ICT for Library and Information professionals
A Training Package for Developing Countries

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McGill University, Canada

Module 2

Introduction to Integrated Library Systems

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UNESCO Bangkok
Thailand 2001

David, Lourdes T.
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1. Library automation 2. Integrated Library Systems 3. Library Management Systems 1. Title.

Teacher's Guide

Module 2. Introduction to Integrated Library Systems

Introductory note

This is Module 2 of the *ICT for Library and Information Professionals (ICTLIP) Training Package for Developing Countries*. This Package is intended to provide knowledge and skills dealing with the application of ICT to library and information services. It is meant for library and information personnel who may become trainers in the area. The Package has been developed by the UNESCO Asia & Pacific Regional Office with funding from the Japanese Fund in Trust for Communication and Information. It contains six modules:

Module 1 - Introduction to Information and Communication Technologies
Module 2 - Introduction to Integrated Library Systems
Module 3 - Information Seeking in an Electronic Environment
Module 4 - Database Design, and Information Storage and Retrieval
Module 5 - The Internet as an Information Resource
Module 6 - Web Page Concept and Design: Getting a Web Page Up and Running

Note: The content of Module 1 must be understood by all students (either by students as a pre-requisite completing Module 1, or as a result of prior knowledge of ICT) before they proceed with the remaining five modules in the *ICTLIP Training Package*.

All the modules have a Teacher's Guide and a Student's Guide. The Student's Guide maybe copied by the students in electronic format. The Teacher's Guide should not be distributed to the students.

The Teacher's Guide includes the following:

- Module Introduction
  - Introductory note
  - Learning outcomes
  - General guidelines for the teachers
  - Course outline
  - Learning environment
  - Duration
  - Course content and schedule
  - Course evaluation
  - Selection criteria for participants
  - Typographical conventions
- Lessons
  - PowerPoint slides
  - Teaching tips
  - Activities

  - References and recommended further reading
- Glossary
- Evaluation forms

The Student's Guide contains the following:
- Module Introduction
  - Introductory note
  - Learning outcomes
  - Course outline
  - Learning environment
  - Duration
  - Course content and schedule
  - Typographical conventions
- Handouts: Lessons 1-7
- Glossary
- Activities
- List of references

Learning outcomes:

Module 2 focuses on the selection and use of an integrated library system in processing and managing information and automating library tasks.

By the end of the course, students should be able to:
1. Define and set the scope of library automation
2. Conduct and apply systems analysis
3. Plan for an integrated library system
4. Evaluate integrated library systems
5. Implement an integrated library system project
6. Be acquainted with existing automated library/information systems / networks in the region

General guidelines

1. Speak slowly and clearly to ensure that students can follow you – this is especially important if some or all the students do not have as their first language the language in which you are instructing.
2. Do not read your lecture noted verbatim – this is a sure way of losing your students' attention.
3. Always show an interest in what you are teaching – if you do not seem interested in the content, why should the students be interested.
4. The Modules have been carefully planned, with exercises and discussions as well as lectures. Try to follow the schedule as set out in the Module.
5. Try to use examples as often as possible to explain concepts. If the examples are taken from the students' own countries or regions, so much the better.

6. Try to keep within the daily timetable recommended for the Module – if you get behind in one lesson it may be difficult to make up time in a later lesson. Avoid extending the class beyond the time period allotted.
7. Be prepared to use back-up materials if for any reason the computer will not function during a lesson.
8. Try to answer all questions from students positively – never make students feel stupid for having asked a question, or they may never ask another question again. But if you do not know the answer to a question, it is better to admit it than to try and bluff.
9. Make sure that all equipment needed for a lesson is working properly before the lesson begins – things can often go wrong!
10. Be ready to stay behind for a few minutes after each lesson to answer questions that students may have but that they did not wish to ask in class.
11. The evaluation of the Module by the students is meant to help you improve your teaching and should be seen in this light rather than as a criticism of yourself. Make use of it to do an even better job next time.

Course Outline

Lesson 1. What are library management systems?

Scope

- What is a library management system?
- What is library automation?
- What is an integrated library system?
- What are the general features and functional modules of an integrated library system?
- What library automation standards are supported by most systems?
- What is the status of libraries in the Asian region?

Objectives

By the end of the lesson students should be able to:

- Define library management system, library automation, and integrated library system
- Describe the general features and basic functional modules of an integrated library system
- Define the role of standards in library automation and resource sharing
- Recognize the importance of a bibliographic record in machine-readable format
- Be aware of the situation of libraries in the Asian region concerning integrated library systems.

Lesson 2. How do you determine your automation requirements?

Scope

- What is a vision?
- Why do you have to conduct a systems study and system analysis?

- How do you determine the library's system requirements?
- What is a technology plan?
- How do you write a project proposal?

Objectives

By the end of this lesson, students should be able to:
- Develop a library vision statement
- Assess the library's status and needs through systems study and systems analysis
- Determine the systems requirements based on the vision statement and status of the library
- Prepare a technology plan
- Write a project proposal

Lesson 3. How do you evaluate integrated library systems?

Scope

- What ILS packages are available?
- Why is it necessary to conduct an evaluation of integrated library systems?
- What are the steps in evaluating ILS?
- What questions should be asked when evaluating integrated library systems?

Objectives

By the end of the lesson students should be able to:
- Describe ILS packages and their features and functions
- Realize the importance of matching library needs and the existing ICT environment with the features and functions of the ILS
- Be aware of the ILS selection process for the automation of library operations
- Evaluate integrated library systems

Lesson 4. What is a request for proposal (RFP)?

Scope

- What is an RFP?
- What are the components of an RFP?
- What are the steps in the RFP process?
- How do you create the criteria in evaluating proposals?
- Why is creating a timeframe a very important step?

Objectives

By the end of the lesson students should be able to:
- Define what is a Request for Proposal (RFP)

- Identify the components of an RFP
- Develop an RFP
- Describe the RFP process
- Develop criteria for evaluating proposals
- Evaluate submitted proposals

Lesson 5. How do you implement an integrated library system?

Scope

- What implementation strategies should be designed before the purchase of a system?
- What is data conversion?
- What is the importance of allocating resources?
- What factors must be considered in purchasing hardware?
- Why is setting a timetable important?
- What is the impact of ILS on the library, on its staff and users?
- What are the difficulties in implementing an integrated library system?

Objectives

By the end of the lesson students should be able to:
- Design implementation strategies
- Plan for data conversion and making the catalog available
- Set a timetable of activities
- Appreciate the importance of strategic planning
- Realize the impact of ILS on the library, on its staff and users
- Identify the benefits and difficulties of using ILS

Learning Environment

The training room must have the facilities and technical support required to carry out the course. It should have computers with CD-ROM drives and online access to the Internet and other resources such as OPACs and CD-ROM databases. The Module should be conducted by a teacher who is knowledgeable and skilled in using computers, the Internet, CD-ROMs and a variety of electronic resources, and who is skilled in teaching courses of this nature.

Duration

The Module is designed for a one-week course of 40 hours: eight hours per day for five days.

Course content and schedule

Day and time	**Course content**
Day 1	Lesson 1. What are library management systems?
Day 2	Lesson 2. How do you determine your automation requirements?

Day 3	Lesson 3. How do you evaluate integrated library systems?
Day 4	Lesson 4. How do you prepare a request for proposal?
Day 5	Lesson 5. How do you implement an integrated library system?

Selection criteria for participants (participants profile)

Participants should be working in a library or information center, or in a school of library and information science. Participants with a degree in library and information science are preferred. Participants should normally have:

- A degree in library and information science or at least five years' experience working in a library
- A working knowledge of English
- A working knowledge of using computers in a Windows environment

Course evaluation

At the end of the course, ask your students to evaluate the course. The evaluation forms are included in this guide.

