mansion is classification. In a mansion every brick is positioned in an organised way.

In an organisation all members are related and coordinated, so classification is co-ordination and control. Difference between a disciplined army and a chaotic mob is classification. Army men are coordinated and controlled while a mob is uncontrolled, though both the groups comprise of men.

Classification is matching and pairing which is implied in grouping of entities brought together. When we are ranking and arranging we are sorting and tabulating. So, tabulating and sorting are acts of classification.

1.3 **USES OF CLASSIFICATION**

Classification is a mental act and logical process of association and relation. It goes on every moment of life knowingly or unknowingly deliberately or unconsciously. Any system be it biological (man), social (government, libraries, institutions) or mechanical (computers, machines) has to classify for successful functioning. All human beings, what ever they do, have to classify in every sense of the word. More sophisticated and intelligent a person, better his/her sense of classification.

A postman classifies postal items for efficient and timely delivery. For quick, efficient and easy delivery, a postal item is sorted (classified) many times at different stages between posting and delivery. A fruit seller sorts his fruits into categories, say, oranges, apples, grapes, and so on. Further each group, say, of apples is further sorted into species say Kashmiri apples, Simla apples, Golden apples, Green apples, etc. An astute vendor may further sort each species by quality and price. At every step of grouping sorter is adding value to the items. Thus classification is value addition.

Record files in an office are arranged in some order, and within each file letters and memos are arranged in some known order. Without such an arrangement the previous record cannot be located and used. Books and other reading material in libraries are arranged, no doubt to increase their usability.

1.4 **SCOPE OF CLASSIFICATION**

There is no act of life where classification is not used. It is applied everywhere. It is a basic process to learn. Opposite of classification is disorder and chaos. Classification can be done of all objects entities, actions, thoughts and concepts. We can classify people, countries, natural phenomena, plants, flowers, animals, libraries, philosophies, literature, artifacts, automobiles – what not. It is a universal constant. It is the only method to simplify, understand and comprehend a complex universe to discover its structure and impose some order over the otherwise chaotic world.

1.5 **PROCESS OF CLASSIFICATION**

Classification is a process of co-relation. It is a way of thinking – thinking systematically and purposefully. It is an aid to memory and reasoning power. Nothing can be identified without it. It means to define an entity is to classify it first. For example, a gun is a firearm; a chair is a piece of furniture, a car belongs to the class of vehicles, and so on.
All thought and reasoning contains some process of classification.

English philosopher J.S Mill (1806-1873) says that classification facilitates the operation of the mind in clearly conceiving and retaining in the memory the nature of the entity or phenomena.

Someone has aptly and axiomatically defined empirical science as “a systematic classification of experiences”. Therefore classification is training of the mind. It is often said that to learn to classify is itself an education. “Sharpness in thinking, clarity in expression, exactness in communication depend ultimately on classification”, says Ranganathan (Prolegomena, X B2).

A group is divided or a member is included into a group on the basis of some characteristic. A characteristic is an attribute, quality or property of an entity which relates it with, or separates it from a group. For example, a group of people may be divided into males and females. Here “gender” is the characteristic of division. All the students of a university may be divided into under-graduate, postgraduate and research degree students. Here level of education is the characteristic. Books in a library may be arranged on the basis of their subject content. Thus a characteristic is the basis of division. Successive application of right and relevant characteristics produces deeper and finer classification.

### 1.5.1 Genus-Species Relation

A class or group is logically called a genus, and the characteristic is the difference we add to produce species:

Genus + Difference = Species

Eg., Tables + Material = Glass tables, Wooden tables, Plastic tables, Metal tables, etc. Here material is the characteristic to divide the universe of tables.

