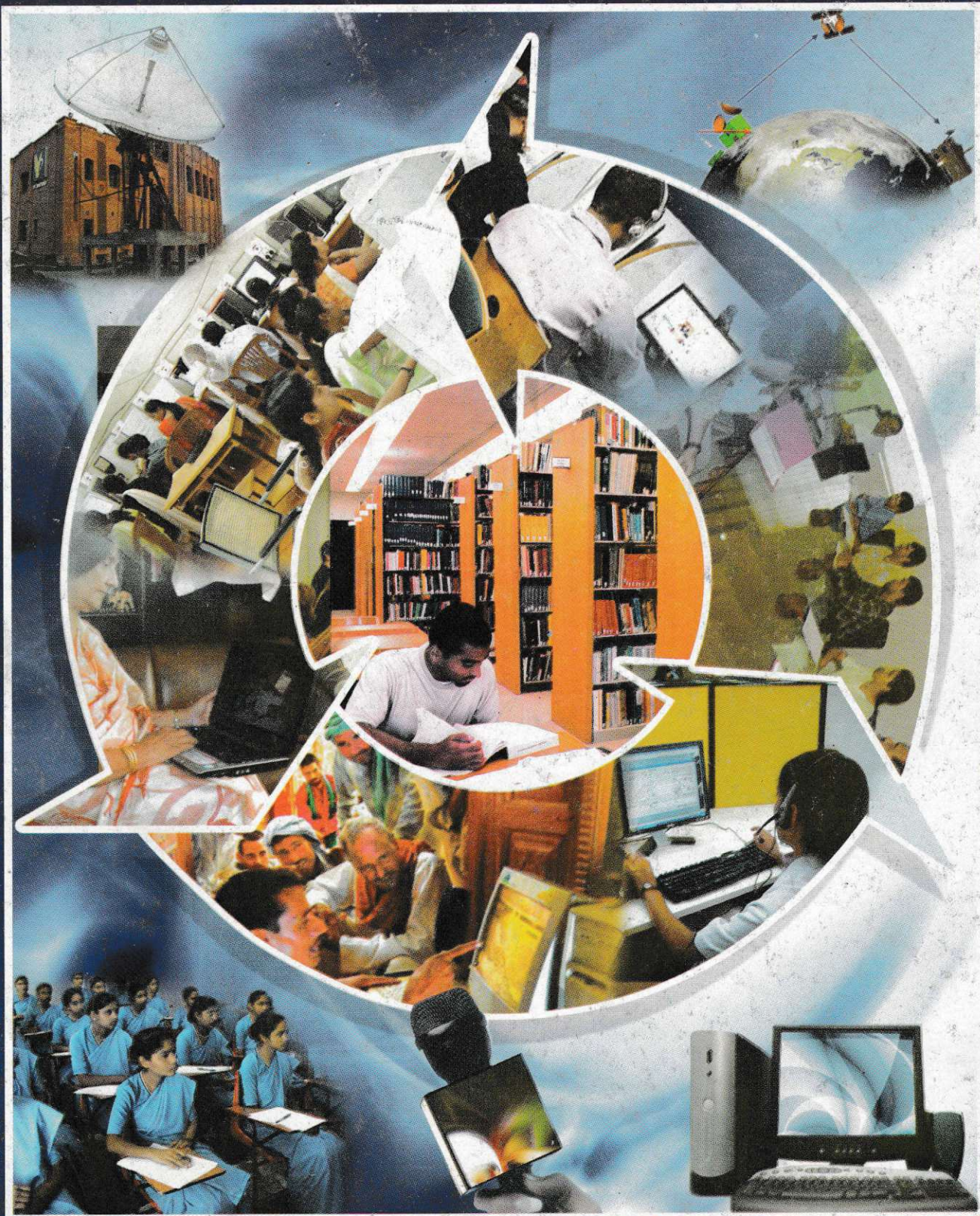


**KNOWLEDGE MANAGEMENT,
INFORMATION DISSEMINATION
AND NETWORKING IN ADULT EDUCATION**





Knowledge Management, Information Dissemination and Networking in Adult Education

Block

1

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EXPERT COMMITTEE

Prof. V. N. Rajasekharan Pillai Vice-chancellor IGNOU, New Delhi	Prof. Gambhini Devi Director, Department of Adult & Continuing Education Manipur University, Imphal	Prof. B. K. Sen Retired Scientist Indian National Scientific Documentation Centre New Delhi
Prof. B. Vijaya Kumar Chairman, Sarva Shiksha Abhiyan Government of Kerala	Prof. N. K. Ambasht Former Chairman, National Institute of Open Schooling New Delhi	Dr. P. R. Goswami Director, National Social Science Documentation Centre, New Delhi
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Prof. M. C. Reddeppa Reddy Director, Department of Adult Education Sri Venkateswara University, Tirupati		

COURSE TEAM

Course Contribution	Unit Design, Format Editing & Course Coordination	Content and Language Editing
Prof. B. K. Sen (Units 1 & 2) Retired Scientist, INSDOC	Dr. M.V. Lakshmi Reddy Lecturer (Senior Scale) School of Education IGNOU, New Delhi	Prof. C.P. Vashishth (Editor) Ex-Professor University of Delhi Delhi
Dr. John A. Joseph (Units 3 & 4) Vice-President Vintech Solutions Chennai		Dr. M.V. Lakshmi Reddy (Associate Editor) Lecturer (Senior Scale) School of Education IGNOU, New Delhi

PRODUCTION TEAM

Mr. B. Natrajan Deputy Registrar (Publication) MPDD, IGNOU, New Delhi	Mr. S. Berman Asst. Registrar (Publication) MPDD, IGNOU, New Delhi	Mr. B.L. Rewadia Section Officer (Publication) MPDD, IGNOU, New Delhi
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COURSE MAE-003 KNOWLEDGE MANAGEMENT, INFORMATION DISSEMINATION AND NETWORKING IN ADULT EDUCATION

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-

COURSE MAE-003 KNOWLEDGE MANAGEMENT, INFORMATION DISSEMINATION AND NETWORKING IN ADULT EDUCATION

Introduction to the Course

This course deals with different aspects and issues related to knowledge, documentation, information, networking and their management for dissemination of information with an emphasis on library-related resources and their management in the context of adult and lifelong learning. It highlights communication and organizational behaviour as important components in building and expanding network to enable adult educators to apply the same for effective translation of theory, policies and programmes of adult education into practice and realisation of the march towards a learning and knowledge society. This course is divided into four Blocks.

Block 1 "Knowledge and Documentation" discusses the concept and types of knowledge, the knowledge management, the technologies and prerequisites for knowledge management and the major challenges of knowledge management, including legal issues related to acquisition and sharing of expertise in the context of adult education. It highlights the importance of creation of knowledge base, collection building, compilation and information services such as referral service, lending service, dissemination service and career guidance service to the community of adults through knowledge and information management in adult learning setup. It provides an insight into documentation and discusses its various aspects such as management of documentation, documentation systems and services, and relevance of evaluation in documentation. It further highlights the role of process documentation with an emphasis on its aims, methods, tools, steps as well as software documentation, and documenting a digital event, among others, related to developing an adult learning setup.

Block 2 "Information Management and Dissemination" discusses the basics and services of information dissemination, and touches upon the importance of customising information for dissemination aimed at addressing issues and problems of adult community involved in adult education activities. It focuses on information search strategies, retrieval performance, document delivery systems and various other types of information services. It familiarises adult educators with the existing Indian and International Standards related to creation of knowledge artifacts, processing, exchange and management of information resources including open standards and open source software as are applied in the management of digital information. It deals with library skills and techniques required for discharging functions such as acquisitions, technical processing and provision of library services as a part of building and managing library in adult learning setup. It describes the library policies and procedures, and library organization and administration with emphasis on planning, organizing, controlling, space and floor management, maintenance of facilities, equipments and tools, and collaborative activities for sharing of resources, networking and library promotion in the context of adult learning.

Block 3 "Networking and Adult Learning" provides an insight into theoretical understanding of the concept and fundamental principles of networking that is necessary for professional growth of adult educators and for improving the facilities and services in the adult education setup. It also highlights ways and means of using latest ICT facilities for networking to promote infrastructure building, implementation of programmes and policies, streamlining, coordination, management and administration of adult education. It introduces various types of computer networks such as LAN, MAN and WAN, and explains about different components of network, importance of Internet, its benefits and advantages including some e-mail lists of sites related to adult education. It presents a few case studies which highlight the use of instructional technology in generating locally relevant information and creating its database at the local level for reaching those whom we otherwise cannot reach easily. It also presents a case study of Adult Learning Documentation and Information Network (ALADIN), a global professional network of networks in the field of adult education, and provides a summary of its aims, objectives and activities.

Block 4 "Network Management for Learning Society Networking" discusses organisational behaviour in the context of managing an adult learning setup involving some basic principles of organization for performing various functions by adult educators and field functionaries. It emphasizes the dynamics of working together by touching upon the processes of team building, managing organizational change and negotiations that help adult educators work together for better implementation of various programmes in an adult learning setup. It discusses the need for expansion of ALADIN – India, and calls for a strategy for enlarging and effectively converging the networks of diverse formal and non-formal education institutions at different levels in the country for marching towards a learning and knowledge society. And, it ends with an expectation that such a learning society networking will help in bringing about social, economic, political, cultural, religious and human transformations through adult educational revolution in India, which can be a model for other countries of the world to emulate.

BLOCK 1 KNOWLEDGE AND DOCUMENTATION

Introduction to the Block

This Block deals with different aspects of knowledge and documentation. It discusses the concept and types of knowledge, creation of knowledge base, and management of knowledge with an emphasis on the technologies, prerequisites and major challenges of knowledge management including legal issues related to acquisition and sharing of expertise in adult education setup. It highlights the importance of collection building, compilation and information services including referral service, lending service, dissemination service and career guidance service that an Adult Learning Setup can provide to the community of adults. It provides an insight into various aspects of documentation such as documentation systems, services, management and evaluation. It lays special emphasis on process documentation by touching upon its aims, methods, tools, etc related to developing an adult learning setup. This Block consists of four units.

Unit 1 explains and draws the differences between the terms, 'data', 'information' and 'knowledge'. It touches upon tacit knowledge and technologies for knowledge management. While it discusses the prerequisites for knowledge management, it touches upon sharing of expertise, knowledge mapping, knowledge workers, and value creation for knowledge. Further, it deals with major challenges of knowledge management with an emphasis on sharing and attaining of expertise, handling of tacit knowledge, and legal issues relating to acquisition and sharing of expertise.

Unit 2 focuses on knowledge management in a library in an adult learning setup with special reference to areas like agriculture and allied industries, natural resources, environment, housing, health and hygiene, education, employment, small scale industries, trade and commerce, fairs and festivals, exhibitions, communication, travel, and disaster management. It discusses creation of a knowledge base, collection building, compilation, information services such as referral service, lending service, dissemination service and career guidance service that an adult learning setup can provide to the community of adults.

Unit 3 and **Unit 4** together deal with different aspects of documentation including the role of process documentation in an adult learning setup. **Unit 3** discusses the concept, significance, systems, services, management and evaluation of documentation, while **Unit 4** explains the role of process documentation with an emphasis on its aims, methods and tools, steps, process narration and flow charts, as well as software documentation and documenting a digital event in an adult learning setup.

UNIT 1 KNOWLEDGE: CONCEPT, TYPES AND MANAGEMENT

Structure

- 1.0 Introduction
- 1.1 Objectives
- 1.2 Knowledge: Concept
 - 1.2.1 Data
 - 1.2.2 Information
 - 1.2.3 Knowledge
 - 1.2.4 Wisdom
- 1.3 Knowledge: Types
 - 1.3.1 Tacit Knowledge
 - 1.3.2 Explicit Knowledge
- 1.4 Knowledge Management
- 1.5 Technologies for Knowledge Management
- 1.6 Prerequisites for Knowledge Management
 - 1.6.1 Sharing of Expertise
 - 1.6.2 Knowledge Mapping
 - 1.6.3 Knowledge Workers
 - 1.6.4 Value Creation
- 1.7 Major Challenges of Knowledge Management
 - 1.7.1 Lack of Sharing of Expertise
 - 1.7.2 Attaining Expertise
 - 1.7.3 Handling of Tacit Knowledge
 - 1.7.4 Legal Issues
- 1.8 Let Us Sum Up
- 1.9 Answers to Check Your Progress
- 1.10 Abbreviations
- 1.11 References

1.0 INTRODUCTION

The concept of **management** is known to all of us. In our daily life we use this concept more often than not to accomplish various tasks nicely. A woman is considered a good housewife who manages her household activities deftly. Managing various activities requires precise planning and proper implementation. Suppose, you are entrusted with the responsibility of organizing Independence Day celebration in your locality. Immediately you will start planning about: the venue, where it will be organized; time, when the celebration will start; the guest, who will hoist the flag; informing the people of your locality about the celebration; the collection of subscriptions or funds to meet various expenses; making the venue beautiful, attractive and comfortable for sitting; arranging the flag, flagstaff and flowers; training and rehearsing the selected boys and girls to sing the national

anthem at the time of hoisting; performing other cultural functions; contacting the photographer to take photographs or video of the function; and so on. Even after the celebration is over, your responsibilities continue till the venue is cleaned, the flag is preserved properly for the next year, the payments due to shops, individuals, etc are made, necessary accounting of the money raised through subscription is properly done, and made known to those who paid the subscription. If all these activities are done without any hitch, then the people will say that the celebration has been organized very well, which would not have been possible without proper management.

In this Unit, we will present the concept of knowledge, its types, and how it is managed.

1.1 OBJECTIVES

After going through this Unit, you will be able to:

- Differentiate between data, information, knowledge and wisdom;
- Know various types of knowledge;
- Understand the concept of knowledge management; and
- Describe the technologies, prerequisites and major challenges of knowledge management.

1.2 KNOWLEDGE: CONCEPT

As discussed in Section 1.0 above, while organizing a celebration, you are to record various things, e. g. the amount of subscription collected from various persons, the expenditure incurred for diverse purposes, the responsibilities given to various persons, and so on. These records are in fact **data** which provide us **information** either straightway or after processing. You might have also gathered information from various persons who organised such activities earlier. The persons who have given you information have in fact shared their **knowledge** with you. The judicious use of this knowledge by some one is indicative of his/her **wisdom**.