Typographical conventions

Note

General note to the teacher and additional information

Tip

Teaching tips and supplemental materials

Activity

Activity for the students

Reference

Reference and further reading materials

Glossary

Glossary of terms used in the module

Lesson 1

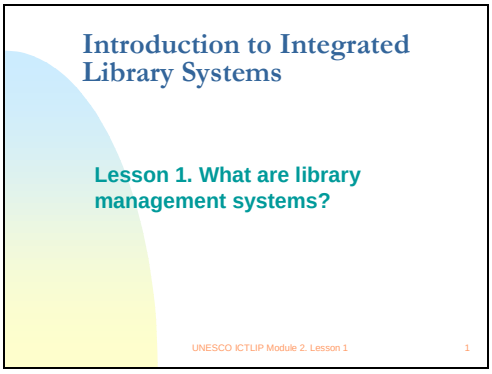
What are library management systems?

Teacher's Guide

Module 2. Introduction to Integrated Library Systems

Lesson 1. What are library management systems?

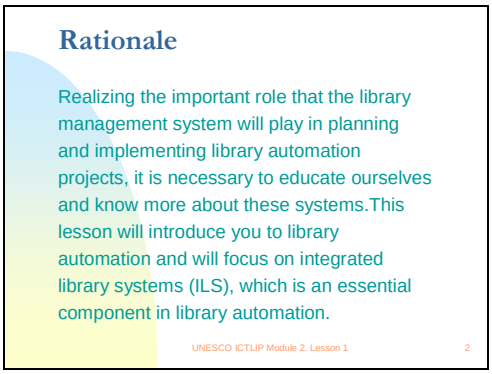
Slide 1



Note

This lesson will introduce the students to library automation in general and will focus on integrated library systems.

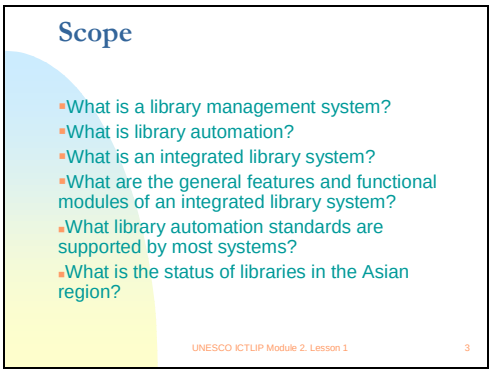
Slide 2



Rationale

Realizing the important role that the library management system will play in planning and implementing library automation projects, it is necessary to educate ourselves and know more about these systems. This lesson will introduce you to library automation and will focus on integrated library systems (ILS), which is an essential component in library automation.

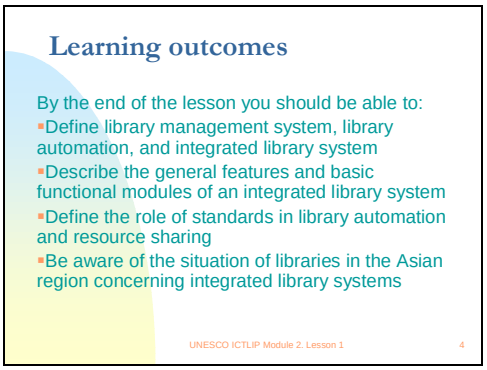
Slide 3



Scope

1. What is a library management system?
2. What is library automation?
3. What is an integrated library system?
4. What are the general features and functional modules of an integrated library system?
5. What library automation standards are supported by most systems?
6. What is the status of libraries in the Asian region?

Slide 4

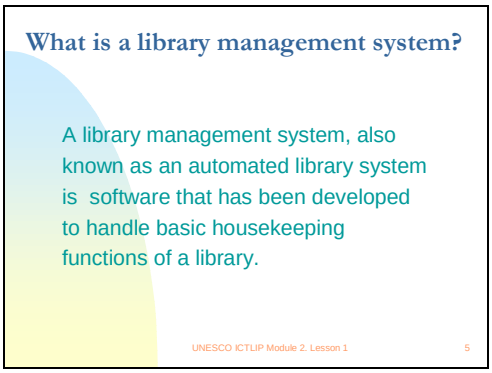


Learning outcomes

By the end of the lesson the students should be able to:

1. Define library management system, library automation, and integrated library system
2. Describe the general features and basic functional modules of an integrated library system
3. Define the role of standards in library automation and resource sharing
4. Recognize the importance of a bibliographic record in machine-readable format
5. Be aware of the situation of libraries in the Asian region concerning integrated library systems.

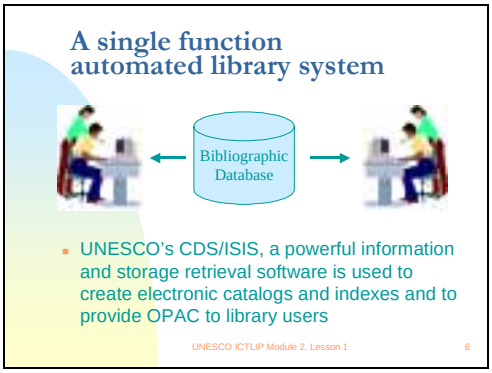
Slide 5



What is a library management system?

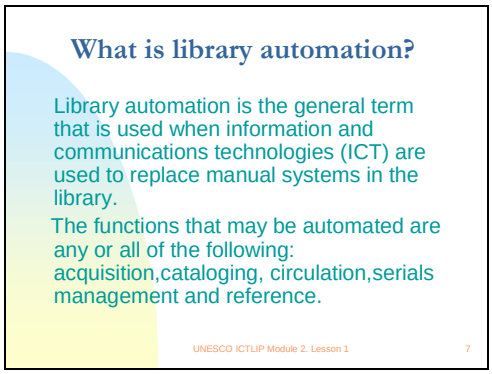
A library management system, also known as an automated library system, is software that has been developed to handle basic housekeeping functions of a library. The software may be focused on one library system only (see slide 6) or may be capable of integrating two or more basic functions (see slide 9).

Slide 6



UNESCO's CDS/ISIS, for example, is a powerful information storage and retrieval software. It is used by libraries all over Southeast Asia to create electronic catalogs and indexes and to provide OPACs for library users.

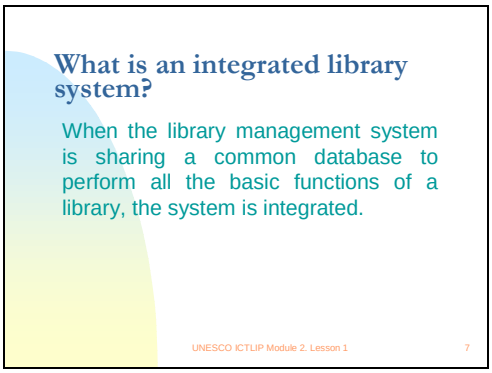
Slide 7



What is library automation?

Library automation is the general term that is used when information communications technologies (ICT) are used to replace manual systems in the library. The application of ICT may be to a single function only as in the creation of an electronic catalog or index or to all subsystems in the library. The system may or may not be integrated and may or may not be applied on a local area network. The functions that may be automated are any or all of the following: circulation, cataloging, acquisition, serials management, and reference.

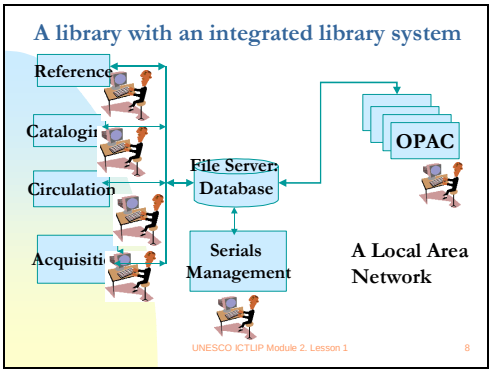
Slide 8



What is an integrated library system?

When the library management system is sharing a common database to perform all the basic functions of a library, the system is integrated. An integrated library system enables the library to link circulation activities with cataloging, serials management etc. at any given time. It makes use of a file server and clients in a local area network. (see slide 9). Most of the library management systems have the following modules: cataloging and OPAC, circulation, acquisitions, serials management and interlibrary loan module (ILL).