Here table is genus, material is the difference, and glass tables, wooden tables, etc. are species of table. Ancient philosophers applied dichotomous method to divide the universe into two groups at every step. Greek philosopher Porphyry (232-304 AD) used this method and the resulting groups and subgroups are known as tree of porphyry. This method, however is artificial, as every phenomena is not dichotomous in the universe: there are many shades between white and black. Modern method is to divide by genus – species, or by whole-part methods.
Basic Concepts

Division by Dichotomy
Universe of Entities

Concrete
- Inorganic

Abstract
- Organic

Living
- Plants
- Animals
  - Vertebrates
    - Humans
      - Males
      - Females
      - Children
      - Adults
        - Young
        - Old
  - Invertebrates

Non-Living

Let us apply genus-species to literature by applying characteristics:

- **Literature**
  - **By Language**
    - English
    - French
    - German
    - Spanish
    - Others
  - **By form**
    - Poetry
    - Drama
    - Fiction
    - Essays
    - Others
  - **By species**
    - Lyrical
    - Ballads
    - Epic
    - Others
  - **By period**
    - Ancient
    - Medieval
    - Modern

We proceed from broader to narrower classes by applying respectively the characteristics of language, form, species, and period. Nature, quality and mode of application of these characteristics is very important. (You will read more about the characteristics in Unit 3A: Postulation Approach to Classification.)

To classify an entity we must have some knowledge of it. A guitar cannot be classified unless we know it is a stringed musical instrument. To classify cricket (game) we must know it is an out-door game played with a bat and ball.

**Self Check Exercise**

**Note:**

i) Write your answer in the space given below.

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

1) Explain the scope and methods of classification.

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**1.6 NATURE OF CLASSIFICATION**

Logically speaking classificatory groups are not absolute; classifications are relative as something is classified with reference to others. An entity cannot be classified or ranked in itself. It takes two to create a classification. It means a unique entity cannot be classified. It is a class of its own. No classification is absolute also means that classifications are not permanent. Classifications are not real even. No classification exists in nature. All
classifications are man-made, and made for a purpose. No classification is good or bad; these are helpful or unhelpful to a varying degree. It all depends upon the purpose of classification. A classification which serves its purpose well is best, whether logical or not. Logic of classification depends upon the characteristic chosen and the order in which these are applied. A large group of persons could be divided by age, gender, religion, race, nationality, mother tongue or colour of skin, hair or eyes, and many more characteristics. Each time it will result in different grouping. Choice of characteristics and the order in which these are applied one after the other will depend upon the purpose of classification. For example, a farmer would place birds, rats, insects and monkeys in one group as enemies of his crop. A scientist may laugh at such a classification. Both are correct, as their purpose is different. A farmer produces food while a scientist produces knowledge. A child or layman thinks that birds, butterflies and bats belong to the same class as all these can fly, while for a scientist all the three belong to different classes, each of its own. Different classifications produce different maps or depict different structure of knowledge depending upon the society and time of its origin. Classifications are not neutral. These are mirrors that reflect their time, place and society. Vedic classification is different from the one produce by Aristotle. Classification of knowledge by English philosopher Francis Bacon (1561-1626) is quite different of the two. No two classifications are similar.

1.6.1 Classification as a Tool

According to Aristotle (384-322 BC) classification is theoretical, practical and productive science. As the saying goes theory is the most applied knowledge, we can arguably say that classifications are always practical and designed for some purpose. As already said, classification is a tool for simplification, understanding and organisation. Without organisation nothing works. All the uses of classification may be summed up as: management; aesthetics and knowledge creation.

Organisation is for better management. Classification organises anything and everything: life to a shoe store; knowledge to libraries. A library, archive, postman, grocery shop all use classification to save time. It ultimately leads to economy of time, money and manpower.

Aesthetics is the science of beauty. An arranged store appeals visually to the visitors. Classification was also described as pairing and matching. So a housewife matching the colour of her room curtains with other items in the room is essentially doing an act of classification. A gentleman matching the colour of his tie with the suit he is wearing is an act of classification, too. Here the purpose is purely aesthetic to feel good and look good.

Philosophers, scientists and researchers classify to study and understand the growth and structure of knowledge. It is to outline and map the vast sea of knowledge. Without this map it will not be possible to navigate and further explore this boundless sea. A formal researcher has to select, tabulate and co-relate data to create new information. All the three stages are acts of classification. Hence classification underlies research also.