The terms, 'data', 'information', 'knowledge' and 'wisdom' are semantically interlinked and often we might find people using them indiscriminately with confused mind. Let us carefully discuss each of these terms and their specific meanings in our context and find out the relationship among them.

1.2.1 Data

We encounter various definitions of 'data' in dictionaries. Data is the plural form of 'datum' (a Latin word). In non-scientific sense, it is often used as a singular noun. NIWCDEL (1996) defines data as 'facts or figures from which conclusions may be drawn' We shall try to understand the concept with certain easy examples. For celebrating certain public festivals we usually raise subscriptions for which we use subscription books. In the subscription book we record the name of the subscriber, his/her address as well as the amount given. All these are data.

During Census Survey operations, enumerators visit every household and record in a prescribed form the name, sex, age, educational qualification, occupation,

etc of all the family members of the household. Data gathered by each enumerator is transmitted to the office of the Census Commissioner for processing and generating information.

We thus notice that data is, quite often, recorded in figures, e. g. statistical data; and sometimes also in words, e. g. the address of a person. The role played by data in generation and management of information is enormous.

1.2.2 Information

'Information' is a very common term and we often use it in our day-to-day conversation. We receive information from newspapers, radio, television (TV), family members, relatives, friends, teachers and many other sources like written media, print media and oral communication. We also generate information by virtue of our involvement in multifarious activities.

We come across a number of definitions of the term 'information'. Let us take into account the following definitions of 'information', which define it as: i) Any fact or set of facts, knowledge, news or advice, whether communicated by others or obtained by personal study and investigation (HWG, 2008); and ii) Data that has been processed into an organized, usable form and is meaningful to the recipient for the task at hand (Szymanski, et al, 1995).

Let us now try to understand the meaning of information from the above definitions. Everywhere in the world, nay, the universe, innumerable incidents take place every day. Some persons observe some of these incidents. When the observers are communicating these incidents to people, they (people) are getting informed or getting information about these incidents. For example, on 21 July 2006, a Haryana boy, called Prince fell into a deep hole of a bore-well on his sixth birthday and had to stay there for about 50 hours awaiting his rescue by military personnel. Reporters there were continuously witnessing the rescue operation and airing the news through radio and television, and people not only in India but also in many parts of the world were getting the latest information about the rescue of the boy. In this case an incident gave birth to a lot of information.

A person may thus acquire knowledge by observation, reading, thinking, research, listening, tasting and feeling. When the person communicates his/her knowledge by telling, writing, printing or recording, it becomes information.

Now, let us understand how the organization of data in a desired form becomes the information. We have already seen that subscription needs to be collected using a subscription book for organizing a function like Independence Day celebration. The subscription book contains the data relating to the names and addresses of the persons and the amounts contributed by them. Now, if we add the amounts recorded in all the subscription books, we generate information on the total subscription raised. We may arrange the amounts contributed by individuals in ascending or descending order to find out the minimum or maximum amount contributed, or amounts contributed, or amounts contributed in particular range, say, Re. 1-5, Rs. 6-10, and so on. Thus, we generate different information arranging the same data set in different ways. Information being generated through the processing of data is usable and meaningful. In many cases a piece of data itself provides us information. For example, if we want to

find out how much Kamal has contributed, we can do so by checking the subscription book.

1.2.3 Knowledge

Data and information are tangible products. They can be collected, handed over, distributed, and so on. Take for example, mark sheets. They contain data such as the marks a student has obtained, division s/he has secured, the school from which s/he passed and so on. The concerned Board of Examination has distributed these mark sheets to various schools wherefrom they are distributed to students. We cannot collect and distribute knowledge in the same way. The principal of a school or college may ask one of his/her teachers to distribute mark sheets, but cannot ask the teacher, in the same way, to distribute knowledge among students. Knowledge is more abstract, a philosophical concept, hence it cannot be treated as a product.

NIWCDEL (1996) defines knowledge as: 'i) all that has been perceived or grasped by the mind; learning; enlightenment; ii) the body of facts, principles, etc. accumulated by mankind'.

We can clearly understand that the mind is involved in the case of knowledge. We observe, read, hear, and feel many a thing. Of all these, whatever we can grasp or perceive is our knowledge. It is always to be borne in mind that *knowledge is personal*. How do we distinguish between information and knowledge? For example, a teacher before delivering his/her lecture in a class distributed the photocopy of his/her lecture note on a topic to each student present in the class. Afterwards s/he took the class as usual, explained the topic, and answered questions asked by the students. Finally, s/he took a class test on the topic. On examining the answer books, s/he observed that the answers varied from student to student even though the same amount of information was distributed to each student by way of the class note and presentation of the lecture. The test clearly showed that knowledge gained varied from student to student despite the distribution of equal amount information to each of them. This is the knowledge we are concerned with in knowledge management. It is to be remembered that all facts or data are recorded in the form of information. The body of facts, principles, etc accumulated by mankind since the time immemorial and survived till date is also knowledge. Any of these facts or information not understood by a person will not be his/her knowledge. Whenever mankind comprehended the facts embedded in information, it became knowledge.

1.2.4 Wisdom

Wisdom involves 'power of judging rightly and following the soundest course of action, based on knowledge, experience, understanding, etc'. For example, the case of Peter Hillary, the son of Edmund Hillary, who crested Mt Everest for the first time in the known history along with Tenzing Norgay. Peter, while trying to summit Mt Everest, decided to give up the attempt at a particular point of time considering the bad weather condition. The fellow climbers did not. Peter survived because of his soundest course of action, while the fellow climbers died. It is the wisdom of Peter that saved his life.

b) Check your answer with the one given at the end of this unit under “Answers to Check Your Progress”.

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Polanyi (1958 and 1962) has bifurcated knowledge into implicit and explicit knowledge. Implicit knowledge is also termed as tacit knowledge.

Tacit knowledge can be defined as the knowledge of a person that s/he gathers by virtue of his/her understanding, experience, experimentation, observation, etc. and utilizes it according to the need in some case, but in certain cases, fails to express it in words or other means whereby it can be passed on to others. It is believed to be the expertise a professional has developed. In many cases, s/he can orally explain it and if necessary write it down. For example, an experienced classifier can lucidly explain the rule of classification, and write it down. He/she will be able to classify a book. On the other hand, an inexperienced classifier will, initially, take time for the job, and s/he will gradually pick up the speed. One practical example. A tea taster tastes tea and grades six cups of tea as excellent, very good, good, fair, bad and worst, according to its quality. Now, it will be very difficult for the taster to explain or write down how s/he has decided the quality of tea into six grades. This is also tacit knowledge, but inexpressible. Another example, Sachin Tendulkar has been scoring centuries after centuries in one-day matches and test-matches. Other batsmen are clearly seeing how Tendulkar is batting. Still, they fail to score so many centuries as Tendulkar does. Tendulkar has developed this capability by years of experience, but he will not be able to pass on this knowledge to others whereby they can also do exactly the same.

Tacit knowledge has certain characteristics which, among others, are as follows.

- i) It is personal and usually resides at the subconscious state within the brain;
- ii) It defies detection by observation;
- iii) It is gained through experience, understanding, insights, sound judgments, and so on;
- iv) In most cases it is not recorded;
- v) It is not available in open source;
- vi) In certain cases it is difficult to express in words or by any other means;
- vii) Inexpressible tacit knowledge cannot be translated from one language to the other.

Undeniably, the tacit knowledge of the employees is an asset to an organization and its proper utilization and nurturing is a good example of knowledge management. Moreover, the case descriptions of highly successful projects usually include: a statement of the problem, the circumstances of the case, the steps followed by the expert in finding the solutions to the problem, the specification of useful data and information relevant to the exercise, and the outcome. This form the firm base for the establishment of the set of best practices which often serve as a benchmark for comparing the quality expected of practising experts (Blair, 2002). Building a collection of 'good practices' is often considered an important component of knowledge management.

1.3.2 Explicit knowledge

Explicit knowledge may be defined as the knowledge that has been expressed and in most cases recorded. The recording may be in print form, written form, pictorial form, tabular form, audio form, video form, digital form or any other form. Everyday newspapers, radios, TVs are disseminating explicit knowledge. While teachers are teaching in the class, doctors are prescribing medicines, political leaders are delivering speeches; in all the cases they are using explicit knowledge. Whatever has been recorded in the aforesaid forms is in fact information. If a person can comprehend that information then s/he becomes knowledgeable about it.

It is to be noted that information will become knowledge only when it is comprehended. A large number of seals discovered in Mahenjodaro contain huge amount of information. Till today, information recorded in many of the seals has not been understood, hence we do not have any knowledge embedded in those seals.

Like tacit knowledge, explicit knowledge also has a number of characteristics. Some of them are listed below.

- i) It is expressed and can be recorded in diverse media (paper, tape, computer memory, etc) and stored.
- ii) It is explained whereby comprehending the matter becomes easy.
- iii) It can be seen if written, printed or typed; heard if recorded in tapes, CDs, etc.
- iv) It can be shared.
- v) It can be translated from one language to the other.
- vi) Generally, it is available as open source of knowledge.

Check Your Progress

Notes: a) Space given below the question is for writing your answer.

b) Check your answer with the one given at the end of this unit under “Answers to Check Your Progress”.

2) Enumerate the characteristics of tacit knowledge.

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1.4 KNOWLEDGE MANAGEMENT

Data and information have been recorded since the time immemorial on stones, clay tablets, papyrus, parchment, vellum, palm leaves, *bhojpatras*, paper and so on. Now we record data and information on paper, microfilms, microfiche, ultrafiche, magnetic tapes, compact discs, hard discs of a computer and so on. Anything on which information has been recorded is usually termed as a document. For management, these documents are classified, catalogued, properly arranged (on shelves or other places), maintained and preserved. Whenever needed they are used by students, teachers, professionals, managers and others. Libraries in the world are famous for the management of documents containing data and information. Many a time data is recorded in registers (e. g. in banks, universities, etc), forms, paper files, computer files, etc and there is a system of organizing them in every office. Whenever needed we retrieve, use, and place them back in shelves, cabinet, etc. for future use.

Knowledge management involves the management of data and information on one side and management of employees’ knowledge on the other side. Data, information and employees – all are carriers of knowledge. The way we manage data and information, is different from the way we manage employees’ knowledge. The content of knowledge in a particular set of data or in a particular document is constant. The messages of Asoka, the King of Magadh, recorded more than 2,000 years ago on stones has not undergone any change. The marks and other details of students recorded in a Calcutta University register one hundred years ago has remained as it is till date.

This is not the case with the knowledge possessed by an employee. A library staff member who joined his profession twenty years ago might have, by now,

forgotten many rules of cataloguing due to non-practice. On the other hand, he might have gained substantial knowledge in library automation in which he has been involved during the past several years. Thus, we see that the knowledge content of an employee is continuously undergoing change with the passage of time. Similarly, librarians need to be aware of the changes in knowledge management (IASLIC, 2003).

Whenever we take a book and go through it we know about its knowledge content. It is pretty difficult to fathom the knowledge content or simply knowledge of an employee. The information about the qualifications and experience of an employee gives some idea of his/her knowledge. In certain cases, that might be the tip of the iceberg. The employee might have attained in-depth knowledge in computer application through his own effort working with computers in his leisure time in office, cyber cafes or at home. The records available in the office might not give any inkling of his/her newly acquired knowledge.

An employee may become highly knowledgeable or an information gatekeeper of an organization. Identifying such an employee, giving him due importance and incentives, and properly tapping his/her knowledge may benefit the organization profusely. It is to be taken care in knowledge management.

Knowledge of the employees that are used to run an organization. is called the corporate knowledge. Corporate knowledge is a conglomerate of visions, policies, strategies, rules, procedures, traditions, etc of an organization. Miller (1998), Documentum's CEO, very aptly said: 'Every afternoon our corporate knowledge walks out the door and I hope to God they'll be back tomorrow'.

1.5 TECHNOLOGIES FOR KNOWLEDGE MANAGEMENT

We have seen in the foregoing pages that knowledge resides in data, texts, images, illustrations, audio tapes, video tapes, CDs, floppies, etc apart from that in individuals /experts. Retrieving necessary information from such a multitude of sources is undeniably a daunting task. Fortunately, database management systems (DBMS) developed by Oracle, IBM and Informix can efficiently handle wide variety of information media to retrieve desired information.

The advent of Internet, World Wide Web, high bandwidth communication technology, TCP/IP communication protocol, digital networks like ISDN and DSL; multimedia mark-up languages like HTML and XML have added unimaginable dimension to knowledge management. Now, we can think of managing knowledge on a global scale. A multinational company may have branches all over the world, with thousands and thousands of employees working in it. The huge knowledge of the company lying in files, blue prints, drawings, variety of reports, books and other published documents, press clippings, data sheets, human brains, etc can be managed by storing them in databases, and getting the databases connected through Internet or intranet, which was beyond our imagination a couple of decades ago.

Now, storing huge data or information is no more a problem. A single CD can store information scattered in thousands of sources. The problem that still exists is with the retrieval of information. Today in most cases we try to retrieve

information using words which almost invariably yield huge amount of garbage many a time, obscuring the required information. The retrieval mechanism still requires a great deal of improvement.

1.6 PREREQUISITES FOR KNOWLEDGE MANAGEMENT

Prerequisites of knowledge management comprises sharing of expertise, knowledge mapping, knowledge workers and value creation. We shall discuss them here in brief.

1.6.1 Sharing of Expertise

In an organization each person has some expertise. For example, in a library one may be an expert in classification, another in cataloguing, the third one in computer application and so on. When a new person joins a post, in many cases he may be totally fresh from the university with little experience. In such a case the new entrant quite often may require the help of his/her seniors who are experts in their respective areas. Here comes the question of sharing of expertise. If the seniors share their expertise with the new entrant, then he/she will pick up his/her job fast, his/her productivity will improve, and gradually he/she will also turn into an expert. On the other hand, if the seniors do not share their knowledge with the new entrant, he/she at times will commit mistakes, and obviously will take time to learn to do his/her job effectively. Such delayed transition will not be beneficial to the organization. Hence, a culture of expertise sharing is to be developed in an organization. Otherwise, the organization will suffer.