Slide 9



Tip

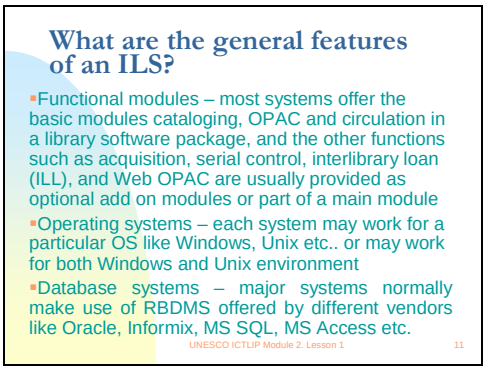
Read this article - ERIC Digests: Integrated Library Systems. ERIC Digest. http://www.ed.gov/databases/ERIC_Digests/ed381179.html

Activity 1-1

Ask the students to access the following sites to know more about the integrated library systems available on the market.

1. AcqWeb's Guide to Automated Library Systems, Library Software, Hardware and Consulting Companies
http://acqweb.library.vanderbilt.edu/acqweb/pubr/opac.html
2. Integrated Library System Reports: Vendors info.
http://www.ilsr.com/search2.cfm

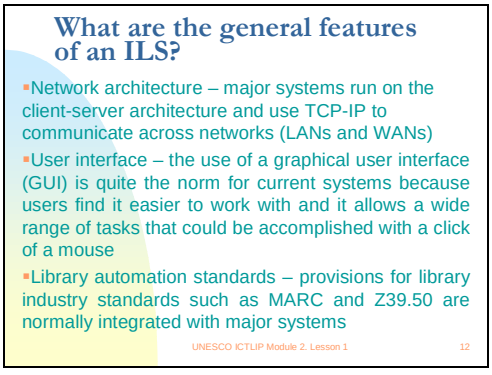
Slide 11



What are the general features of an ILS?

- Functional modules – most systems offer the basic modules cataloging, OPAC and circulation in a library software package, and the other functions such as acquisition, serials control, interlibrary loan (ILL), and Web OPAC are usually provided as optional add on modules or part of a main module.
- Operating systems – each system may work for a particular OS like Windows, Unix etc... or may work for both Windows and Unix environment.
- Database systems – major systems normally make use of RBDMS offered by different vendors like Oracle, Informix, MS SQL, MS Access etc.

Slide 12

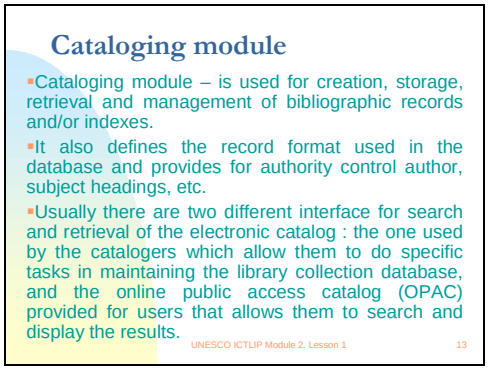


What are the general features of an ILS?

- Network architecture – major systems run on the client-server architecture and use TCP-IP to communicate across networks (LANs and WANs).

- User interface – the use of a graphical user interface (GUI) is quite the norm for current systems because users find it easier to work with and it allows a wide range of tasks that could be accomplished with a click of a mouse.
- Library automation standards – provisions for library industry standards such as MARC and Z39.50 are normally integrated with major systems.

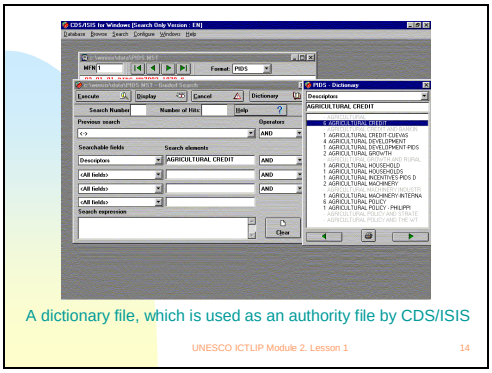
Slide 13



Cataloging module

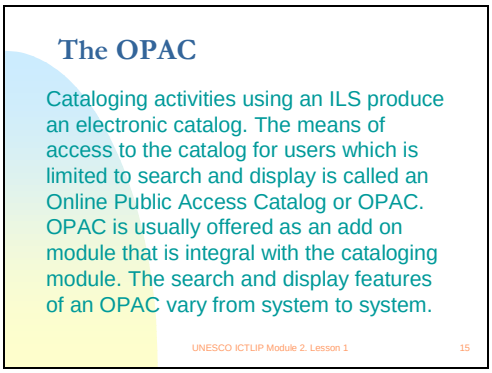
- Cataloging module – is used for creation, storage, retrieval and management of bibliographic records and/or indexes.
- It also defines the record format used in the database and provides for authority control author, subject headings, etc.
- Usually there are two different interface for search and retrieval of the electronic catalog: the one used by the catalogers which allow them to do specific tasks (w the main cataloging module) in maintaining the library collection database, and the online public access catalog (OPAC) provided for users that allows them to search and display the results.

Slide 14



Cataloguing modules usually have some form of authority lists for authors. Other systems even have a subject headings list for ease of assigning subjects to items. Slide 14 is an illustration of a dictionary file, which is used as an authority file by CDS/ISIS.

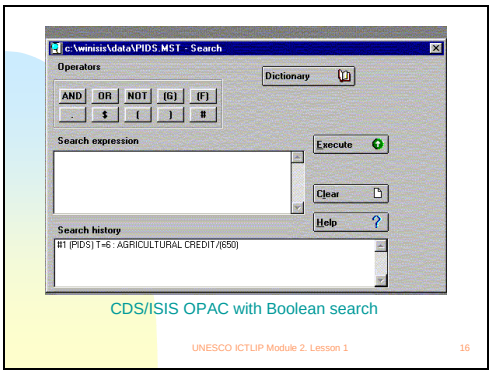
Slide 15



The OPAC module

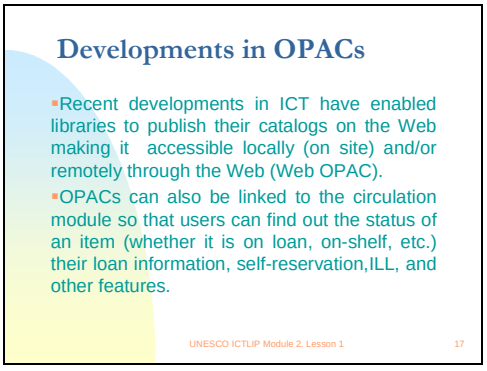
Cataloging activities using an ILS produce an electronic catalog. The means of access to the catalog for users, which is limited to search and display, is called an Online Public Access Catalog or OPAC. OPAC is usually offered as an add on module that is integral with the cataloging module. The search and display features of an OPAC vary from system to system.

Slide 16



OPACs also allow for Boolean searching to enable the user to make use of combinations of terms to make the search more specific.

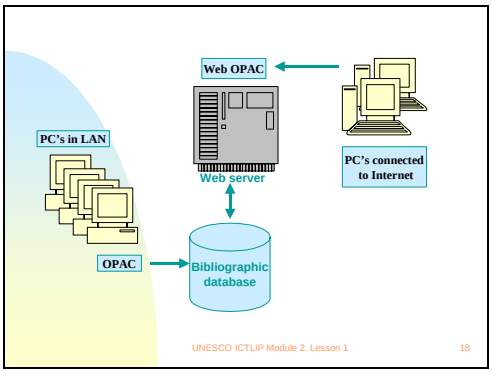
Slide 17



Recent developments in ICT have enabled libraries to publish their catalogs on the Web making it accessible locally (on site) and/or remotely through the Web (Web OPAC) see

slide 17). OPACs can also be linked to the circulation module so that users can find out the status of an item (whether it is on loan, on-shelf, etc.) their loan information, self-reservation, ILL, and other features.

Slide 18



Activity 1-2

Ask the students to view some OPACS on the Web by visiting the home pages of some academic libraries. Click on their link to the library catalog.

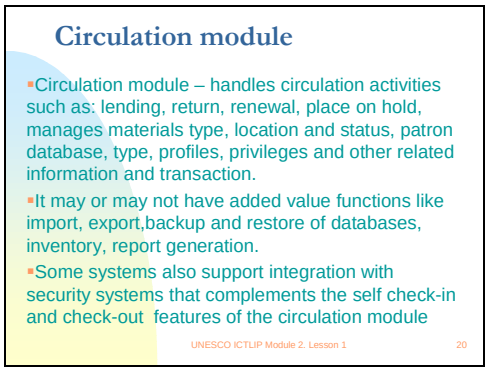
Tip

The Library of Congress Z39.50 gateway provides access to Library of Congress catalogs, and catalogs of major universities and other institutions. You can also go to the vendor Web sites and search for an online demo of their OPAC / Web OPAC.