Classification is pattern making and pattern recognition. Computer retrieves information by patterns recognition and comparison, hence works by classifying; so does our brain which always works by association, grouping (integration) and pattern recognition.

Selecting a life partner for marriage involves a series of classification acts. Marriage is selection and pairing – both are manifestation of classification. Characteristic selected for marriage are: age, religion, caste, physique, looks, job, financial status, values and attitudes, educational qualification, and many more. In which order you apply these
characteristics depends upon your need and values. Marriage is selection, and every selection is classification.

1.7 KNOWLEDGE CLASSIFICATION

As said earlier, classification can be of any object, phenomena, concept or acts. Classification and categorisation of knowledge per se is called knowledge classification. From time to time philosophers, scientists, educationists and the likes have formally categorised entire known knowledge to outline its boundaries and show the structure of knowledge. For example, Hindu Vedas (1500 BC) divided knowledge into four categories in the order: Dharam, Arth, Kam, and Moksh. Aristotle (3rd century BC) divided knowledge into three parts: theoretical, practical and productive, and further divided entire knowledge into ten categories. A propedia is classification of knowledge and vice-versa. Knowledge is defined as sum total of ideas, theories, experiences, history, feelings, values, sciences, symbols, arts, facts, fiction, myths conserved by a society. Classification of knowledge is essential for its simplification, understanding and progress. Without its organisation no further growth and progress can be made. For example, a new idea or a discovered fact will not become knowledge until it is related and integrated with the existing knowledge. Therefore, it has aptly been said that all knowledge is classification.

1.8 LIBRARY CLASSIFICATION

Libraries are established to house and preserve books and other documentary heritage of mankind. Books and other information sources are knowledge objects and can also be classified like other physical objects. Since antiquity librarians have classified books to produce convenient groupings and to facilitate their location at the time of need. An unarranged collection is a heap of books, not a library by definition. To find a book from such a library will be like locating a needle from a huge heap of hay. In earlier times books were grouped and arranged on the basis of their language, size, colour of binding, authorship or broad subject categories. Those methods were perfectly useful in those times as the main aim of libraries was to store and preserve documents rather than serve them to the scholars. Access to knowledge was the preserve of the privileged few.

1.8.1 Modern Library Classification

In the then emerging industrial society of the late nineteenth century there was an attitudinal shift in the values of education and libraries. Importance of literacy was recognised for aware and responsible citizens. In a democracy access to education was democratised and opened to all. “Education for all” became the objective of the welfare state. To meet the needs of the society not only many new libraries were established by law, the doors of libraries were open to all and sundry — scholars, students, neo-literatures, poor, children, housewives, old and challenged, and other marginalised sections of the society without any discrimination. Further to maximise their use books were placed in free stacks and users were allowed open and direct access to the books. That open access policy required new and better arrangement of books for the browsers. Then Melvil Dewey (1851-1931) designed his Decimal Classification which divided knowledge by academic disciplines of study and used decimal notation to denote subjects. Latter provided almost infinite capacity for expansion and insertion of new subjects at proper places. Since then the books are being classified predominantly on the basis of their subject content that is knowledge. Thus library classification is knowledge classification as applied in libraries. In other words library classification is applied knowledge classification. But library classification is lot more than knowledge classification.
classification as it has also to take into account the physical aspects of the documents, the way knowledge has been formatted and presented in them, as well as the viewpoint of the author. It includes aspects such as language, media, form, format, viewpoint and many more such things. Formally and traditionally, library classification has been defined as the arrangement of books and other reading material in a way that is helpful to the users. Today’s libraries are arranged by subject though different types of collections are arranged in different ways. For example, government documents, patents or standards are arranged by their own official codes. Current periodicals are arranged alphabetically by title. Maps, CDs, pamphlets, photographs indeed require different and separate arrangements. Making of library classification systems is also classification. Designer of a classification scheme is known as a classificationist. Operating a classification system to assign class numbers to documents in a library is also classification; such a person is called a classifier.