We shall cite here a concrete example to show how an organization suffers when expertise is not shared in an organization. In a Delhi library, books were classified according to *Colon Classification* (CC) by a person who was well-versed in the classification system. Arrangement of books with CC number is not easy and requires adequate knowledge of the filing order. As long as the classifier was there he used to classify and shelve the books. Before leaving the library, the person did not train anybody in CC. As a result, the moment he left the library nobody could classify the newly acquired books, nor could the books be used or even shelved properly. Finally, the library had to assign the work to an NGO to reclassify all the books according to *Dewey Decimal Classification* (DDC) in which the existing staff were well-versed.

1.6.2 Knowledge Mapping

Knowledge is associated with individuals. Every individual possesses knowledge and no two individuals possess exactly equal knowledge. A few persons of an organization may have equal qualifications as well as equal experience, even then their knowledge level will not be the same. Hence knowledge mapping of every employee is considered very important. While mapping knowledge, apart from listing the employees along with their qualifications and expertise, their specific problem solving capacities are also to be included without fail.

1.6.3 Knowledge Workers

A knowledge worker is 'a member of an organization' who uses knowledge to be a more productive worker. These workers use all varieties of knowledge in the performance of their regular business activities. Everyone who uses any form

of recorded knowledge could be considered a knowledge worker' (Website: home.earthlink.net/~ddstuhlman/defin1.htm). It provides that:

- a knowledge worker uses 'knowledge' which belongs to him and acquires it from sources like WWW, experts, etc.
- knowledge workers use 'all varieties of knowledge', i. e. knowledge which is recorded in documents or websites in the form of data or information, tacit knowledge of the worker himself, and also of other workers.

To be a successful knowledge worker, he/she should have the ability to pick up authentic and validated information from bewildering multitude of information sources. Otherwise, anytime he/she may slip into a pitfall.

1.6.4 Value Creation

One of the most desired goals of knowledge management in an organization should be value creation within the organization. This value does not necessarily mean the economic value. Philanthropic organizations, government bodies, etc do not create economic values. Here, value creation is directly related to providing support to effective decision-making.

Check Your Progress

Notes: a) Space given below the question is for writing your answer.

b) Check your answer with the one given at the end of this unit under "Answers to Check Your Progress".

3) i) Enumerate the prerequisites for knowledge management.

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ii) What information is to be recorded for knowledge mapping of an employee?

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1.7 MAJOR CHALLENGES OF KNOWLEDGE MANAGEMENT

Major challenges of knowledge management relate to the sharing and attainment of expertise, handling of tacit knowledge, legal issues, etc. We shall dwell on them briefly.

1.7.1 Lack of Sharing of Expertise

The sharing of expertise fosters friendship, generates amicable relationship, engenders helpful cooperation and creates a delightful atmosphere highly conducive to working in an organization. Unfortunately expertise sharing is not always a smooth activity. Because, many experts feel that if they divulge their expertise completely, immediately they will lose their importance. They will no more be the so-called 'experts'. They may not be interested in sharing expertise when they know very well that they are not going to get anything in return. Instances show that whenever a knowledgeable person leaves an organization, it loses useful expertise, and sometimes the loss is too much to run a project. Finding a good replacement for such an expert quite often proves to be pretty difficult.

1.7.2 Attaining Expertise

It is important to understand as to how a person turns into an expert. However, the process is not yet completely understood. Several persons with the same qualification and experience will not have the equal expertise. A tricky problem in a complicated machine that baffles an engineer with brilliant academic records and sound experience can at times be detected and rectified by a simple mechanic practically in no time. This is the beauty of the expertise. When more will be known about the process of expertise attainment, possibly knowledge management will be a shade simpler.

1.7.3 Handling of Tacit Knowledge

The tacit knowledge that is expressible poses no major problem. It can be recorded and used any number of times depending on the need. The inexpressible tacit knowledge is still a formidable problem in knowledge management. The expert cannot express it in words hence it cannot be recorded. Some people during the course of their work develop sixth sense or presence of mind which at times help him tide over a difficult situation. The person himself will not know how the sixth sense or presence of mind developed in him/her. Obviously he/she won't be able to explain how one can develop it. It is not known how this problem will be solved, when it will be solved, or whether it will be solved at all.

1.7.4 Legal Issues

It relates to intellectual property right (IPR). Knowledge or expertise gained by, say Mr/s. X, with his/her own efforts is his/her intellectual property. If the same is gained in the course of his/her work in an organization, justifiably it should be the intellectual property of the organization. As long as Mr/s. X is the employee of an organization, there is no problem. While leaving, Mr/s. X will not be able to deposit back his/her intellectual property to the organization. He/she will carry it with him/her. If he/she uses or divulges this intellectual property to another organization, will it be a breach of IPR? If the answer is Yes, then immediately the question arises – what is the solution? What weapons the organization should

have to stall the transfer of the property to another organization? It also should be remembered that quite often an organization poaches an employee of another organization at a high price just to milk the intellectual property he/she has gained there. This is a tricky problem of knowledge management begging solution.

1.8 LET US SUM UP

In this Unit we have defined and explained the terms 'data', 'information', 'knowledge' and 'wisdom'. Knowledge management has been discussed providing emphasis on knowledge management in an adult education centre. Tacit knowledge and technologies for knowledge management have been briefly touched. Prerequisites for knowledge management have been discussed providing adequate emphasis on sharing of expertise, knowledge mapping, knowledge workers, and value creation. Major challenges of knowledge management have also been dealt touching upon sharing and attaining of expertise, handling of tacit knowledge, and legal issues involved in acquisition and sharing of expertise.

1.9 ANSWERS TO CHECK YOUR PROGRESS

- 1) Data is defined as facts or figures from which conclusions may be drawn. The address of a person is a fact, and the amount he draws as his salary is a figure. The address and the amount of salary are data.

News, advice, or knowledge communicated by others and obtained by personal study and investigation is information. When the result of the processing of data becomes meaningful, it becomes information.

All that has been perceived and grasped by the mind is knowledge. This process of perception and grasping helps us to learn or get ourselves enlightened. The body of facts, principles, etc that human beings accumulated since time immemorial is also called knowledge.

At times data itself is information. In a book, the price is written as Rs.15.00. This is both data as well as information. The processing of sizable amount of data in an organized way also gives us information.

Suppose a person listens to a lecture on relativity. If s/he understands it, s/he will have knowledge on the subject. On the contrary, if s/he does not, s/he will have no knowledge of the subject.

- 2) The characteristics of tacit knowledge are as follows:
- It is personal, resides in the brain and usually not available with any other person.
 - It cannot be detected by observation.
 - It is gained through experience, understanding, insights, sound judgments, and so on.
 - In most cases, it is not recorded.
 - In some cases, it is not available in books or in any other type of documents.
 - In certain cases, it cannot be expressed in words or by any other means.

- g) The inexpressible tacit knowledge cannot be translated from one language to the other.
- 3) i) The prerequisites for knowledge management are: Expertise sharing, knowledge mapping, knowledge workers, and value creation.
- ii) For knowledge mapping of an employee, apart from basic data like name, age, post, qualifications, varied experience, his/her specific problem solving capacities are also to be recorded.

1.10 ABBREVIATIONS

CC	– Colon Classification
CD	– Compact Disc
CEO	– Chief Executive Officer
DBMS	– Data Base Management System
DDC	– Dewey Decimal Classification
DSL	– Data Set Level
HTML	– HyperText Markup Language
HWG	– Hypertext Webster Gateway
IBM	– International Business Machines
ISDN	– Integrated Services Digital Network
NIWCDEL	– The New International Webster's Comprehensive Dictionary of the English Language
TCP/IP	– Transmission Control Protocol/Internet Protocol
TV	– Television
XML	– eXtensible Markup Language

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UNIT 2 KNOWLEDGE MANAGEMENT IN AN ADULT LEARNING SETUP

Structure

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- 2.1 Objectives
- 2.2 Knowledge Management in a Library
- 2.3 Knowledge Management in an Adult Learning Setup
 - 2.3.1 Agriculture and Allied Industries
 - 2.3.2 Natural Resources
 - 2.3.3 Environment
 - 2.3.4 Housing
 - 2.3.5 Health and Hygiene
 - 2.3.6 Education
 - 2.3.7 Employment
 - 2.3.8 Small Scale Industries
 - 2.3.9 Trade and Commerce
 - 2.3.10 Fairs, Festivals and Exhibitions
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- 2.4 Creating a Knowledge Base
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- 2.8 References

2.0 INTRODUCTION

In Unit 1, we have discussed the concept and types of knowledge, and its management as can be applied almost to every area of activity. In Unit 2, we shall discuss how knowledge is managed in a library in general and in an adult learning setup (ALS) in particular. Libraries and adult learning setups are found both in urban and rural areas. However, they vary in scope, size, functions, and so on. As we are concerned more with knowledge management (KM) in an ALS, our discussion on KM in libraries will be very brief, and focus more on that in an ALS.

2.1 OBJECTIVES

After going through this Unit, you will be able to:

- Understand management of knowledge in an adult learning setup (ALS);
- Describe knowledge management aspects relating to agriculture and allied industries, natural resources, environment, housing, health and hygiene, education, employment, small scale industries, trade and commerce, fairs and festivals, exhibitions, transport and communication, travel, disaster management, etc;
- Create a knowledge base; and
- Render different types of information services to adult learners and others.

2.2 KNOWLEDGE MANAGEMENT IN A LIBRARY

A library is considered a storehouse of knowledge. In a library what we generally find is explicit knowledge recorded in books, journals, newspapers, patents, standards, theses, reports, and other documents in the form of data and information. Most of these are procured from outside, some are generated locally which include, among others, annual reports of the organization, trip reports, committee reports, budget proposal, case descriptions of successful projects, audited statements of income and expenditure, and locally compiled databases. For their management, well-established rules and procedures are followed. At times some rules are framed locally by the library staff for the proper management. You will learn about these rules and procedures in detail in Block 2 devoted to information management and dissemination.

The other part of the knowledge of a library lies with the library staff themselves. It includes implicit knowledge as well. Knowledge of the library staff varies from individual to individual. One may be well-versed in classification, others in cataloguing, reference service, etc. The librarian should have adequate knowledge of the expertise of his staff and utilize their expertise to the optimum level. In some libraries there are employees with extraordinary expertise in finding out documents with slightest hints. A good example of knowledge management is proper utilization of this type of persons. On the other hand if the head of an organization feels that anybody is capable of doing anything, and accordingly places a typist in the reference desk and a non-professional as head of the library, then this will be the worst case of knowledge management in a setup.

2.3 KNOWLEDGE MANAGEMENT IN AN ADULT LEARNING SETUP

The resources of an adult learning setup vary from place to place, or locality to locality. In a typical rural adult learning setup, there might be a handful of books, old and new issues of one or two magazines, a newspaper and some files. Some setups may be more resourceful. With a short-term training on document processing and management, an adult educator will be able to manage these documents efficiently. For knowledge management, however, an adult educator will have to be active, enthusiastic, and should have an aptitude for gathering information. There are rural as well as urban adult learning setups. Here we shall

discuss knowledge management in a rural setup. Most of what is discussed here will be equally applicable for knowledge management in an urban setup as well.

Villagers require information mostly relating to agriculture and agro-industries, small scale industries, health and hygiene, housing, trade and commerce, education, employment, fairs and festivals, exhibitions, communication, traveling, disaster management and so on. There may be constant demand for this type of information. The demand will be more in case correct information is provided to rural folk in time. The responsibility for building up a knowledge base in an adult learning setup lies solely on the adult educator. For accomplishing this job he has two options: (i) he can create a knowledge base of his own by gathering information from various sources; or (ii) he can create a corporate knowledge base by collecting data about the persons who can provide the required information. It will be better to have a mix of the two.

An ALS should function as an integral component of community development as a whole. Hence, an adult educator will have to find various types of information pertaining to agriculture, health, and other areas as enumerated under Sections 2.3.1 to 2.3.13 below. Villagers generally require information pertaining to any of these areas on different occasions. For building up the collection for them he/she should gather the documents that contain the information and also prepare the list of persons who can provide various types of information.

It should be remembered that villagers may require information on other areas as well, which are not listed here. The adult educator should try to provide information on these areas also in the same way as he/she will be doing for the areas listed below.

2.3.1 Agriculture and Allied Industries

About 65 to 70 per cent of India's population is dependent on agriculture for their livelihood. We may not find any village in India which is devoid of some sort of agricultural activity. Along with agriculture, villagers have developed animal husbandry, dairy, fisheries, beekeeping, sericulture, and many other related activities. Some villages may be within or in the periphery of forests. Villagers of these areas will need information on forestry and forest products. Undeniably, information requirement of the people of rural areas is really great. Hence, villagers may need, among others, the following types of information for agriculture and related industries.

- 1) The place from where good quality seeds or new variety of seeds can be obtained.
- 2) The suppliers of various agricultural implements (tractors, power tillers, pump sets, etc) in nearby areas.
- 3) The repair shops or mechanics for agricultural implements.
- 4) The source of power supply.
- 5) The sellers of fertilizers, pesticides, etc in nearby markets.
- 6) The facilities available for irrigation.
- 7) The buyers of food grains (retail and wholesale) and other agricultural products.
- 8) The availability of cold storage facility in nearby areas.

- 9) The facility for transporting agricultural products by rail, road, etc.
- 10) The availability of expertise for cultivation, pest control, harvesting, storing, etc of various crops including new varieties.
- 11) The kind of trees that can be planted in a village so that the trees can thrive well and in the course of years become a good source of fruits, timber, fuel wood, shade and so on.
- 12) Availability of seedlings for the purpose of plantation.
- 13) Markets for selling of fruits and fruit products.
- 14) Facilities for fruit processing in nearby areas.
- 15) Varieties of flowers that can be grown in a particular village and channels for selling.
- 16) Market for purchasing and selling domestic animals, poultry, etc.
- 17) Centres for artificial insemination.
- 18) The availability of a veterinary hospital or doctor.
- 19) Dairies and markets where milk and milk products can be sold.
- 20) Market for selling poultries and animal produce like egg and meat. Method of fish breeding.
- 21) Sources for the purchase of hatchlings etc.
- 22) Markets for selling fish.
- 23) Extension centres providing training in beekeeping, sericulture, fisheries and so on.
- 24) Availability of smokeless *chulhas*, solar cookers, etc for the preparation of food.