Library of Congress Z39.50 Gateway to Library Catalogs
http://lcweb.loc.gov/z3950/gateway.html

AcqWeb's Guide to Automated Library Systems, Library Software, Hardware and Consulting Companies
http://acqweb.library.vanderbilt.edu/acqweb/pubr/opac.html

Slide 20



Circulation module

- Circulation module – handles circulation activities such as: lending, return, renewal, place on hold, manages materials type, location and status, patron database, type, profiles, privileges and other related information and transaction.
- It may or may not have added value functions like import, export, backup and restore of databases, inventory, report generation.
- Some systems also support integration with security systems that complements the self-check-in and check-out features of the circulation module.

A circulation module makes use of only two sets of numbers to record a transaction: the item number (barcode number, accession number) and the user number (student, faculty number, user ID number). A program can be easily written for such a transaction. In practice, however, the circulation module is linked to the bibliographic database so that the description of the item can be displayed and the OPAC can also display the status of the item, whether it is on the shelf or on loan to a borrower.

More sophisticated systems are linked to security systems with self-check-out and check-in system which is a self-service system for borrowing and returning materials. To borrow books the borrower simply goes to the loans terminal and inserts a borrower's card. The system then asks for the borrower's pin, and once recognized as a library member, the system then asks the borrower to place the book on the terminal so that it can scan the book's barcode. After the terminal has read the barcode, the loan is processed and the security strip is demagnetized so that the borrower can take the book out without alerting the security system.

Returning books is an easier procedure. Only the barcode of the book needs to be scanned by the returns terminal. The computer processes the transaction immediately after scanning the barcode and deletes the loan formerly issued to the borrower.

Most of the commercial library management systems available on the market offered by several vendors are integrated library systems that have at least a cataloging with OPAC module integrated with the circulation module. In some software packages these modules can be bought separately but later on could be integrated with each other. You would need at least these modules to automate the collection development and management of library materials, access to the library catalog, and circulation functions of your library.

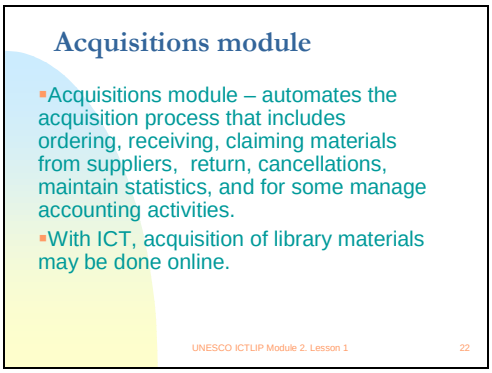
Activity 1-3

Read the materials on security systems in libraries on these sites:

http://www.checkpointsystems.com/library/index.asp

http://www.3m.com/market/security/library/prod_info.jhtm

Slide 22



Acquisitions module

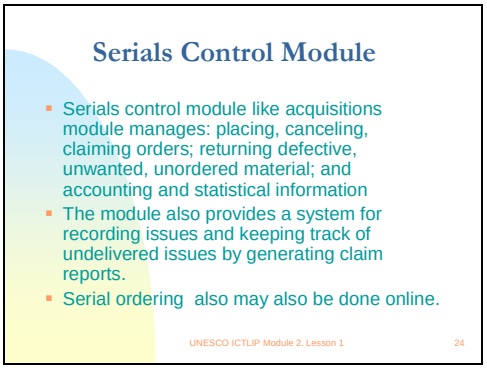
Acquisitions module – automates the acquisition process that includes ordering, receiving, claiming materials from suppliers, return, cancellations, maintain statistics, and for some manage accounting activities. With ICT, acquisition of library materials may be done online.

The acquisitions module enables the librarian to create records of items to be ordered and to print out order slips in cases where the order must be transacted by ordinary mail. Recent developments have provided electronic means of ordering items and paying for them. A lot of information is now available on the Web about online ordering of books and other materials. The module may also supply accounting information relating to acquisitions activities.

Activity 1-4

Visit the amazon.com on the Internet at http://www.amazon.com
Find out how materials can be ordered and paid for online

Slide 24



Serials control module

- Serials control module like acquisitions module manages: placing, canceling, claiming orders; returning defective, unwanted, unordered material; and accounting and statistical information

- The module also provides a system for recording issues and keeping track of undelivered issues by generating claim reports.
- Serial ordering also may also be done online.

Not all integrated library systems have this module. Large libraries with large serials subscriptions require the serials control module because it provides them with a more efficient means of managing serials. The system usually alerts the library when claims have to be made. It also enables the library to automatically record arrivals through the barcode attached to the serial.

Activity 1-5

Visit the home page of subscription agents that provide access and subscription to electronic journals and find out how IT provides online services to patrons.

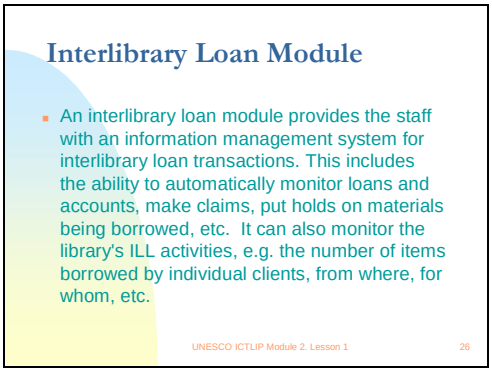
1. EBSCO Online
http://www.ebsco.com/ess/services/online.stm
2. Swets & Zeitlinger Swetsnet
http://www.swetsnet.com

Tip

Read:
McKay, Sharon C. Accessing Electronic Journals
http://www.ed.gov/databases/ERIC_Digests/ed381179.html

Harrassowitz. Electronic Journals: A Selected Resource Guide
http://www.harrassowitz.de/top_resources/ejresguide.html

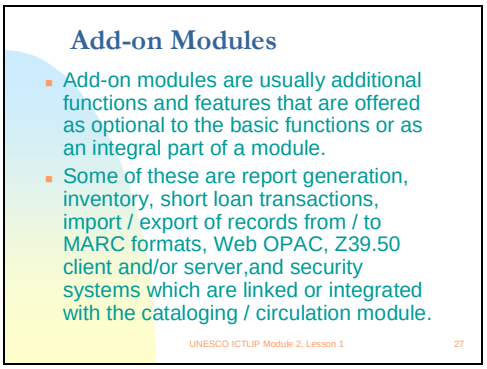
Slide 26



Interlibrary loan module

An interlibrary loan module provides the staff with an information management system for interlibrary loan transactions. This includes the ability to automatically monitor loans and accounts, make claims, put holds on materials being borrowed, etc. It can also monitor the library's ILL activities, e.g. the number of items borrowed by individual clients, from where, for whom, etc. This module is seldom required except by libraries, which have very heavy ILL transactions.

Slide 27



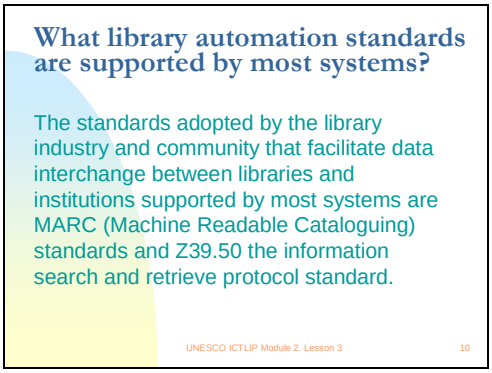
Add-on modules

Add-on modules are usually additional functions and features that are offered as optional to the basic functions or as an integral part of a module. Some of these are report generation, inventory, short loan transactions, import / export of records from / to MARC formats, Web OPAC, Z39.50 client and/or server, and security systems which are linked or integrated with the cataloging / circulation module.

Activity 1-6

1.Choose 5 ILS from those you have visited in activity 1-1.
2.Create a matrix listing down their general features and functional modules.