1.8.2 Uses of Classification in a Library

Classification is vital to library services. In fact classification is implied in definition of a service library. It supports all library services. Classification is to a library as skeleton is to human body on which all the body organs rest. Classification of a library collection is like map of a city. In a library, classification serves all the functions given above, namely it is a tool of management, aesthetics and knowledge creation. All the Five Laws of Library Science (1931, 1957) formulated by Ranganathan support library classification and have specific implications to design quality classification systems. Without classification a library is an unorganised dump of books. Therefore, without it the full value of a library collection cannot be obtained. However, its specific uses can be broadly listed as:

- It brings together books on the same subject. Thus a user gets all the books at one place which is much more convenient to the users.
- It facilitates the browsing function of a library. Browsing is to look at library collections without any specific purpose – a sort of window shopping. Browsing is a habit with the scholars. It is only possible fruitfully in a library organised by subjects. Browsing always leads to incidental discovery of long needed and valuable information. This accidental discovery is known as serendipity. Not only this, the general to specific order of arrangement with some notational manoeuvering has been turned into pedagogical order in schemes like the CC. Ranganathan calls it APUPA pattern on the shelves. It is quite helpful for the self-learners. Thus systematic arrangement of books in open access libraries is helpful in self learning.
- It is a location tool; without it the library catalogue will not be able to function properly. It is also used for preparing shelf lists.
- Classification is the basis of all information retrieval systems and methods both in manual and electronic systems.
- It helps to replace the books at their correct places when the books are returned to the stacks after the home use or use within the library.
- It has been claimed that a library classification has three functions, namely, cognitive, information retrieval and shelf arrangement. Cognitive function is to represent the structure of knowledge and intra-relation of subjects. That is to produce a map of knowledge. Many library classifications, e.g., Ranganathan’s CC, Bliss BC and BSO have emphasised this function.
- Many bibliographies, catalogues etc. are classified for better use. UDC was created to arrange entries in a universal bibliography.
Library Classification

- It has been found useful in reference service for facet-analysis of users’ questions in reference interviews. It is useful for arrangement of circulation record.
- It helps in building a balanced collection of documents in a library.

Uses in Electronic Environment

Classification can be easily used to arrange and retrieve records in electronic databases. Online Public Access Catalogues (OPACs) function far better when class numbers are provided as another access point. In fact, in the electronic information era it has found so many new uses that it is rightly said that we are witnessing the second golden age of classification. Conventional classification systems such as the DDC, UDC, LCC have been used to organise and search information on the world wide web (WWW). Search engines like Yahoo, Google, AltaVista use broad classification methods for organising their information. Eccellio (http://science.eccellio.com) is a search engine which uses faceted classification to return precise information. It uses Google database but adds an extra level of classification to refine search. They have defined it as Google++.

In the web environment at least seven functions have been identified by Professor Lois Mai Chan. These are location, browsing, hierarchical searching, retrieval, identification, subgrouping (partitioning) and profiling. It has aptly been called mathematics of librarianship. There are many day to day routine uses of classification in a library so much so that it will be impossible for a library to function properly and achieve its objectives without a sound classification. It has aptly been said that a book is the foundation of a library but classification is foundation of librarianship. Indeed there is no escape from, nor any substitute to it in libraries, or life.

Self Check Exercise

Note:  
   i) Write your answer in the space given below.
   ii) Check your answer with the answer given at the end of this Unit.

2) State the uses of classification in a library.

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1.9 LIMITATIONS OF CLASSIFICATION

Classification was described as mathematics of librarianship, yet like the value of x(pi) it is never exact. Classifications are social, not natural. These do not satisfy the needs of all the library users. Only majority are served while some users with specialised needs require different arrangement. Classification, especially library classification has many limitations and problems. It is a costly process and subjective, too. Two classifiers may differ widely on the correct classification of a given book. Not only this, a classifier may class a given book differently at different times. No classification can comprehensively represent the total subjects dealt in a book. Even a monograph may deal with more than one subject at a time. In classification only the dominant subject is represented. A textbook on algebra and geometry is either placed at algebra, or geometry, not both. Further, let us say a textbook in cataloguing may have a very valuable chapter on history of cataloguing or on the life of C A Cutter. These side topics will not be represented by the class number, and may remain hidden from needy users. Classification by discipline also scatters subjects. For example, a book on “Family life” may be placed in different main classes such as Ethics, Sociology, Anthropology, Social Welfare, and
Medicine. Hence it also results into scattering. It is not incorrect to say that classification suppresses and scatters more than it reveals and collocates. A classification may not satisfy all the users as they have individual needs. Classifications are not based on the survey of the needs of library users. A nineteenth century English philosopher W.S. Jevons (1835-1882) had criticised classification as a logical absurdity. This is no less true of library classification of which there is no substitute. We have to work with imperfect tools.