2.3.2 Natural Resources

Land, ores and minerals lying below the ground level, water, forests, etc are all natural resources. We use land for constructing houses, building institutions and organizations, creating market places, developing playgrounds and parks, growing crops and trees, building roads, and so on. In many villages, agricultural land vital for growing crop is being used for construction of buildings and other things. The amount of agricultural land available for growing crops is just enough to feed our growing population. In case, there is a shortfall in agricultural land, there is likely to be a shortfall in our food production as well. Hence, it is absolutely essential that the amount of agricultural land we have is not reduced any more. Adult educators need to make the rural folk aware of this important matter.

Water has been termed as liquid gold. Gradually this liquid gold is becoming scarce in our country due to less rainfall, growth of population, and other factors. The more the population, the more will be the requirement of water for drinking, irrigation, fisheries and so on. Industrial growth also demands additional amount of water. It is time we start water harvesting in a big way and use this scarce resource judiciously. Villagers need to be made aware of the utility of water harvesting and judicious use of water.

2.3.3 Environment

Even the rural environment in our country is gradually changing for the worse. Many small industries have come up in rural areas exuding smoke through chimneys. Industrial wastes are being dumped here and there, some wastes are flowing to the river causing environmental pollution. Even our traditional *chulhas* give rise to copious amount of smoke adding to atmospheric pollution. The clear and starry sky used to be visible at night in villages is becoming a matter of the past because of smog. Pesticides are also adding to pollution causing irreparable damage. Vultures that used to punctuate the blue sky in the subcontinent till recently are disappearing due to pollution. Such examples of pollution are many and varied. Adult educators need to educate the villagers about the harmful effects of pesticides, smog and other pollutants, and the ways of controlling these harmful effects and protecting the environment.

2.3.4 Housing

The housing scenario in villages is changing fast. Fifty years ago there were only thatched houses in many villages. Gradually they have been replaced by stone or brick-built houses. Today villagers need information about good housing plan, high quality building materials like bricks, stone chips and cement; asbestos; sanitary wares; architects; artisans; and so on.

2.3.5 Health and Hygiene

Through education, media, traveling, personal contacts, etc villagers get exposed to various modern facilities relating to health and hygiene. They also become victims of diseases like cancer, heart ailments, drug-resistant tuberculosis, AIDS, etc. Hence, they often require the following types of information (Chandra and Bhattacharyya, 2003).

- Availability of renowned general and specialized physicians for treating various diseases and ailments, their fees and visiting hours.
- Availability of lady doctors, midwives, nurses, their respective fees, etc.
- Location of hospitals, dispensaries, maternity centres, mental asylums, polio booths, inoculation centres, family planning centres, pathological laboratories, etc.
- Location of nearby reliable drugstores wherefrom genuine drugs and other medical supplies can be obtained.
- Emergency medical facilities including ambulance service, etc.

The availability of drinking water is quite inadequate in our country. Millions of our countrymen suffer from numerous diseases caused by drinking impure water, which in many places is polluted with arsenic or other harmful chemicals, or disease-creating bacteria. Adult learners and the community need to be educated about these.

Villagers will get immensely benefitted if they receive information about the advantages or uses of practices such as *sulabh souchalay*, cheap method of purifying water, availability of cheap but healthy food, etc as it will enable them keep themselves both physically and mentally healthy.

2.3.6 Education

Gradually the curse of illiteracy which dominated for centuries in our country is finally finding its way out. Even the poorest of the poor is trying to send his/her children to school. The percentage of literate people is steadily increasing. Even in rural areas schools have come up, primary schools have been upgraded to middle schools, and middle schools to secondary and higher secondary schools. Students appearing in class X or XII examination nowadays need a variety of information for their future pursuit. Some information they need could be as follows.

For admission in top ranking medical and engineering institutes in the country students are to appear for joint entrance examinations (JEEs). Very good preparation is needed for this purpose as the competition is extraordinarily tough. In this case the students need information about the organizations that provide coaching through correspondence, distance learning and other modes.

Those who get a chance for admission in engineering or medical colleges, need such an amount of money which is beyond the capacity of most of these students. They need to be provided with information about banks that can lend them loans at low interest rates.

Those who fail to qualify in JEEs need information about various colleges, polytechnics, vocational education centres, and so on where they can seek admission for pursuing their study further.

A number of training courses are available for those who could not study up to secondary or higher secondary level. Information about all such training courses offered by various institutes in which rural students may be interested should be made available at adult learning setups.

2.3.7 Employment

Illiterate, semi-literate, neo-literate as well as literate men and women of rural areas need jobs as per their skills and qualifications. A certain percentage of people such as shopkeepers, hawkers, rickshaw-pullers, small manufacturers and producers, land-holders, tailors, carpenters, blacksmiths, and milkmen are self-employed. Some are employed by governments, others by owners of cottage and small-scale industries, NGOs, etc. Despite these a large majority of rural labourers are always in the hunt for jobs.

The majority of students who have cleared secondary, higher secondary, or graduation exams, also need suitable jobs. Hence, information regarding employment is of vital importance for them. They need information about self-employment schemes launched by the central and state governments, opportunities for employment within and outside the country, and so on.

Child-labour and bonded-labour in villages are, but a common scene. The rural people need to be informed that child-labour and bonded-labour are illegal in our country. Anybody employing such labour may be punished according to law.

2.3.8 Small Scale Industries

The type of small scale industries varies from village to village depending on the availability of raw materials and other facilities. Numerous cottage industries

existing in Indian villages are generally small scale industries. In the villages of Murshidabad district in West Bengal there is a predominance of *bidi* industry. Many households there are engaged in *bidi* making. A number of villages in Uttar Pradesh specialize in bangle making. The above instances make it clear that our villages also specialize in product generation. Apart from agro-industrial products, the rural industries generate among others toys, potteries, ceramics, idols, bricks, hardware, metalwares, glassware, textiles, wool, furniture, leather and fur goods, paper products (e. g. kites, paper bags), etc. Obviously, information requirements of villagers will depend on the work they do for their livelihood.

Let us take a village specialized in doll-making. The villagers would obviously need the following types of information related to doll-making.

- 1) Facilities available for training in doll-making using latest techniques including charges for training, lodging and boarding.
- 2) Banks providing loans at low interest rate for starting the business.
- 3) The place/s wherefrom they can get raw materials at reasonable cost (clay, plastics, clothing, dyes, etc) needed for making dolls.
- 4) Packaging of dolls for export.
- 5) The channels available for marketing as well as export of dolls to various states as well as foreign countries.
- 6) Transporters of goods, etc.

It goes without saying that depending on the industry prevalent in the village, the adult educator will have to create his knowledge base. If the village is engaged in different types of industrial activities, then the knowledge base will have to be obviously large.

2.3.9 Trade and Commerce

Many villagers are engaged in some sorts of trade and commerce. The products such as rice, wheat, jute, tobacco, sugarcane, hardware, glassware, toys, textiles, furniture and so on they produce in many cases, are for sale. The villagers need to know:

- The current price of the product in various markets where they can sell their product at a reasonable price;
- The government agency that may procure the products at prices fixed by the government;
- The agencies that take the responsibility of packaging;
- Transporters available nearby, etc.

2.3.10 Fairs, Festivals and Exhibitions

Trade fairs; book fairs; agricultural fairs; Hindu, Muslim and Christian festivals; exhibitions, flower shows, are good sources of entertainment and commercial activity for rural people. These are organized at various places and at different times of the year. The rural people need to be made aware of these activities well in advance, so that they can take active part in it and reap the benefit of such events.

2.3.11 Communication

Post offices, telegraph offices, courier agencies, telephone exchanges and booths, etc are the agencies that cater to communication services. Newspapers, radios, televisions, etc can be engaged in effective communication of information to the villagers. As more and more villagers are becoming literate, their need for sending messages, money, application forms, etc through various means is also increasing. In this sphere also they need various types of information.

2.3.12 Travel

People travel for employment, business purposes, education, occupational need, pilgrimage, social visits, sightseeing and so on. For this purpose they need information about the journey by bus, train and other means; travel agencies; estimated expenditure for the journey; facilities available for staying at various places; etc.

2.3.13 Disaster Management

Storms, cyclones, tsunamis, floods, fires, droughts, earthquakes, etc are common occurrences in India. These disasters claim a lot of human lives, domestic animals, and wreak havoc in respect of dwellings, crops, communication systems and so on. To reduce loss and save lives, the government has set up early warning systems, cyclone shelters in coastal areas, etc and organized measures to provide immediate relief such as shelter, food, and clothing and information to the effected people.

Check Your Progress

Notes: a) Space given below the question is for writing your answer.

b) Check your answer with the one given at the end of this unit under "Answers to Check Your Progress".

1) i) Enumerate the types of information a farmer generally needs.

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ii) Enumerate the types of information a tailor generally needs for garment making.

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2.4 CREATING A KNOWLEDGE BASE

A glimpse of the areas to be taken into consideration for creating a knowledge base has been given in Section 2.3. If the villagers come to know that an adult educator is a knowledgeable person, they will come to him/her for information on various matters. Hence, the adult educator will have to prepare himself/herself adequately to satisfy the villagers. For this purpose he/she needs to create a knowledge base.

2.4.1 Collection Building

For creating a knowledge base, collection of information assumes paramount importance. The information is to be collected from diverse sources depending upon the need of the rural folk the ALS is serving.

The collection will be of two types: i) a general collection; and ii) a special collection. The material in general collection is to serve the general needs of all and sundry.

General Collection: To start with, some reference books like dictionaries (unilingual and bilingual), almanacs (*panchang*), railway time tables, a PIN code directory, a telephone directory of the area, a globe, a world map, a state map, a district map, a map of the village (usually available with land surveyors called *amins* and BDO offices), a good book on general knowledge, etc should be procured to provide information on various religious matters, travels, post offices, telephone numbers, general queries, and so on. These are not costly and should be affordable by the adult learning setups. If the ALS can subscribe to periodicals like *Employment News* (preferably in regional language version), it will be of great help to the employment seekers. If genuine efforts are made, some of these things may be available through gifts even. In addition to these, a local newspaper, a national newspaper, one or two magazines, may be subscribed. The collection of fiction etc should also be gradually built up. Attempts will have to be made to get books through donations.

Special Collection: The special collection will have to be developed keeping in view the rural people the ALS is serving. The various areas which may be of immediate interest to the rural folk have to be identified on priority basis. Suppose, the inhabitants of a village are mostly farmers. In such a case, the special collection will have to be oriented to agriculture and related industries. For building such a collection, the following steps may be taken:

- National Fertiliser Corporation, Seed Corporation, National Horticultural Board, state agricultural universities, state forest departments, companies, NGOs dealing with fertilizers, seeds, pesticides, etc bring out leaflets, pamphlets, etc from time to time. These documents provide valuable up-to-date information and are generally available free of cost. If an ALS writes to these organizations, the name of the ALS will be in their mailing lists, and whenever such publications are issued, one copy will be made available to the ALS. The central and state governments, banks, and various other organizations, from time to time, issue notifications, circulars, etc relating to various schemes of rural development. These notifications need to be collected, preserved, and used whenever an occasion arises.

- National and local newspapers, magazines, etc publish articles of rural interest.. The adult educator is to scan them and maintain clippings of those items.
- The files available in the centre also contain valuable information which should be preserved carefully. Books and periodicals published on agriculture and related industries in English, Hindi and other regional languages may be procured if funds permit.
- Agricultural Finance Commission publishes monthly *Techno-economic Feasibility Report* which contains valuable marketing information relating to agricultural and industrial commodities. National Horticultural Board also issues various bulletins on horticulture which also form a potential source of information.
- For the special collection, to the extent possible documents pertaining to environment, housing, health and hygiene, education, employment, trade and commerce, fairs and festivals, exhibitions, travel and communication, disaster management, etc will also have to be collected as these are of concern to every family.
- The adult educator should develop a knack to gather relevant information freely available from other sources such as radio and TV as it has the potential for use in the ALS.
- The collection will have to be organized following the method of information management in a library so that the required information can be searched quickly.

2.4.2 Compilation of a Local Directory

As an adult educator goes on collecting information, he/she will gradually feel the need of compiling information sources by himself/herself for which he/she will have to develop some expertise otherwise he will not be able to use the collection effectively. One of the useful information sources he/she will have to gradually compile is the directory of important *persons* like district magistrate (DM), block development officer (BDO), agricultural development officer (ADO), *krishi prayukti sahayak* (KPS), specialists and knowledgeable persons of the area, school teachers, head and members of gram *panchayat*, doctors, registered medical practitioners, *amins*, mechanics, expert in agricultural and other machineries, dealers of seeds, fertilizers and pesticides functioning in his area; *organisations* like government offices, non-government organisations, banks, schools and colleges; hospitals, dispensaries, drugstores; local farms; nurseries; and shops selling agricultural equipment and machineries. This apart, the directory should include information about the local markets, the days the markets function, and the products that are sold and purchased, the renowned buyers, wholesalers, and so on (Chatterjee and Rahman, 2003).

Whenever any person needs any information, he/she may refer to the directory and retrieve the same. This is a painstaking job and requires patience, perseverance and devotion. Moreover, the information gathered requires constant updating. Of course, some information like crops grown in the area round the year serve for many years.

b) Check your answer with the one given at the end of this unit under “Answers to Check Your Progress”.

[illegible]

2.5 INFORMATION SERVICE

2.5.1 Reference Service

2.5.2 Referral Service

When the adult educator does not have the information required by the person he/she may ask the person to consult somebody else of the area who might provide the information. This is referral service. Suppose, somebody wants to know the right time for peeling off cinnamon from the plant. The adult educator may not have the answer. S/he may ask the person to consult the in-charge of the agricultural farm located in the area for the answer.

2.5.3 Lending Service

If an ALS can collect some books and magazines through gifts and purchase, then the lending service can be started. Books and bound volumes of magazines can be issued for a week; old magazine issues can also be issued.

2.5.4 Dissemination Service

A notice board can play a big role in information dissemination. Some information like prices of commodities in various markets; weather forecast, agricultural advice for the week, the fortnight or the month; relevant circulars issued by the government, etc can be displayed on the notice board.