Slide 28



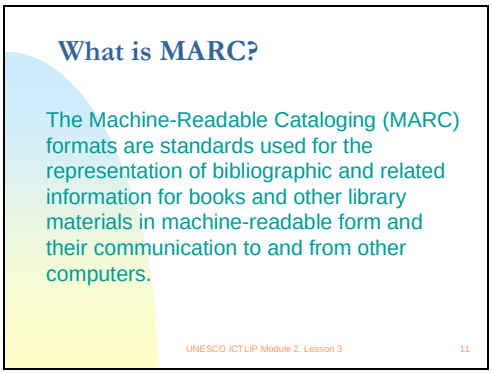
What library automation standards are supported by most systems?

The standards adopted by the library industry and community that facilitate data interchange between libraries and institutions, which are supported by most systems, are MARC (Machine Readable Cataloguing) standards, and Z39.50 the information search and retrieve protocol standard.

Integrated library systems that adhere to the MARC and Z39.50 standard allow for copy cataloging, import of MARC records from external sources, and export to other systems. MARC records may be acquired online by accessing Z39.50 enabled databases using Z39.50 clients, or via the Web through Z39.50 gateways like the one maintained by the Library of

Congress. MARC records can also be imported from CD-ROM resource databases offered by system vendors. Provisions for exporting MARC records allow transfer of data or migration from one system to another. Some systems may have non-MARC internal formats but they can import and export MARC records.

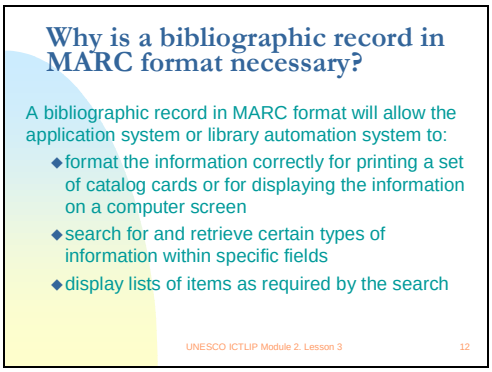
Slide 29



What is MARC?

The Machine-Readable Cataloging (MARC) formats are standards for: the representation of bibliographic and related information for books and other library materials in machine-readable form and their communication to and from other computers. Machine-readable cataloging means that the catalog record produced could be read and interpreted by a computer. The record in MARC format is called a MARC record.

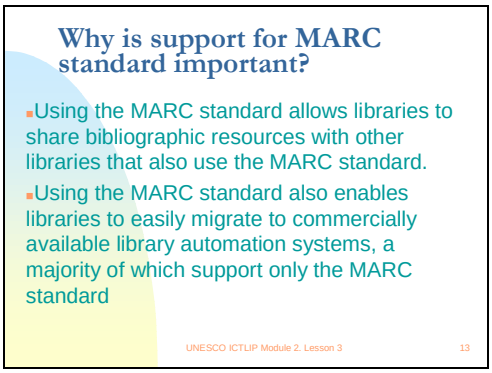
Slide 30



Why is a bibliographic record in MARC format necessary?

Can't a computer just read a catalog card? The computer needs a means of interpreting the information found on a cataloging record. The machine readable record provides the computer with information for every piece of bibliographic information to guide it in reading and interpreting the record. If a bibliographic record has been correctly tagged and encoded into a computer, the application system or library automation system can: format the information correctly for printing a set of catalog cards, or for displaying the information on a computer screen, search for and retrieve certain types of information within specific fields and display lists of items as required by the search.

Slide 31



Why is support for MARC standard important?

Using the MARC standard allows libraries to share bibliographic resources with other libraries that also use the MARC standard. Using the MARC standard also enables libraries to easily migrate to commercially available library automation systems, a majority of which supports only the MARC standard. Libraries could devise their own method of organizing the bibliographic information in their electronic catalogs but they will not be able to exchange data with other libraries. Libraries using a non-MARC format will be isolated from a majority of libraries that uses the MARC standard.

Activity 3-2

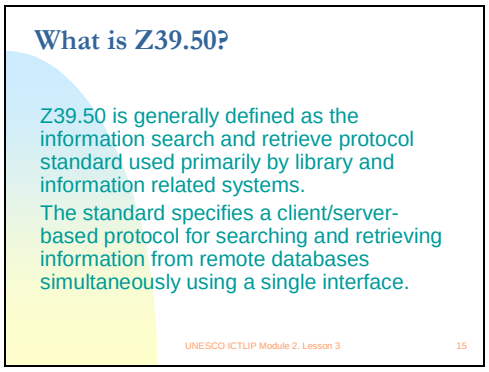
For more information about the MARC standard visit the following sites:

- http://lcweb.loc.gov/marc/marc.html
- http://www.ifla.org/VI/3/p1996-1/unimarc.htm

Note

You must emphasize the need to choose an integrated library system that supports MARC standard to facilitate ease of data exchange between libraries in the Asian region

Slide 32



What is Z39.50?

Z39.50 is generally defined as the information search and retrieve protocol standard used primarily by library and information related systems. The standard specifies a client/server-based protocol for searching and retrieving information from remote databases simultaneously using a single interface. Z39.50 is the standard used by many systems now offering their catalog on the Web. Such library packages also adhere to the MARC record format. MARC is the record format used for data interchange, which by its nature makes possible further processing of searched and retrieved information.

Activity 3-3

Read more about Z39.50 by reading this article:

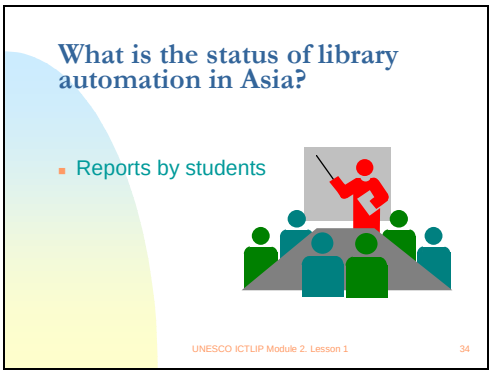
1. Z39.50. Part 1 - An Overview from Biblio Tech Review
   http://www.biblio-tech.com/html/z39_50.html

Tip

The following provides links and pointers to articles on the Web about Z39.50

1. Library of Congress Z39.50 Maintenance Agency Page
   http://www.loc.gov/z3950/agency/
2. NISO Z39.50 Resource Page
   http://www.niso.org/z3950.html

Slide 33



What is the status of library automation and information networking in Asia?

Reports by students about their own libraries and other libraries in their locality / country / in the Asian region.

Note

To know more about the status of library automation in the Asian region, students who are from the region will be asked to report on their libraries' automation status. Wrap it up by summarizing the reports.

Reference

Cohn, John M. and. Kelsey, Ann L and Fiels, Keith Michael. (1992) Planning for automation: a how-to-do-it manual for librarians. New York: Neal-Schuman

Day, Teresa T. et. al. (1994) ed. Automation for school libraries: how to do it from those who have done it. (American Library Association)

Swan, James. (1996) Automating Small Libraries. Ft. Atkinson, Wis.: Highsmith Press.