### 1.10 SUMMARY

Classification is a universal constant. It is an activity that goes on every moment of life. It is no exaggeration to say that we live by classifying. Broadly speaking, classification is the process of making classes or set of entities on the basis of their similarities. Grouping also implies separating as selection also implies de-selection or rejection. The criterion or basis of grouping is called a characteristic. Quality of final classifications will depend upon the right choice of characteristics and the right order of their successive application to produce subsequent sub-grouping. Ultimately classification is co-relation between two entities. It has numerous manifestations like sorting, grouping, ordering, arranging, ranking, structuring, coordinating, matching, mapping and pattern making. Classification can be made of all entities under the sun. Philosophers, scientists, librarians, shopkeepers, postmen, housewives all do classification for different purposes. The four broader uses of classification are organisation, economy, aesthetics and productivity. Many philosophers right from Aristotle have done classification of the entire universe of knowledge. Scientists have produced taxonomies of plants, animals and chemical substances. In libraries we apply knowledge classification to organise our books, databases and other reading material both in print and electronic form. In fact in computerised databases and network information searches classification has found new but powerful uses. Classification is so much the basis of all library services that it has been described as foundation study of librarianship. Yet classification has its own limitations.

### 1.11 ANSWERS TO SELF CHECK EXERCISES

1) Classification is universal. It applies to daily life routines and work. It is a method of organisation, and can organise any object, phenomena and entity. It is a logical process of grouping and division. Ultimately it is to co-relate one entity with another. Grouping or division is done on the basis of characteristics i.e. dividing genus into species by adding a difference. Human beings can be divided into males and females by adding the characteristic/difference of gender to the genus of human beings.

2) Classification is basic to a library. A collection of books which is not classified cannot be called a library. It brings at one place all the books on a given narrow topic which helps in easy location and browsing. It arranges books in a pedagogical order which is useful for self learners. It also arranges records in catalogues and bibliographies. It helps in building a balanced collection. Its methods are useful in reference service. It can be very useful in searching electronic data basis and web. It is rightly said that it is the foundation of librarianship.

### 1.12 KEYWORDS

**Characteristic**

It is basis or criterion of division or grouping. If a group is divided into Hindus, Muslims, Christians, Sikhs then religion is the characteristic. Quality
of the characteristic will determine the quality and aptness of classification.

**Class**

: A set of entities having at least one characteristic in common.

**Classifier**

: A person who classifies books in a library by operating a classification system.

**Classificationist**

: A person who designs a classification system.

**Classification**

: It is a process of grouping entities on the basis of likeness or some underlying relation. Ultimately, classification is organisation and co-relation. It is grouping, selecting, sorting, ordering, tabulating, ranking, mapping, preparing classification schedules and operating classification systems.

**Knowledge Classification**

: The process of outlining, structuring and mapping the entire knowledge or some part of it. It helps to study the nature and growth of knowledge. It is also the basis of modern library classification.

**Genus and Species**

: Genus is any original universe to be divided into species by adding some characteristic to the genus. These are relative terms. A father is a genus for the children; when children become father/mother they will be genus for their own children.

**Library Classification**

: Arrangement of books and other reading material of a library in a way useful to the users. It is knowledge classification as applied to books and other packages of information.

**Porphyry Tree**

: Dichotomous method of classification invented by the Greek philosopher Porphyry (232-304AD). It divides the universe into two antithetical groups at every step of division.

### 1.13 REFERENCES AND FURTHER READING