Considering the fact that a large number of our population is still illiterate, lectures by experts, seminars, film shows, etc relating to topics of local interest may also be organized. A loud speaker, a drum, etc could be very effective devices to disseminate information. They can be effectively used to disseminate information about an impending storm, flood or good information about loan waiver by the government. Both the literate and illiterate people should get the information and be able to take advantage of these measures.

2.5.5 Career Guidance Service

Even meritorious students in rural areas do not have a clear idea of what courses they can opt for in higher secondary examination, because they do not have right information on the courses offered by various universities and institutions in the country. No doubt, many of these courses are advertised in national dailies which do not reach rural areas. Competing for state as well as central administrative posts, higher posts in banks, insurance companies etc also requires special preparation. For joining educational institutions, there is need for clearing national eligibility tests (NET) and other exams. There are institutions, organizations, books, etc that help students in preparing for these competitive examinations. Students need information about these courses, books and the addresses of the institutions and organizations that are helping students prepare for various competitive examinations. Probably, this service does not fall within the ambit of an ALS. However, if ALS can provide this service to the students, it will be of great value.

Check Your Progress

Notes: a) Space given below the question is for writing your answer.

b) Check your answer with the one given at the end of this unit under "Answers to Check Your Progress".

3) Describe in brief the services that can be rendered by an ALS.

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2.6 LET US SUM UP

We have presented knowledge management in a library in an adult learning setup with emphasis on areas like agriculture and allied industries, natural resources, environment, housing, health and hygiene, education, employment, small scale industries, trade and commerce, fairs and festivals, exhibitions, communication, travel, and disaster management. The creation of a knowledge base, collection building, compilation of a directory have been discussed in detail. The information services such as reference service, referral service, lending service, dissemination service and career guidance service that an ALS can provide have also been discussed.

2.7 ANSWERS TO CHECK YOUR PROGRESS

- 1) i) A farmer generally needs information relating to: i) the availability of good quality seeds, cattle, agricultural implements, fertilizers, pesticides, cold storage facility in nearby cities or towns, ii) repair shops for agricultural implements, iii) buyers of food grains and other agricultural products, iv) facility for transporting agricultural products by rail, road, etc, v) availability of expertise for cultivation, pest control, harvesting, storing, etc of the new variety of a crops, vi) centres for artificial insemination, etc.
- ii) A tailor generally needs information relating to: i) the availability of various types of clothes required for garment-making, ii) the name and address of the bank/s that can provide loan for starting the business, iii) the shop selling different types of sewing machines (manual, electric, etc), iv) the address and telephone number of the mechanic capable of repairing sewing machines, v) dealers who will buy garments on large scale; vi) facilities for transporting goods by rails, roads or other means, etc.
- 2) Dictionaries (unilingual and bilingual), almanacs (*panchang*), a railway time table, a PIN code directory, a telephone directory of the area, a globe, a world map, a state map, a district map, a map of the village (usually available with *amins* and BDO offices), a good book on general knowledge, *Employment News* (preferably the regional language version, if available), a local newspaper, a national newspaper, one or two magazines, a set of fictions and story books, etc will form the general collection of an ALS.
- 3) The information services an ALS can provide are reference service, referral service, lending service and dissemination service. In the case of reference service, the information asked for is provided to the inquirer. When the information is not available at an ALS, the adult educator may guide the inquirer to the person or organization wherefrom he/she can get the information. This is referral service. Books, periodicals, etc may be lent out to the readers for a specific period of time, after which they are to return the document intact to the ALS. This is lending service. An ALS is to disseminate various types of information to the adult learners as well as rural folk. The information may be about the starting of a new course, or a flood that is likely to affect the village immediately, or about some government decision, etc. This is dissemination service. It will be great, if an ALS can provide a bit of career guidance service as well.

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UNIT 3 DOCUMENTATION: CONCEPT, SYSTEMS, SERVICES AND EVALUATION

Structure

- 3.0 Introduction
- 3.1 Objectives
- 3.2 Documentation
 - 3.2.1 Concept
 - 3.2.2 Importance
 - 3.2.3 The Act of Documenting
 - 3.2.4 Documentation Management and its Cost
- 3.3 Evaluation as a Part of Documentation
 - 3.3.1 Process Evaluation and Outcome Evaluation
 - 3.3.2 External Evaluation
- 3.4 Documentation System and Services
 - 3.4.1 Documenting an Event
 - 3.4.2 Documenting Celebrations
- 3.5 Let Us Sum Up
- 3.6 Answers to Check Your Progress
- 3.7 References

3.0 INTRODUCTION

Any event that is documented forms part of history and any event that is not documented fades away from memory, and thereby from history. While the former is remembered, the latter is forgotten. If history is recorded through documents, on a day-to-day basis by way of writing our reports, summaries, e-mail messages and so on that will guide our own private and collective history.

Many adult learning setups (ALSs) carry out important activities, but due to lack of documentation of those activities, experiences of the people involved and the information generated from them fail to reach others involved in similar activities or those planning to start such activities. Proper documentation of activities and events of adult learning setups is essential for providing the contemporary and future adult education professionals the opportunities to know, learn, and benefit from the knowledge generated in the past.

Though adult educators are expected to carry out documentation, they may not have clear understanding of what documentation is and how to undertake process documentation. Documentation normally involves a multi-level process of communication that draws all actors together in recording events that they have been part of. In Units 3 and 4 we touch upon all these, besides presenting different aspects of documentation.

3.1 OBJECTIVES

After going through Unit 3, you will be able to:

- Describe the meaning, relevance and cost of documentation;
- Plan and implement the exercise of documenting an event or a celebration; and
- Carry out evaluation of documented material.

3.2 DOCUMENTATION

Suppose we are involved in teaching various skills that can enable neo-literate adults to involve themselves in income generating activities and lead a comfortable life. We will be doing a great deal of thinking, planning and other activities in order to make it a success.

First of all, we will identify the needs of the people we have to work with. It includes many things. Knowing their history and background will be of great help. We will gather enough information to know for certain the reasons for their present plight. Secondly, we will find ways to motivate them to change their behaviour to improve their lot. Thirdly, we will identify occupations that are interesting to them and can possibly provide them with enough income and prestige in doing them.

These three steps involve many more activities including research and field testing at various levels and may turn out to be a complex but fulfilling process. By involving ourselves in this process we gain a great deal of knowledge about the people we work with and the methods we follow and the activities we perform to take them to a higher level from where they are.

If we do not document any of these activities, the methodology we followed and all that we have learned from different experiences will not be known by the contemporaries or the future generations. On the contrary, if we document all that we have learned from our experiences in a detailed way, others who get involved in educating adults can go through the document and, learn from these experiences and contribute better without the need for reinventing the wheel. Moreover, they can improve upon what we have achieved.

There might be many instances whereby we lost the wealth of knowledge and wisdom of our forefathers in many essential fields like medicine due to non-recording in any form of their knowledge for the descendants to learn and benefit from.

Now, let us put all the aspects we discussed in a systematic way to understand what a document is.

3.2.1 Concept

The term 'document' is derived from Latin *documentum* and *doceo* literally referring to an example meant to teach, both for giving instructions and for warning purposes. It is a support for decision making based on information coming from different sources, and produce new information to be reused. Documentation users may be viewed as information consumers, who may later on produce further documents and derivative information packages.

A document unit is the end result of information assimilation and condensation processes and it is the result of whole set of selection and transformation processes, meant to make information presentation effective. A document unit may easily be indexed and classified. By classification we mean adopting the notation system of a specific classification model covering a whole range of documents.

Through documentation we create and provide evidence, and convey information. Documentation is meant to provide an interpretative infrastructure to a whole organization. Referring to the various definitions of the term “documentation” provided by *Webster’s Third New International Dictionary* (1961), let us especially focus on the following ones: “documentation is the provision of footnotes, appendices or addenda referring to or containing documentary evidence in verification of facts or in support of theory in a piece of writing”; and “the assembling, coding and disseminating of recorded knowledge, comprehensively treated as an integral procedure utilising semantics, psychological and mechanical aids, techniques of reproduction for giving documentary information maximum accessibility and usability”.

Reader’s Digest Universal Dictionary (1988) defines ‘document’ as “a record; historical or sociological evidence”; and defines ‘record’ as “an account made in an enduring form, especially in writing, that preserves the knowledge or memory of events or facts.”

The *Concise Oxford Dictionary* (1995) defines Documentation as “the accumulation, classification, and dissemination of information... The collection of documentations relating to a process or event, especially the written specifications and instructions accompanying a computer programme.”

From the above definitions and for our further learning purposes in Units 3 and 4, we understand ‘document’ as follows:

- A document is an amount of information on one or more related topics prepared for a specific purpose and presented as a unit.
- It defines or describes an object, design, specification, instructions or procedure.
- It is a collection of data, regardless of the medium on which it is recorded.
- It generally has permanence and can be read by humans or machines.
- It includes both paper and electronic media.
- It may be used in a printed form, on-line form or a combination of the two or more forms.

In other words, documentation is a process or specialty of accumulating and classifying materials related to an activity, event, object or person and making them available to others. Examples of documents include manuals, reports, proposals, letters, faxes, emails, audio, or video tapes, CDs, VCDs, etc.

Check Your Progress

Notes: a) Space given below the question is for writing your answer.

b) Check your answer with the one given at the end of this unit under “Answers to Check Your Progress”.

1) What is documentation? Give a few examples of document.

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3.2.2 Importance

In general terms, documentation is any communicable material (such as text, video, audio, CD, DVD etc., or combinations thereof) used to explain some attributes of an object, system or procedure. In today's information era, it is often used to mean engineering or software documentation, which is usually paper books or computer readable files (such as HTML pages) that describe the structure and components, or on the other hand, operation of a system/product. In adult education, documentation refers to keeping a record of activities undertaken by an adult education organization or project. The documented material becomes a useful resource for its creators as well as for others interested in carrying out similar activities.

Good documentation is crucial to a data collection's long-term vitality; without it, the resource will not be suitable for future use and its origin will be lost. Proper documentation contributes substantially to a data collection's scholarly value. At a minimum, documentation should provide information about a data collection's contents, origin and structure, and the terms and conditions that apply to its use. It needs to be sufficiently detailed to allow the data creator to use the resource in the future, when the data creation process has started to fade from memory. It also needs to be comprehensive enough to enable others to explore the resource fully, and detailed enough to allow someone who has not been involved in the data creation process to understand the data collection and the process by which it was created.

Documentation amplifying processes, such as reformulation, revision, cataloguing and indexing, have proved to be very useful to support learning and information acquisition and absorption. Documentation is the output result of a whole set of packaging and repackaging operations performed ideally by individuals working collaboratively in groups, within the same organization structure.

Daily events, current interactions, occasional conversations as well as planned meetings establish the conditions for information to flow through different media and in many different ways and create the context for an accurate understanding of the organizational culture by and large.

3.2.3 The Act of Documenting

Information may be coming in various flows and waves, but it is to be filtered, categorized and organized so as to make it accessible and reusable for different purposes at different times. As soon as some information is found to be of relevance and to be turned into a document, then the need to store information in the ways, fully transparent becomes a major issue.

Information packaging is a fundamental accurate and timely decision-making process based upon both topic continuity and context consistency. Availability and accessibility of packages of information in document formats needs to be supported by an enhanced labelling system, which may help speed up efficient retrieval. In other words, each document or piece of document will have to be labelled according to qualitative reasoning upon the nature of information.

Reshuffling scattered pieces of information coming in textual forms and formats, as to turn them into thoroughly organized documentation packages, according to a diversified set of needs and priorities and depending upon continuously changing scenarios, entails specific competence and cannot be subject to arbitrary and occasional decision making. Documentation organised and built up according to such view, does also constitute a tremendously rich repository for collective memories within an organization and does create the context for interpretation and understanding of present and past conditions.

The maintenance of comprehensive documentation detailing the data creation process and the steps taken involves a significant but profitable investment of time and resources. It is more effective if documentation is generated during, rather than after, a project. Such an approach will result in a better-quality data collection, as well as better-quality documentation, because the maintenance of proper documentation demands consistency and attention to detail. The process of documenting the process documentation of a project can also have the benefit of helping to refine research questions and it can be a vital aid to communication in larger projects.

Check Your Progress

Notes: a) Space given below the question is for writing your answer.

b) Check your answer with the one given at the end of this unit under "Answers to Check Your Progress".

2) i) What are documentation amplifying processes and in what way are they useful?

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ii) Mention the range of documentation-related activities.

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Box 3.1: The range of documentation-related activities

- i) Document design and development on paper and/or on-line
- ii) Project management for documentation projects
- iii) Proofreading, editing and related document quality assurance activities
- iv) Indexing
- v) Considerations on software tools for document development and publication.

For your better understanding read the above paragraphs once again carefully and write on a separate sheet of paper the answers to the following simple questions.

- 1) What are documentation amplifying processes?
- 2) Who performs the packaging and repackaging operations of documentation?
- 3) What establishes the conditions for information to flow through different media?
- 4) Why should information storing be transparent?
- 5) Why are topic continuity and context consistency major issues in information packaging?
- 6) Why is labelling system important in documentation?
- 7) Why does reshuffling of documented material require special competence?
- 8) How collective memories are important in documentation in an organization?
- 9) Should documentation be generated during or after a project implementation?
- 10) Keeping in mind the dictionary meaning of documentation, what, in your opinion, is the main concern of documentation in the field of adult education?

Reflection

Are there more documentation related activities than mentioned in Box 3.1? If yes, then include those in your range of documentation.

3.2.4 Documentation Management and its Cost

Management is the application of skill and care in manipulation, use, treatment or control of things or persons, or in conduct of an enterprise, operation and so on.

Besides and beyond information retrieval and knowledge dissemination, documentation management includes knowledge discovery, capturing and creation, as well as knowledge classification and representation.

Documentation management is bound to accuracy, motivation and responsibility shown by individuals involved in the process of the document creation and further development throughout whole set of transitional states. Lack of these elements will radically affect the way information flows are perceived, monitored and channelled by the individuals within an organizational structure. See Box 3.2 on life-cycle of documentation.

Box 3.2: Documentation Life-cycle

A sequence of tasks that comprise the process of developing and maintaining documentation is called documentation life-cycle. The term 'life-cycle' is used to indicate that, as for living things, any human activity repeats after a period of time.

Check Your Progress

Notes: a) Space given below the question is for writing your answer.

b) Check your answer with the one given at the end of this unit under "Answers to Check Your Progress".