Electronic Resources

3M.com Online. URL:
http://www.3m.com/market/security/library/prod_info.jhtm

Amazon.com Online. URL: http://www.amazon.com

AcqWeb's Guide to Automated Library Systems, Library Software, Hardware and Consulting Companies Online. URL:
http://acqweb.library.vanderbilt.edu/acqweb/pubr/opac.html

Checkpoint Systems, Inc. Online. URL:
http://www.checkpointsystems.com/library/index.asp

EBSCO Online. Online. URL: http://www.ebsco.com/ess/services/online.stm

Harrassowitz. Electronic Journals: A Selected Resource Guide. Online. URL:
http://www.harrassowitz.de/top_resources/ejresguide.html

IFLA: Universal Bibliographic Control and International MARC Core Programme. Online. URL:
http://www.ifla.org/VI/3/p1996-1/unimarc.htm

Integrated Library Systems. ERIC Digest. Online. URL:
http://www.ed.gov/databases/ERIC_Digests/ed381179.html

Integrated Library System Reports: Vendors info. Online. URL:
http://www.ilsr.com/search2.cfm

Library of Congress MARC Standards. Online. URL:
http://lcweb.loc.gov/marc/marc.html

Library of Congress Z39.50 Gateway to Library Catalogs. Online. URL:
http://lcweb.loc.gov/z3950/gateway.html

Library of Congress Z39.50 Maintenance Agency Page. Online. URL: http://www.loc.gov/z3950/agency/

McKay, Sharon C. Accessing Electronic Journals. Online. URL: http://www.ed.gov/databases/ERIC_Digests/ed381179.html

NISO Z39.50 Resource Page. Online. URL: http://www.niso.org/z3950.html

Swets & Zeitlinger Swetsnet . Online. URL: http://www.swetsnet.com

Z39.50. Part 1 - An Overview from Biblio Tech Review. Online. URL: http://www.biblio-tech.com/html/z39_50.html

Lesson 2

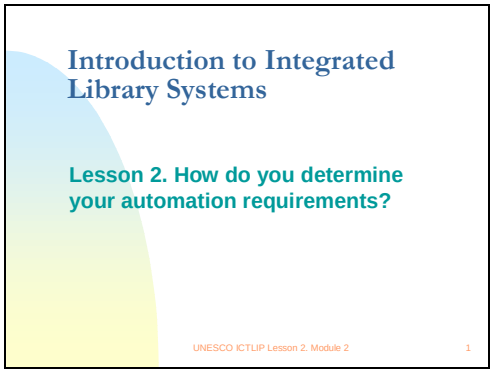
How do you determine your automation requirements?

Teacher's Guide

Module 2. Introduction to Integrated Library Systems

Lesson 2. How do you determine your automation requirements?

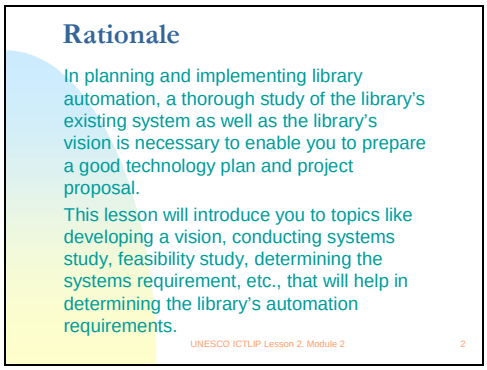
Slide 1



Note

This lesson will introduce the students to strategic and technology planning tools such as creating a vision, systems analysis and design, that are necessary in developing technology plan and in writing project proposals.

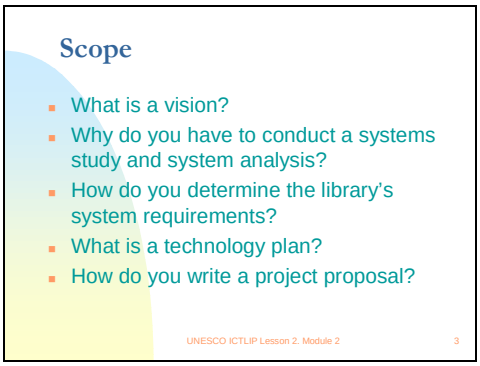
Slide 2



Rationale

In planning and implementing library automation, a thorough study of the library's existing system as well as the library's vision is necessary to enable you to prepare a good technology plan and project proposal. This lesson will introduce you to topics like developing a vision, conducting systems study, feasibility study, determining the systems requirement, etc., that will help in determining the library's automation requirements.

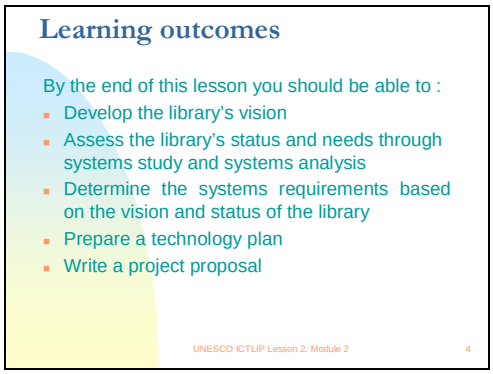
Slide 3



Scope

1. What is a vision?
2. Why do you have to conduct a systems study and system analysis?
3. How do you determine the library's system requirements?
4. What is a technology plan?
5. How do you write a project proposal?

Slide 4

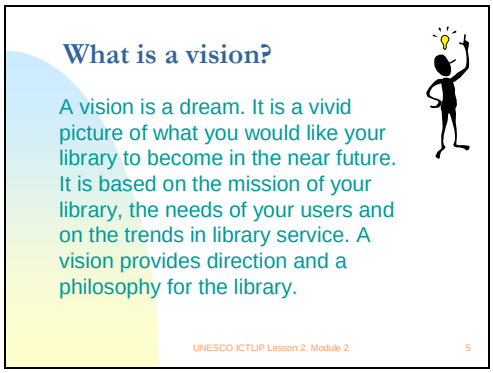


Learning outcomes

By the end of the lesson the students should be able to:

1. Develop the library's vision.
2. Assess the library's status and needs through systems study and systems analysis.
3. Determine the systems requirements based on the vision and status of the library.
4. Prepare a technology plan.
5. Write a project proposal.

Slide 5



What is a vision?

A vision is a dream. It is a vivid picture of what you would like your library to become in the near future. It is based on the mission of your library, the needs of your users and on the trends in library service. A vision provides direction and a philosophy for the library.

Activity 2-1

Look for sample vision statements of libraries on the Internet.
Study how they are formulated and make your own vision statement.

Tip

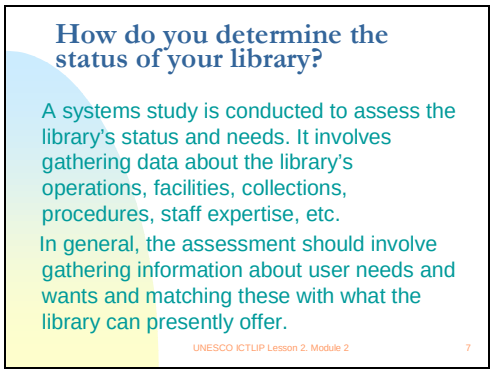
Read the following articles on creating a vision:
Basics of Developing Mission, Vision and Values Statements
Written by Carter McNamara, MBA, PhD
http://www.mapnp.org/library/plan_dec/str_plan/stmnts.htm

National School Boards Foundation. Education Leadership Toolkit. Planning: Creating a Vision. http://www.nsba.org/sbot/toolkit/cav.html

Sample vision statements of libraries:
University of Arizona Library Vision & Mission Statements
http://www.library.arizona.edu/library/teams/list/missvision.htm

Columbus State University Mission & Vision Statements
http://www.colstate.edu/about.asp?page=mission

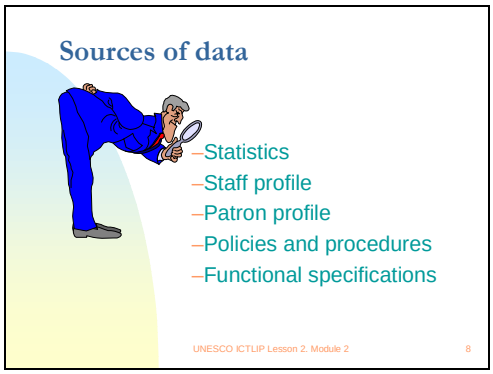
Slide 6



How do you determine the status of your library?

A systems study is conducted to assess the library's status and needs. The aim of a system study is to determine where the library is at present in terms of the vision and to provide input into the systems requirement study. It involves gathering data about the library's operations, facilities, collections, procedures, staff expertise, etc. In general, the assessment should involve gathering information about user needs and wants and matching these with what the library can presently offer.

Slide 7

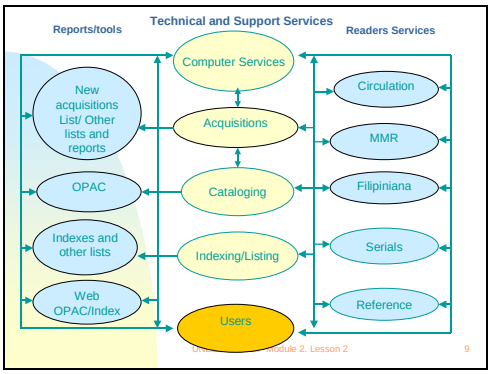


The following data should be collected:

1. Statistics about the collection (Books, non-book). Statistics about the collection will provide information about the number of records that must be included in the database during retroconversion
2. Statistics about acquisitions. This provides a measure of the rate of acquisition. It has impact on the rate of growth of the database
3. Statistics about cataloging. It provides information about the systems requirement for data entry
4. Statistics about serials control. It provides information about the number of titles acquired and maintained
5. Staff profile. Questions such as training needs and recruitment needs will be answered by the information gathered about staff expertise and preparation.
6. Patron profile. The system must be user orientated. The user profile will provide information about user needs

7. Policies and procedures. A review of policies and procedures will bring to light some procedures that are mandatory and should be included in the system
8. Functional specifications. Similar functions in different subsystems must be identified and examined in detail to produce the desired performance from the system

Slide 8

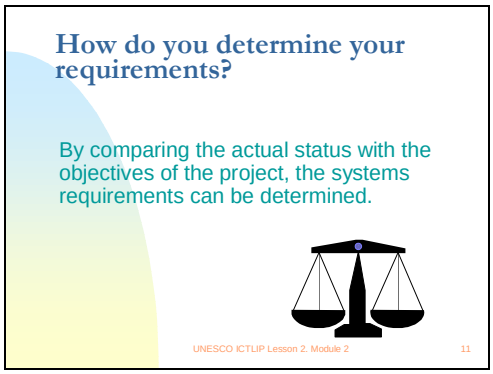


Systems analysis examines all the different components of library service and their interaction with one another.

Activity 2-2

Choose one library subsystem, e.g. cataloging. Study the different aspects of your subsystem and take note of your facilities, your procedures and policies, your problems, etc. Write down your findings.

Slide 9



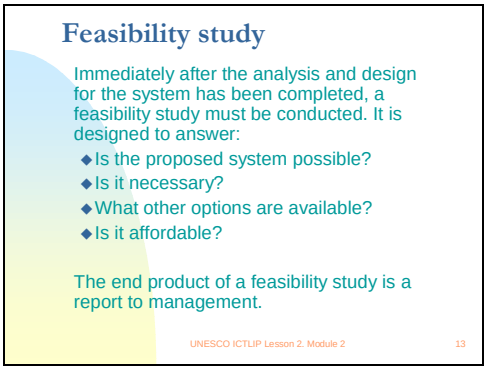
How do you determine your requirements to fill-in the gap between your vision and the actual status of your library?

By comparing the actual status with the objectives of the project, the systems requirements can be determined. After the systems study, formulate your goals and objectives. The system specifications should include data about the nature and number of hardware and network components, and the functional specifications desired from the integrated library system and the learning needs of the staff to acquire the necessary competencies. Questions such as how many computers are required to provide enough OPAC stations to the patrons and what functional specifications will meet user needs must be answered.

Activity 2-3

Examine your card catalog, then answer the following questions:
How are you going to convert your card catalog into an electronic catalog?
What will you need?
What is your target date for completion?
Prepare your specifications for hardware, software and staff based on the objectives for the data conversion.

Slide 10



Feasibility study

Immediately after the analysis and design for the system has been completed, a feasibility study must be conducted. The aim of a feasibility study is to determine if the project is achievable, if the benefits outweigh the disadvantages and to examine alternative solutions. It is designed to answer these questions: Is the proposed system realistic? Is it necessary? What other options are available? Is it affordable? The final output of a feasibility study is a report to be presented to the management.

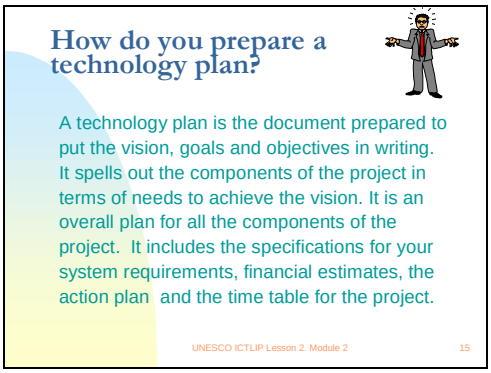
Activity 2-4

Prepare a feasibility study for the data conversion.

- Set a target date
- Determine how much time you will need to convert all your catalog records if you have only one staff doing it.
- Adjust the number of staff, hardware, software, to meet target
- Calculate cost.

Is it feasible?

Slide 11



How do you prepare a technology plan?

A technology plan is the document prepared to put the vision, goals and objectives in writing. It spells out the components of the project in terms of needs to achieve the vision. It is an overall plan for all the components of the project. It includes the specifications for your system requirements, financial estimates, the action plan and the timetable for the project.

Activity 2-5

Prepare a technology plan for the data conversion.
Use the Internet to view some sample plans.

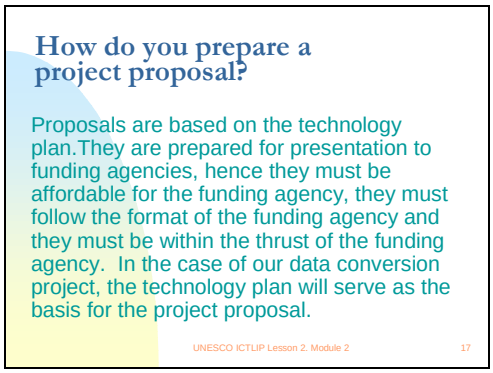
Tip

Read the following articles on preparing technology plan:
Center for Advanced Technology in Education (CATE). University of Oregon College of Education. Responsible Netizen. Technology Planning for Libraries. http://netizen.uoregon.edu/templates/tech_plan_lib.html

Wisconsin Department of Public Instruction. Public Library Department. Library Technology Planning: An Outline of the Process.
http://www.dpi.state.wi.us/dpi/dltcl/pld/planout.html

Integrated Library System Reports. Technology Plans.
http://www.ilsr.com/tech.htm
(Has a list of web sites with links to a number of articles and sample technology plans

Slide 12



How do you prepare a project proposal based on the technology plan?

Proposals are based on the technology plan. They are prepared for presentation to funding agencies; hence they must be affordable for the funding agency, they must follow the format of the funding agency and they must be within the thrust of the funding agency. In the case of our data conversion project, the technology plan will serve as the basis for the project proposal.

Activity 2-6

Look for sample project proposals on the Internet.

Tip

Read the following articles on writing project proposals:
The Foundation Center Learning Lab. A Proposal Writing Short Course Part 1.
http://fdncenter.org/learn/shortcourse/prop1.html

A Proposal Writing Short Course Part 2
http://fdncenter.org/learn/shortcourse/prop2.html

University of Wisconsin Madison. Proposal Writing: Internet Resources.
http://www.library.wisc.edu/libraries/Memorial/grants/proposal.htm

Sample project proposals:
Digital Library Federation. Harvard University Library. Proposal for a Study of Electronic Journal Archiving. Submitted to the Andrew W. Mellon Foundation. October 13, 2000
http://www.diglib.org/preserve/harvardprop.htm

Sea Coast Web Design. 10-Point Plan for Standard Grant Funding Proposal .
Web Access: http://www.npguides.org/grant/index.html
(Grant writing outline also includes sample grant applications and links to grant makers)

Reference

Cohn, John M. and. Kelsey, Ann L and Fiels, Keith Michael. (1992) Planning for automation: a how-to-do-it manual for librarians. New York: Neal-Schuman

Day, Teresa T. et. al. (1994) ed. Automation for school libraries: how to do it from those who have done it. (American Library Association)

Swan, James. (1996) Automating Small Libraries. Ft. Atkinson, Wis.: Highsmith Press.