3) i) What is documentation life-cycle?

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ii) How can you make documentation cost-effective?

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Documentation Cost: Documentation costs money and hence it must be included in the your event budget. How much we actually spend depends on the methods that we choose. If we want a professional to document our event it is a good idea to get a number of quotes and be clear about what it is that we want to be documented. We need to look for ways of making it cheaper to the extent possible (See Box 3.3).

Box 3.3: Tips for Ways of Making Documentation Cost-Effective

Here are a few tips for bringing the cost of documentation down:

- i) A local camera shop or photography student may be interested in photographing the event. The camera shop could display some of the photos in the store and sell copies to the community.
- ii) Local colleges or schools who have access to audiovisual equipment may wish to video the event as a part of a project or they may be willing to supply equipment.
- iii) If we have to pay for documentation, look for locals. A local professional will probably do it at cheaper rate, if there is a chance for him/her to get some free advertising for the business.

3.3 EVALUATION AS A PART OF DOCUMENTATION

Evaluation is an important aspect of any event in an organization or project because it provides for reflection on what has taken place and what is to be done about future planning. It is important to provide all those who participated in an event with an opportunity to comment on the event once it is over. This will be a chance to review the event, its highlights and its shortcomings and to aid future planning.

Evaluation provides a chance to make a critical assessment of the event, to state lessons learnt, to identify the outcomes, to review the aims and objectives, to

identify problems and to debrief the workers, participants and the community. Ideally as many people as are involved in the event should be involved in the evaluation. This will guarantee a more realistic account of the event. It should involve monitoring all the processes of the event from the beginning to the end. The task of monitoring particular aspects of the event can be delegated to committee members. For example, the person, responsible for publicity, may collect all press clippings. Coordinating the evaluation may fall into the hands of the event coordinator or someone from outside.

There are a number of ways in which an event can be evaluated. These will be influenced by your objectives and actions. For example, if the main aim of the event is to attract as many people as possible and then evaluate the event in terms of numbers and audience sizes. Hopefully evaluation will extend much further than only quantitative judgments and consider the range of experiences that the community has gained from the event. For the most comprehensive evaluation use a variety of both quantitative and qualitative judgments.

Evaluation can be approached in a number of ways but there are two main approaches to evaluating a project.

3.3.1 Process Evaluation and Outcome Evaluation

Process evaluation is a continual evaluation strategy that occurs during the life of the project. This type of evaluation needs to be built into the regular activities during the lead-up to the event.

Outcome evaluation is an evaluation strategy that occurs upon conclusion of a project. There are advantages in applying either or both of these strategies. The strategy we choose will affect the type of information we will have at the end. Outcome evaluation is perhaps the most common one and usually takes the form of a general meeting and/or report.

3.3.2 External Evaluation

Another way of evaluating is to get someone not involved in the event to do it. However, it is crucial that the person involved is very familiar with the aims and objectives of the event. He/she needs to be provided with a clear brief so that he/she can analyse the event in an appropriate way. He/she should commence the evaluation before the event starts and attend the event day(s). A consultancy fee may be paid to this person.

Check Your Progress

Notes: a) Space given below the question is for writing your answer.

b) Check your answer with the one given at the end of this unit under "Answers to Check Your Progress".

4) Why do you consider evaluation as part of documentation?

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3.4 DOCUMENTATION SYSTEM AND SERVICES

Today, the world is so flooded with documented knowledge that it requires some system to be followed for locating the exact information at a time when it is actually required. This work involves organization of information in such a way as to make it available for a specific purpose in a readily usable form and in the shortest possible time. The nature of such work varies in different types of documentation centres and is determined by the types and range of the clientele it is designed to serve. Thus, the nature of documentation centre serving a research institute is entirely different from the one serving an industrial enterprise or a commercial organization, both in terms of the type of its documentary collection and the range of services it offers. In an adult education setup, it is expected that adult educators carry out documentation of every important event starting from planning initial survey of target learners to sanction of a project to implementation, its evaluation, success and loopholes/shortcomings to recommendation by external evaluating agencies, meetings, day-to-day activities, financial expenditure, digital documentation of successful activities, vocational skill development programmes, booklets, magazines, newsletters and other publications developed internally and procured externally, manpower and their training and functions, etc. Being a multifaceted actor in the profession, an adult educator has to perform the tasks requiring knowledge of documentation.

Let us now look at two types of documentation, namely, Documenting an Event and Documenting Celebrations. Please note that in Unit 4, you will learn about two more types of documentation, namely, Documenting a Digital Event and Software Documentation.

3.4.1 Documenting an Event

Documenting an event is useful for:

- Recording experiences that capture the event environment and reflect the experiences of the event.
- Reusing or reviewing the experiences when organizing the next event.
- Presenting to funding bodies or sponsors who have assisted the event.
- Presenting to possible future funding bodies or sponsors, or interested parties the evaluation together with good and bad points of an event for consideration.

Most of the recording for documentation will be done on the day of the event. However, it may be useful to document some of the pre-event activities. See Box 3.4 on the list of documents to be recorded.

Box 3.4: Recording of Useful Documents

Using the following documents you can record what happens at the event:

Press clippings: Collect all press clippings from newspapers that have articles about your event. There are services available generally for a charge.

Photographs and slides: Photographs are commonly used to document events because they are fairly inexpensive, easy to organise and provide a good result. Slides are useful for presentation to large groups of people.

Video taping/digital recording: Video taping or digital recording is an effective means to document your event. A little more expensive but the extra animation and the inclusion of sound provide much more realistic recording. It is a good idea to edit your video to a short and concise five minutes if you want to use it for future presentations. A longer tape is more interesting and useful to event participants and organisers.

Radio and TV recording: Record radio announcements, interviews and advertisements. If your event is lucky enough to receive television coverage try to ensure that it is recorded. Many events have a main stage or area where there is entertainment, whether it is music, comedy, dance or singing. The day's activities can be tape recorded, then edited and tidied up at a later date.

Sound recordings: Sometimes the proceedings of the event are recorded in a cassette or CD. Speeches made and discussions held are recorded so that nothing of importance is missed.

Surveys: Make a collection of comments from people who attend the event as well as those involved with the event organisation (such as participants and volunteers). These comments can be gathered through written evaluations, letters of support or through tape recordings on the day. A written evaluation form, if carefully constructed, is also an opportunity to gather statistics about satisfaction levels at the event which can then be used for sponsor reports, funding applications and so on.

Steps to be taken during the Process of Documenting an Event

- i) **General Meeting:** Hold a general meeting in about two weeks, but no longer than that, after the day of the event; invite all those involved in the planning and implementation of the event, including the participants, stakeholders, performers, key organizers, sponsors, staff and key community groups. The purpose of the meeting should be to gather a collection of views and information on the event as a whole. The organizers are to decide the form of this meeting. An informal tone is probably best so that people feel confident and relaxed about being involved in the evaluation process. At this meeting the committee members responsible for a particular area aspect of the event can take notes for their evaluation report.

Discussion about the event can be started by inviting everyone to comment on what each participant thought whether it went on well or could it have been done better. The problems faced should be discussed and solutions suggested be considered for the future event. All pinions and thoughts should be recorded so that they can be referred to when writing up the evaluation report. It is essential to avoid backstabbing and personal gripes during this process.

- ii) **Putting Together an Analysis Report:** After gathering people's perspectives on the event, it is a good idea to collect the information and present it in the form of a report. The report needs to contain the following material:

- aims and objectives of the event;
- successful and unsuccessful aspects of the event;
- people's responses;

- collection of press clippings;
- photographs;
- financial statements;
- event programme and other promotional/publicity material; and
- future directions/commendations for the future.

Check Your Progress

Notes: a) Space given below the question is for writing your answer.

b) Check your answer with the one given at the end of this unit under “Answers to Check Your Progress”.

5) Comment on documentation system and services.

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3.4.2 Documenting Celebrations

Documentation of celebrations is done to capture important historical moments, to increase awareness and interest in the relationship between the past and present and to provide a model for future celebrations. See Box 3.5 on what and who to document.

Box 3.5: What and Who to Document?

All aspects such as the following of the celebration should be documented.

- Meetings - organisational and planning.
- Programs and Events.
- Newsletters and Publications.
- Planners.
- Committee Members.
- Sponsors.
- Participants.
- Audiences.

Materials documenting celebrations do generally include the following documents.

- Personal Journals.

- Published and Printed Materials.
- Photographs, Film and Videos.
- Correspondence.
- Oral Histories.

Besides paying attention to materials for documentation, we need to put emphasis on where to place documentation and remembering celebrations through documentation. In addition we may also like to know about “event historian” and time capsule – important aspects of documenting celebrations. Let us discuss them in brief.

- i) **Where to Place the Documentation?:** The materials documenting an important celebration should be placed in a permanent location or “repository” where the records are kept secure, organised and accessible. The permanent location could be any of the following places.
- The archives of the sponsoring organisation.
 - A local historical society.
 - The local government historian.
 - A public library, local history collection.
 - A local government records repository.
 - A college or university archive or special collection.

Box 3.6: When and How to Document?

Begin with the first organisational or planning meeting. Continue until the celebration or event is over.

One person should be designated to keep the materials together. As soon as possible after taking the photographs or the videos, identify the date, event, people, and location. Meeting minutes, clippings, programmes and other papers should have dates.

Try to sort and organise materials for easy use while the celebration is in progress so the materials are in order for placement in a permanent collection.

Avoid storing the material in basements, attics or garages. Dampness and temperature extremes will damage paper and photographs.

When in doubt, DON'T throw it out!

- ii) **Remembering and Documenting Celebrations:** Celebrations should be remembered and documented. The depth of documentation will be different for annual events and for special events such as centennials.
- **Annual Celebrations:** Annual celebrations can be documented with administrative records for the event. There will probably be no need for additional efforts.
 - **Special Celebrations:** Special celebrations that involve a wide variety of community members will need to have specific documentation efforts built in from the very beginning.
- iii) **“Event Historian”:** Someone should be designated “event historian” to:
- Save all relevant materials;

- Label and organise them in such a way that they can be used; and
- See that they are placed in an organised collection or repository.

Well-documented celebrations will be remembered much more vividly and will remind sponsors and participants of the successful event.

- iv) **Time Capsules:** The creation of a time capsule is often considered during the planning of a celebration. Time capsules are fun, and their appeal is understandable. But the actuality is often disappointing. Most time capsules are buried or placed in cornerstones. When removed after 50 or 100 years, most materials placed in them have deteriorated to the point where they can't be handled or read.

An alternative is to place the time capsule in an acid-free box in a permanent location or repository that has temperature and humidity controls. The time capsule box could be sealed for the desired time and opened at the appointed hour. Because it is stored in a protected environment, the material will be in relatively good condition when retrieved.

Tips for adult educator for better organisation of documentation

- Each day, an hour prior to the time of leaving your desk for the day, organise your important materials in a sequential way so as to keep a record of the important happenings of the day and how they are going to affect the running of the AE programme. Write down the important points.
- Arrange and document materials date-wise and event-wise.
- Never mix-up materials pertaining to different events, meetings, celebrations, teaching-learning process or vocational training inputs in one single file.
- Always keep a 'to do' list handy and do it priority-wise to eliminate any confusion and last-minute rush.
- As far as possible finish each day's documentation process as soon as the event/meeting/visit/skill training programme, etc. is over to ensure accurate and attentive data to be documented.

Now that you have studied the whole unit, plan the documentation of your adult education setup based on the following activities:

- Collection of data to document;
- Assessing those data as per priority, time and reference;
- Calculation of its cost and so as to make it cost-effective;
- Self-evaluation of data;
- Documentation of different programmes/events/meetings/celebrations, etc.;
- Placement of documentation; and
- Future plans and activities

Check Your Progress

Notes: a) Space given below the question is for writing your answer.

b) Check your answer with the one given at the end of this unit under “Answers to Check Your Progress”.

6) How would you write an analysis report?

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3.5 LET US SUM UP

Now, we have reached the end of Unit 3 on ‘Documentation’. To sum up, in brief, we have discussed the concept of documentation, its importance, the act of documenting, document management and its cost. We have touched upon evaluation as a part of documentation. We have also highlighted documentation systems and services with emphasis on documenting an event or celebrations.

We have presented a broader perspective on why, how and what to document and the efficient ways to carry out documentation in an adult education setup. As an adult educator, you have a role to play in shaping the future of literate persons in a society; and effective and efficient documentation system will help you in achieving this goal.

3.6 ANSWERS TO CHECK YOUR PROGRESS

- 1) Documentation is the process of gathering and classifying materials related to an activity, event, object or person and making them available to others. Examples of documents include: manuals, reports, proposals, letters, faxes, emails, audio-video tapes, CDs, VCDs, etc.
- 2)
 - i) Documentation amplifying processes such as reformulation, revision, cataloguing and indexing, have proved to be very useful to support learning and information acquisition and absorption.
 - ii) The range of documentation-related activities are:
 - Document design and development on paper and/or on-line;
 - Project management for documentation projects;

- Proof-reading, editing and related document quality assurance activities;
 - Indexing; and
 - Considerations on software tools for document development and publication.
- 3) i) A sequence of tasks that comprise the process of developing and maintaining documentation is called documentation life-cycle. The term 'life-cycle' is used to indicate that activity which repeats after a period of time.
- ii) Here are a few tips for you to bring the cost of documentation down:
- A local camera shop or photography student may be interested in photographing the event. The camera shop could display some of the photos in the store and sell copies to the community.
 - Local colleges or schools which have access to audiovisual equipment may wish to video the event as part of a project or they may be willing to supply equipment.
 - If you have to pay for documentation, look locally. A local professional will probably do it a lot cheaper if there is a chance that they may get some free advertising for their business.
- 4) Evaluation is an important aspect of any event in an organization or project because it allows us to reflect on what has taken place and think about future planning. It is important to provide all those who participated in the event with an opportunity to comment on the event once it is over. This will be a chance to review the event, its highlights and its shortcomings and should be an aid to future planning. Evaluation can provide a chance to make a critical assessment of the event, to state lessons learnt, to identify the outcomes, to review the aims and objectives, to identify problems and to debrief the workers, the participants and the community.
- 5) Documentation system and services involve organization of information in such a way as to make it available for a specific purpose in a readily usable form and in the shortest possible time.
- 6) After gathering people's perspectives on the event, I will collect the information and present it in the form of a report containing the following:
- aims and objectives of the event;
 - successful and unsuccessful aspects of the event;
 - people's responses;
 - collection of press clippings;
 - photographs;
 - financial statements;
 - event program and other promotional/publicity material; and
 - future directions/commendations for the future.

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UNIT 4 ADULT LEARNING SETUP: ROLE OF PROCESS DOCUMENTATION

Structure

- 4.0 Introduction
- 4.1 Objectives
- 4.2 Process Documentation
 - 4.2.1 Concept, Aim and Importance
 - 4.2.2 Methods and Tools
- 4.3 Process Narratives and Flow Charts
 - 4.3.1 Risks and Controls
 - 4.3.2 Proactive Process Management
- 4.4 How to Conduct Process Documentation
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- 4.6 Documenting a Digital Event
- 4.7 Let Us Sum Up
- 4.8 Answers to Check Your Progress
- 4.9 References

4.0 INTRODUCTION

In organising adult education activities, the methods, models, criteria, etc followed are situation or context-specific. Hence, Process Documentation (PD) in adult education is a process of collection of authentic data about a recurring phenomena on an ongoing basis to provide insights into the programmes, implementing strategies and organisation development mechanisms.

In this sense, PD of each organisation or project provides a different model. PD is based on the learning approach. Before undertaking bigger projects, it is useful to apply PD on a pilot scale to gain clear insight into policy formulation and criteria for making bigger projects. PD of another agency on the similar project can also be used to gain policy insights, etc. In PD, the key players are managers, supervisors, community leaders, etc. The insights into and analyses of a process begin during the data collection process itself. Hence, PD not only PD provides insights into the programmes and strategies but also builds the organisation capacities. PD establishes linkages between different agencies, facts, systems, not in a manner conventionally thought of in a developmental model. Further, PD helps in educating different members who join the agency at different stages of the mission and strategies, and also serves the purpose of their orientation and team-building.

Every social setup or organisation operates under its own articulated ideology, mission and perspectives. A variety of processes take place during the articulation and implementation. It is very difficult to capture all ongoing processes in a development organization. PD is a tool, which helps to collect data systematically on various processes. PD is not an evaluation strategy, or a post-facto exercise. It

The above discussion makes it clear that professional adult educators need to acquire necessary knowledge and skills related to process documentation. Unit 4 focuses on what and why of process documentation and its relevance to running an adult education programme. Most importantly, it provides adult educators and learners with some key skills to begin process documentation at their end.

4.1 OBJECTIVES

After going through Unit 4, it is expected that you will be able to:

- Describe the aims and objectives of process documentation;
- Discuss different methods and tools of process documentation;
- Conduct documentation based on software; and
- Document a digital event.

4.2 PROCESS DOCUMENTATION

Let us look at the concept, aim and importance of process documentation.

4.2.1 Concept, Aim and Importance

The *Concise Oxford Dictionary* (1995) defines Process as “a course of action or a procedure, especially a series of stages in manufacture or some other operation.”

We can define Process Documentation as a method of concisely capturing and sharing critical project concepts, plans and information as they are developed, so that impacted parties can share this information, make informed decisions, and keep the project moving forward without having to revisit old discussions.

The basic aim of process documentation (PD) is to learn from implementation experience and in the light of this modify the strategy first, and ultimately, the policy of a programme, project or organization (Mosse, 1998).

Process Documentation helps in creating systematic information to articulate the intervention strategies and develop the flow chart of a programme. This helps the project or organisation to find out more about the needed field intervention methods, coordination, management requirements, financial management and human resource development policies. Not only the project conducting process documentation takes benefit from this but also other similar projects and agencies can use the outcome as a model in their formulation and implementation methods.

Most of the process-oriented methodologies are meant to record programmes as they occur and feed the information back to managers, researchers and policy makers to help them understand better the working of the project. However, there are several other equally important purposes, for which processes are sought. They are used by agencies undertaking new and complex forms as part of expansion of programmes, for enhancing their understanding of stakeholders' participation. Such information is often needed to validate the approach/programme and consequently policy formation.

An important aspect of any process is the documentation that accompanies it, such as logging trouble calls, requesting system changes, or executing disaster recovery plans.

You are aware of the Literacy Campaigns initiated with the launching of National Literacy Mission (NLM) in 1988. NLM aimed at imparting functional literacy to 80 million illiterate persons in the 15-35 age group - about 30 million people by 1990 and an additional 50 million people by 1995. Total Literacy Campaign is followed by Post- Literacy and Continuing Education Programmes.

These programmes met with only partial success. By the time there was an organised evaluation of the programmes a lot of money had already been spent on the programmes and, in many districts, the programmes had come to a stand still. Had the experts who initiated the programme insisted on process documentation of the programmes conducted in the first few pioneering districts, timely changes could have been incorporated and a fool-proof methodology evolved before the remaining districts initiated the programmes.

Even in the Continuing Education Phase, experience revealed that there was the backlash of improper release and improper use of funds in the previous phases. Another disappointing aspect was that the appointment of very young people as Preraks did not serve the intended purpose as they found it difficult to deal with illiterate adults discussing with them subjects that at times border on 'adult' themes. Evaluation of the programmes was another area of concern. Having travelled to the point of no return, things turned out to be irredeemable. Proper process documentation would have paved the way for correction and rectification of the route and hence the programmes. The districts that started the programmes later would have learned from the experience of the pioneers and would have run their programmes successfully.

Another example, we can look at is the community library movement in Nepal. This is very often flaunted as a success story and the processes that went into the movement had been recorded threadbare. There was active participation of the Jhuwani community in their own income-generating scheme for meeting operating costs and financial sustainability. It has gradually been expanded into community centres with telecentre facilities, dynamically involved in the overall development activities of the community. In addition, computer facilities of the library have been used for providing training in basic IT literacy for the community and digital materials like CDs on health, education, etc have been used by the community. The success story of Jhuwani community library has been replicated in many other communities also.

Check Your Progress

Notes: a) Space given below the question is for writing your answer.

b) Check your answer with the one given at the end of this unit under "Answers to Check Your Progress".

1) i) How do you define process documentation in the context of an adult learning setup?

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ii) Describe the aims and objectives of process documentation.

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Let us now discuss the methods and tools of process documentation.

4.2.2 Methods and Tools

When we ask the average team member of an adult education organisation as to why he or she has so much documentation, a common answer is, “Because my organisation requires me to fill out the templates.” If we ask about the usefulness of such documentation, a typical reply is, “I guess it will provide a trail of what has happened so that management can study my project later.” But almost no one ever goes back and ploughs through “the stack.” With purposes as unclear as these, it is not surprising that people just “fill out the templates.”

There are many methods and tools available today to aid in capturing information about how an organisation performs its day-to-day activities in order to achieve desired efficiencies and cost reductions. A common approach integral to most methods is to develop an end-to-end process flow (See Box 4.1 to understand what an end-to-end process flow is.)

Box 4.1: End-to-end Process Flow

An important question to be answered before starting is ‘What does end-to-end really mean?’ For the head of an adult education organisation it may mean viewing all its activities from the time the organisation has been set up until it has completed its plans. It may mean only those processes initiated and developed by the organisation. For a project head, it may include all the activities of the project and may become a means to identify gaps and overlaps to determine improvement opportunities. And yet another perspective is that of the Head or key actors who want to use a process-centric approach to the organisation/ project rather than the typical functional view and achieve a means to assess the impacts of strategic decisions on the activities critical to their Organisation.

Centralized support groups such as Information Technology (IT), in addition to their own activities, are responsible for all automated processes used by modern organisations. Therefore, IT may see end-to-end as referring to the execution of specific software processes regardless of who uses them. For the purposes of this discussion, a machine aided by technology performs the software process. It starts when a user initiates a transaction, or triggers an event, and ends when the computer delivers a response or result. An adult education programme, on the other hand, is performed by a human being and may or may not be enabled by one or more software processes.

Methods and Tools for Documenting the Process: We may find some of the following methods and tools quite useful for documenting the process in an adult education setup.

- Use of existing documentary material.
- Records.
- Structured interviews.
- Case studies.
- Reconstruction of events.
- Field diaries of project staff.
- Video and audio recordings.
- Newspaper clippings.
- Software development.
- Participant observation of users.
- None of the above methods and tools is new in itself in the social science methodology, but what is new is the use to which each of it is put.

Let us now look at some more process documentation techniques which provide better understanding of a process documentation in particular and of a process in general.

4.3 PROCESS NARRATIVES AND FLOW CHARTS

Documenting an understanding of a process, related controls, and key roles and responsibilities can be achieved through process narratives and flow charts. Both of these documentation techniques assist internal audit teams and those responsible for the processes to obtain a common understanding of a process.

Once the documents are confirmed as accurate, they are used, essentially, as a baseline for performing risk analysis, internal controls testing, and implementing process improvements. Narrative and process flow tools allow auditors to organise, describe, and graphically depict the results of:

- Reviewing policy and procedure manuals;
- Discussing the process with key employees through inquiry;
- Performing a process walk through sub-processes using samples, etc;
- Considering key inputs and outputs to a process; and
- Lines of responsibility for individual employee and departmental roles.

The objective of process narratives and flow diagrams is to generate an accurate representation of how work is actually performed. Audit teams are then positioned to add value to recommend improvements, evaluate segregation of duties and controls, and identify key controls (see Figure 4.1).

Figure 4.1: Audit Team’s Comments

Process Reviewed:	Location:
Process Management Rating:	Sub-Process:

4.3.1 Risks and Controls

Narratives and process flow maps (See various parts of Figure 4.2, i. e. 4.2a to 4.2f) are designed to assist the analysis of processing risks and related controls. Although these documentation techniques do not test the effectiveness of controls, they promote an agreed upon understanding of how a process is performed, who performs specific duties (roles and responsibilities), and assertions about control activities.

Key risks and controls can be mapped on the process flow diagram to indicate when, by whom, and how controls mitigate risks. Many organisations or IT companies develop excellent processes but fail to document them adequately. Even after an initial success in implementation of the processes, many of these go unused due to lack of documentation, particularly by new staff members who are unfamiliar with the process and attempt to use it. Methodical process management can help to identify bottlenecks and deficiencies that are invisible to the organisation, and one can find room for improvement even in well-refined procedures.

Figure 4.2a: Narratives and Process Flow Maps

Process Summary

- a) Does the process narrative summary have the preparer's name?
- b) Does the process narrative summary have the approver's name (where applicable)?
- c) Is the process owner's name evident from the process narrative summary?
- d) Are the relevant policies and procedures (P & P) noted in the summary?
- e) Are the P & P in the documentation folder or related application storage facility or else where?
- f) Does the summary clearly indicate the financial statement accounts impacted by the process?
- g) Does the summary indicate the related vision assertion (where applicable)?

Figure 4.2b: Narratives and Process Flow Maps

Process Flow

- a) Is there a defined start symbol (either start or connector from another map)?
- b) Does the map have a legend that describes the various shapes in the map?
 - i) Is each shape in the map appropriate (e.g., database reference shows a database shape)?
- c) Does each shape (process) describe:
 - i) Who is performing the action? (**Note:** Examples include: APClerk, Senior Accountant, Controller, etc. This is particularly important when describing authorization or approval controls).
 - ii) Are only position titles (not names) utilised in the map?

- iii) What actions are they performing [e. g., reconciling, posting, validating, etc]?
- iv) When are they performing the actions?
- v) Where is the action being performed (could be externally, internally, systemic application, database, etc., different dept, etc.)?
- d) How is the action being performed? (**Note:** describe what is being utilized to perform the action, for example, report name, database, etc).
- e) Do the maps indicate inputs, outputs for each activity?
- f) Is the input/output specifically identified (i. e., exact name of query or name of report)?
- g) Have all FINANCIAL risks been identified? (**Note:** What could go wrong for each shape, keeping in mind a financial impact focus?)
- h) Have all FINANCIAL controls been identified? (**Note:** How do we prevent what could go wrong such as a mitigating control?)
- i) Are there any estimates or assumptions in the process?
- i) Is the methodology explained/documentated in the narrative?
- j) Does the process end at the end of the map?
 - i) Is there a defined end symbol?
 - ii) Is the next process connector on the map instead of an end symbol?
- k) If process map is linked to/from another, have the terminology and common activities been named between maps?
- l) Have risks been documented as to where the risk is occurring?
- m) Have controls been documented where they occur? (**Note:** controls that occur outside of the process should be documented on the map e.g., senior management operational review).
 - i) Does every risk identified on the process map have an associated description in the narrative?
- n) Does every risk identified on a process step have a control and vice versa?

Figure 4.2c: Narratives and Process Flow Maps

Information Technology

- a) Is the specific database referenced as to where process information exists?
- b) Does the narrative indicate the specific database?
- c) Have IT processes within each financial/operational process map been identified?
- d) Has IT provided process and control information as to when computer applications are involved?
 - i) Are all the applications used listed/represented?

- e) If the financial process is dependent on other IT processes (e.g., polling, interfaces, etc.), have these IT processes been identified and linked to the applicable IT map(s)?
- f) Has IT provided process and control information when computer applications are involved?
- g) Do process flow maps or narratives cite specific application controls and related individual users (position associated with access)? (**Note:** See the Controls Checklist below for coverage of basic IT control attributes).

Figure 4.2d: Narratives and Process Flow Maps

Risk Checklist

- a) Is the risk defined adequately enough to explain what could go wrong – from a financial reporting perspective only?
- b) Have all FINANCIAL risks been identified? (**Note:** Think about what could go wrong for each shape and focus on the financial impact).
- c) Does the risk identified collaborate with a vision assertion?
- d) Does every risk have its own number?
- e) Does every risk link to at least one control?
- f) Does every risk statement contain the cause and effect?

Controls Checklist

Have all FINANCIAL controls been identified? (**Note:** How do we prevent what could go wrong?).

Are there any risks/controls that apply to the whole process?

Figure 4.2e: Narratives and Process Flow Maps

For Each Control:

Does the control list who performed, when and how in the process/cycle?

- I) If there is a restrict access control, does the control detail that the:
 - a) Access is relevant to job responsibilities.
 - b) Access is reviewed periodically for appropriateness.
 - c) Access is appropriately authorized.
- II) If there is an exception report control, does the control detail:
 - a) What information is contained in the report?
 - b) Who reviews the report and how often?
 - c) What follow-up activities are performed for exceptions/errors detected?
 - d) How are file transfers reviewed for completeness and accuracy?
 - e) How often do file transfers occur?
 - f) What system generates the report?
- III) If there is a management review/monitoring control, does the control detail:

- a) How often are reports/results reviewed?
 - b) What is the purpose of the review?
 - c) Who performs?
 - d) Follow-up procedures for discrepancies/unusual variances?
- IV) If there is a segregation of duties control, does the control detail:
- a) Which responsibilities are segregated?
 - b) How are duties segregated? (view / read-only)
 - c) Does an organisation or department chart exist, and where is it located?
- V) If there is an approval or authorization control, does the control detail:
- a) Whether it is manually documented or system driven?
 - b) Who approves (what level of management?)
 - c) Existence of an established level of authorisation.
- VI) If there is a reconciliation control, does the control detail:
- a) Who prepares and performs the reconciliation?
 - b) What is the purpose of the reconciliation?
 - c) Who reviews the reconciliation?
 - d) What is the evidence of the review? (e. g. manager's approval)
 - e) What reports are used and which systems generate the reports used?
 - f) How are differences investigated / resolved?
- VII) If there is a document control, does the control detail that the:
- a) Documents are pre-numbered and system generated (e. g., sales orders, invoices etc)?
 - b) Documents are safeguarded (e. g., physical controls over checks, contracts, manual journal entry logs, etc.)?
- VIII) If there is a physical asset control, does the control detail:
- a) How is the access to the asset and related record keeping appropriately restricted and reviewed periodically?
 - b) What procedures ensure the accuracy of the related record keeping (activity logs)?
- IX) If there is a system based control, does the control detail that:
- a) All key fields for data entry contain valid information in order for a record to be accepted?
 - b) Information is validated against a master table? (e. g., customer number, product number, vendor number, PO number).
 - c) Master tables are reviewed and updated regularly to ensure data accuracy and data is safety?
 - d) Duplicate postings/entries are not accepted?
 - e) Accounting period-end cut-off dates are enforced by the system?
 - f) System-based control overrides must be authorised?

Additional Considerations

- a) Is the methodology explained / documented in the control descriptions for formulas, etc?
- b) Is the control frequency documented? e. g., quarterly, monthly, weekly, daily, multiple times daily.
- c) Does the control description adequately explain how it mitigates the risk?
- d) Is the control type (preventive, detective, corrective, etc) listed?
 - i) Is the control type listed accurate?
- e) Is the control owner listed?
- f) Are only position titles (not names) utilized properly?
- g) Is the control technique (e. g. Systemic, Manual, etc) listed?
 - i) Is the control technique listed accurate?
- h) Is the control level (e. g. Primary, Secondary, Tertiary, etc) listed?
 - i) Is the control level listed accurate?
- i) Is the vision component identified?
 - i) Is the vision component identified accurate?
- j) Has the preparer assessed the design effectiveness?
- k) Do you agree with the assessment of design effectiveness?
- l) Has the preparer documented any deficiencies (Control gaps) in the design effectiveness?

4.3.2 Proactive Process Management

Proactively managing the processes can help an organisation to achieve the following benefits.

- Eliminate flaws.
- Reduce the time spent on specific tasks.
- Decrease costs.
- Decrease resources associated with any task.
- Improve efficiency.
- Improve overall quality.
- Increase customer and employee satisfaction.

Very few techniques are available to quantify the quality and value of Process Documentation. See Box 4.2 for a list of different approaches to understand process documentation.

Box 4.2: Different Approaches to Understand Process Documentation

There are quite a few approaches to understand process documentation, including:

- * Field level activities.
- * Meetings.
- * Negotiations.
- * Decision-making.
- * Planning.
- * Implementation of decisions.
- * Resolution of differences.

Check Your Progress

Notes: a) Space given below the question is for writing your answer.

b) Check your answer with the one given at the end of this unit under “Answers to Check Your Progress”.

2) i) Mention the advantages of process narratives and flow charts.

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ii) What does proactive process management achieve for a management?

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4.4 HOW TO CONDUCT PROCESS DOCUMENTATION

Although there are no well-defined methods for conducting PD, some methods can be spelled out in specific context of agency needs. The key steps are:

- The programme or agency needs to articulate the purpose, scope and limits of the PD exercise.
- Expectations of both the agency personnel and PD facilitator need to be clarified to have a common understanding on the process of the PD.
- At the outset it is essential to establish the focus and frame of reference for PD in which the expected outcome of PD needs to be spelled out.
- PD needs to result in analysis, reflection, planning, diagnosis and organisational 'development' and also address the day-to-day needs of the organisation like preparation of an organisational document on its history and programmes.
- Having an organisational framework in mind helps in the systematic identification of processes. This facilitates identification of processes that could begin from the results/outcomes to leadership, policy formulation, strategies and mission or begin from mission and move on to other areas of organisational framework.
- The key actors' recalling or narrating the experiences, events, happenings and decisions form a large part of data. Structuring these and putting them in a proper perspective results in process identification.
- Analysis needs to focus on both desired and undesired processes but also hint at the causes of processes and patterns.
- The PD process should be defined within a particular time frame. The temporal aspect provides clarity for future use of data that has emerged from the PD process.
- PD essentially enables the organisation to build internal mechanisms for continuous reflection and analysis based on authentic data. It is primarily used for developing appropriate system, structure, perspective and building the institution.

Let us now discuss two more types of documentation, namely, software documentation and documenting a digital event, which have relevance to process documentation.

4.5 SOFTWARE DOCUMENTATION

Software documentation is a form of writing for both print and on-line media that supports the efficient and effective use of software in its intended environment. Software Documentation, as many researchers have shown and as technical writers and software documenters know from their work in the business, contributes significantly to the value of the software product. In this sense the documentation contributes to the user's efficiency in his/her workplace or organisation.

Software documentation has expanded and evolved to take on the challenge of providing useful and practical product information to the users. Whereas documentation once aimed at satisfying the support needs of the experienced users, in the 2000s it aims at making software useful. This means it does not just teach features but supports workplace tasks with step-by-step relevancy or linkage.

In changing from its goal of supporting experts to guiding and teaching beginners and little experienced users, we can look at a number of resource disciplines, including document design, instructional psychology, cognitive psychology, ergonomics and human factors, and traditional rhetoric. These explorations created a large number of design innovations which coupled with technological advances in page design and functionality, have given us the exciting world of single-sourced documents (on-line documents with dynamically generated content and adaptive interfaces) and embedded help-files (documents that present information at the point of need through features of the software interface).

But, of all the innovations including the rapid rise of computer and software technology during the 1980s and 1990s, task orientation has provided the most dependable and useful tool for manual design. Task orientation is an approach to software documentation that presents information in chronological order based on the user's workplace sequence. Task orientation encourages the successful application of software to workplace objectives. Other terms used for task orientation include how-to, step-by-step, procedures, walk-throughs, and tutorials. This approach to documentation is shown in a variety of print and on-line forms: tutorials, "getting started" booklets, instruction-steps, job performance aids, and on-line help procedures.

A good document should encourage users to learn the programme (proficiency) and encourage users to apply the programme to problems in the workplace (efficiency). A number of things determine the success of software documentation. The overriding principle is: Make the software usable. A manual that does this adapts the software to the user's job, rather than making the user adapt to the software.

Check Your Progress

Notes: a) Space given below the question is for writing your answer.

b) Check your answer with the one given at the end of this unit under "Answers to Check Your Progress".

3) Write a note on software documentation.

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As the morning of 11 September 2001 unfolded, the media looked at history to provide a sensible reference point for the shocking events it presented to the public. In the heat of the moment, it became all too common to compare the attacks of 11 September 2001 with the attack on Pearl Harbor of 7 December 1941. For a few years, this comparison remained commonplace in both media and popular circles.

The comparison has, however, come under some scrutiny by the community of historians. Among other things, historians point out differences in the nature of the targeted communities, in public response to the events, in the relationship between the attacker and the attacked, and in the broader cultural and geopolitical circumstances in which the two events were situated. Yet, even putting substantive debates aside, it must be admitted that from the historian's perspective there are important practical differences between Pearl Harbour and 9/11 - differences that speak to the nature of sources.

The historical record of 1941 consists almost entirely of paper – government reports, letters from home, photographic prints and newspaper headlines. Not so in 2001 – September 11 was not only the first major event of the twenty-first century, it was also the first major event of the Internet age. For the first time, people experienced a major historical event as it unfolded on their computers – both at work and in classrooms. Much of the record of 11 September 2001 sits on our hard drives and servers – in documents, e-mails, voice mails, digital images, and web sites. Without a concerted effort by historians and archivists, these fragile materials will surely be lost - even at the touch of a delete key. The September 11 Digital Archive is working to prevent that loss. Organised by the American Social History Project at the City University of New York and the Centre for History and New Media at George Mason University with funding by a major grant from the Alfred P. Sloan Foundation, the September 11 Digital Archive uses electronic media to collect, preserve, and present the history of the 11 September 2001 attacks and the public responses to them. In particular, the Archive collected stories, e-mails, digital images and other “born-digital” materials relating to the attacks of September 11.

Additionally, the Archive has organised and annotated the most important web-based September 11 resources and developed online materials to contextualize and teach about the events. The Archive has become the premier resting place for the vast digital record precipitated by September 11.

Launched on 11 March 2002, the Archive's first year saw remarkable success. Over 25,000 e-mails, 10,000 first hand stories and 5,000 digital images have been preserved and permanently archived. A wide-ranging series of partnerships have been formed with other institutions, including the Museum of the City of New York, National Public Radio's Sonic Memorial, and the Library of Congress. The Archive is especially pleased to have been selected as the Smithsonian Institution's designated repository for digital materials relating to September 11 and its special exhibition, “Bearing Witness September 11 Digital Archive” apart from other historical repositories, included the large number of spontaneous grassroots contributions, personal stories of September 11, and pieces of digital artwork. Unlike traditional “brick and mortar” archives, there are no physical

limits to the size of the September 11 Digital Archive's collection. If it needs to be expanded, more disk space to be added. This means that no digital object is too trivial for the archive to accept.

Another set of things is the large number of e-mails and instant messages that were written during the moments of the attacks. For instance, the Archive contains a series of Blackberry wireless e-mail messages written by people escaping from the World Trade Centre. Of course, the substance of these e-mails is moving and fascinating. Unlike Pearl Harbour and other earlier events, witnesses to September 11 connected the people to the news and to each other in real time. In these exchanges, we saw the events as they unfolded and the immediate responses of those involved.

Through continuing efforts to collect the digital record of September 11, the Archive has insured that future historians do not fail to understand all experiences of that monumental day.

Check Your Progress

Notes: a) Space given below the question is for writing your answer.

b) Check your answer with the one given at the end of this unit under "Answers to Check Your Progress".

4) What are the salient features of a digital document?

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4.7 LET US SUM UP

In this unit, we have discussed process documentation with an emphasis on its methods and tools and process narratives and flow charts. We have highlighted software documentation and documenting a digital event. We have learnt how Process Documentation (PD) is an important part of documentation, which not only provides insights into the programmes and strategies, but also builds the capacities of the organisation. It is equally useful in an adult learning setup, where an adult educator can develop systematic process documentation by following different methods and tools mentioned in Unit 4. As an adult educator,

you need to understand a process along with its key roles and responsibilities. Through process documentation, you can create a database of implementing strategies used at different phases of an adult education programme; its salient features, goals, etc.; budgetary provisions, important events and internal inventories during the process of implementation. It can reduce the dropout rate and back-log tendencies existing in any adult education setup as it would provide an insight to future adult educators and would be a substantive measure to reduce flaws and improve quality, efficiency and learner's satisfaction. Similarly, as an adult educator, you will be able to document and create a list of important e-mails to send instant messages. You can also develop success stories of adult learners to provide motivation in other learners. But, it is also important for you to carry out a continuous process of documentation for analysing the programme and its achievements. In case of transfer or some other causes, if an adult educator has to change duty then the new person taking charge from him/her will not face difficulty in assessing the activities at the ALS, if he has carried out the process documentation in an efficient manner.

4.8 ANSWERS TO CHECK YOUR PROGRESS

- 1) i) PD in an adult education setup is a process of collection of authentic data about recurring phenomena on an ongoing basis to provide insights into programmes, implementing strategies and organisation development mechanisms.
- ii) The basic aim of process documentation (PD) is to learn from implementation experience and in the light of it modify the strategy and ultimately, policy of a programme, project or organisation. Documentation of processes helps in creating systematic information to articulate the intervention strategies and to develop the flow chart of a programme. This helps the project or organisation to find out more about the needed field intervention methods, coordination, management requirements, financial management and human resource development policies. Not only the project conducting process documentation takes benefit from this but also other similar projects and agencies can use the outcome as a model in their formulation and implementation methods.
- 2) i) Documenting an understanding of a process, related controls, and key roles and responsibilities can be achieved through process narratives and flow charts. Both of these documentation techniques assist internal audit teams and those responsible for the processes to obtain a common understanding of a process.
- ii) Proactively managing the processes can help an organisation to achieve the following benefits.
 - Eliminate flaws.
 - Reduce the time spent on specific tasks.
 - Decrease costs.
 - Decrease resources associated with any task.
 - Improve efficiency.
 - Improve overall quality.
 - Increase customer and employee satisfaction.

- 3) Software documentation enhances the user's efficiency in the workplace by providing useful and practical product information to the users and supporting workplace tasks with step-by-step relevancy. Task orientation is an approach to software documentation that presents information in chronological order based on the user's workplace sequence and encourages the successful application of software to workplace objectives. A good document should encourage users to learn the programme (proficiency) and encourage users to apply the programme to problems in the workplace (efficiency).
- 4) Document of a digital event in the form of e-mails, voice mails, digital images, and web sites is stored on the hard drives and servers. Hence, it is so fragile that it can be lost at the touch of a delete key. A digital archive uses electronic media to collect, preserve, and present the history of an event. The digital archive also organizes and annotates the most important web-based resources and develops online materials to contextualize and teach about the events. There are no physical limits to the size of the Digital Archive's collection as more disk space can be added at will. Witnesses to digital events connect to the news and to each other in real time.

4.9 REFERENCES

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