Electronic Resources

Basics of Developing Mission, Vision and Values Statements
Written by Carter McNamara, MBA, PhD. Online. URL:
http://www.mapnp.org/library/plan_dec/str_plan/stmnts.htm

Columbus State University Mission & Vision Statements. Online. URL:
http://www.colstate.edu/about.asp?page=mission

Center for Advanced Technology in Education (CATE). University of Oregon College of Education. Responsible Netizen. Technology Planning for Libraries. Online. URL:
http://netizen.uoregon.edu/templates/tech_plan_lib.html

Digital Library Federation. Harvard University Library. Proposal for a Study of Electronic Journal Archiving. Submitted to the Andrew W. Mellon Foundation. October 13, 2000. Online. URL:
http://www.diglib.org/preserve/harvardprop.htm

Integrated Library System Reports. Technology Plans. Online. URL:
http://www.ilsr.com/tech.htm

National School Boards Foundation. Education Leadership Toolkit. Planning: Creating a Vision. Online. URL: http://www.nsba.org/sbot/toolkit/cav.html

Sea Coast Web Design. 10-Point Plan for Standard Grant Funding Proposal. Online. URL:
Web Access: http://www.npguides.org/grant/index.html

The Foundation Center Learning Lab. A Proposal Writing Short Course Part 1. Online. URL: http://fdncenter.org/learn/shortcourse/prop1.html

The Foundation Center Learning Lab. A Proposal Writing Short Course Part 2. Online. URL:
http://fdncenter.org/learn/shortcourse/prop2.html

University of Arizona Library Vision & Mission Statements. Online. URL:
http://www.library.arizona.edu/library/teams/list/missvision.htm

University of Wisconsin Madison. Proposal Writing: Internet Resources. Online. URL:
http://www.library.wisc.edu/libraries/Memorial/grants/proposal.htm

Wisconsin Department of Public Instruction. Public Library Department. Library Technology Planning: An Outline of the Process. Online. URL:
http://www.dpi.state.wi.us/dpi/dltcl/pld/planout.html

Lesson 3

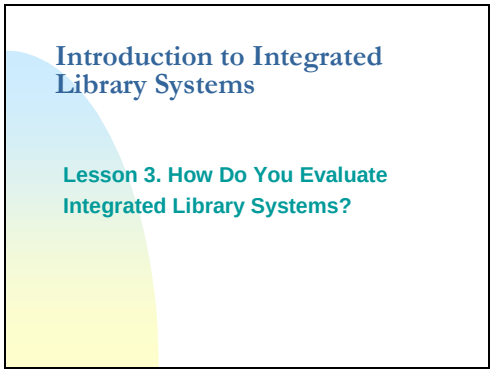
How do you evaluate integrated library systems?

Teacher's Guide

Module 2. Introduction to Integrated Library Systems

Lesson 3. How do you evaluate integrated library systems?

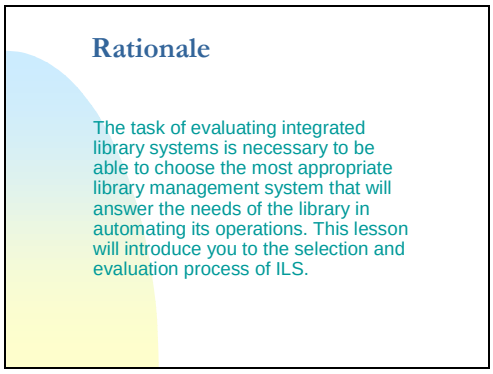
Slide 1



Note

The lesson will help students examine and compare ILS packages. This will help them know what ILS contain and how they can compare their needs with ILS capabilities to be able to produce a short list of products to choose from.

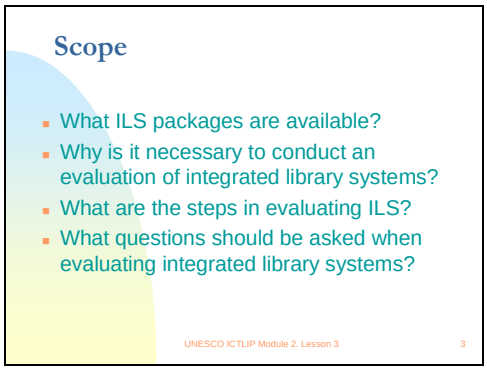
Slide 2



Rationale

The task of evaluating integrated library systems is necessary to be able to choose the most appropriate library management system that will answer the needs of the library in automating its operations. This lesson will introduce you to the selection and evaluation process of ILS.

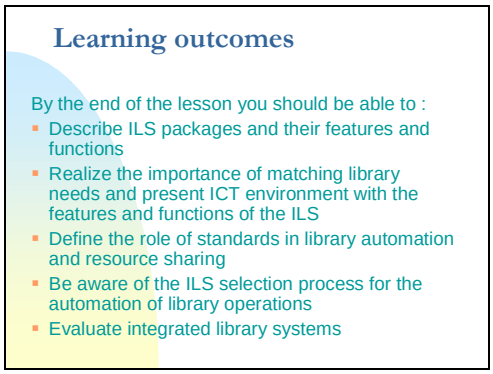
Slide 3



Scope

1. What ILS packages are available?
2. Why is it necessary to conduct an evaluation of integrated library systems?
3. What are the steps in evaluating ILS?
4. What questions should be asked when evaluating integrated library systems?

Slide 4

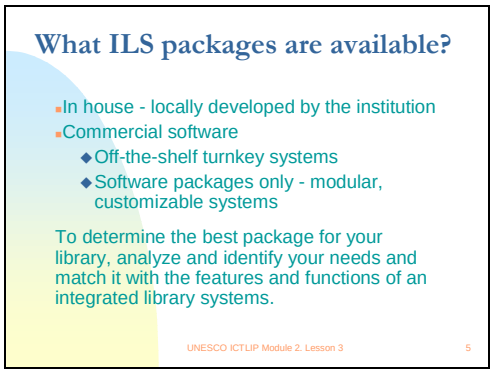


Learning outcomes

By the end of the lesson the students should be able to:

1. Describe ILS packages and their features and functions
2. Realize the importance of matching library needs and present ICT environment with the features and functions of the ILS
3. Be aware of the ILS selection process for the automation of library operations
4. Evaluate integrated library systems

Slide 5

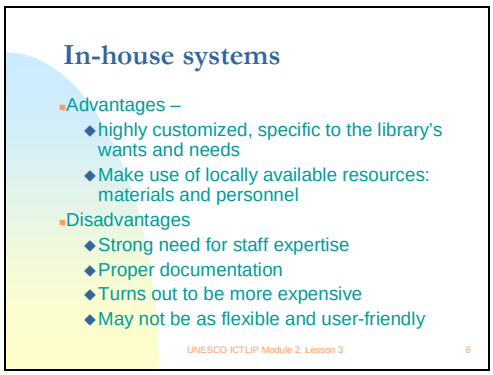


What ILS packages are available?

Generally integrated library systems available today are either in-house or commercially developed software. In house systems are locally developed by the library / institution. Vendors offer commercial software as either off-the-shelf turnkey systems or as software packages only. Turnkey systems provide all-in-one solutions software, hardware, installation and maintenance while software packages only offer modular and often customizable systems.

To determine the best package for your library, analyze and identify your needs and match it with the features and functions of integrated library systems.

Slide 6



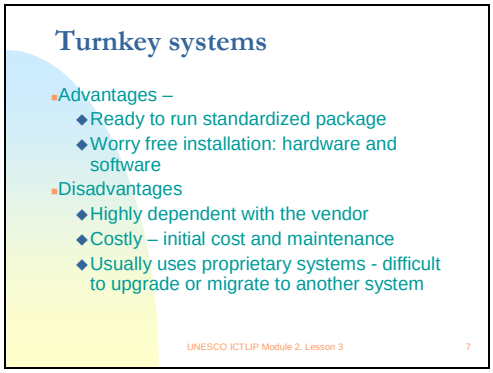
In-house systems

In selecting an ILS package, your institution might recommend an in-house development rather than buying a commercial product. This is also a good option and many institutions make their own packages to suit their individual needs. Moreover it makes use of locally available resources in terms of materials and personnel.

However, there are also disadvantages in doing in-house development. In-house systems require staff expertise in programming and developing software that most libraries do not have. Staff expertise is also needed not only in the development stage but also in the installation, configuration and maintenance of the system. Another common problem is the absence of proper documentation that will provide the programmers, who may have to enhance in the future the system, the necessary information. In-house development also often turns out to be much more

expensive than initially anticipated. Finally, it may be difficult to produce as flexible and user-friendly package as those available commercially.

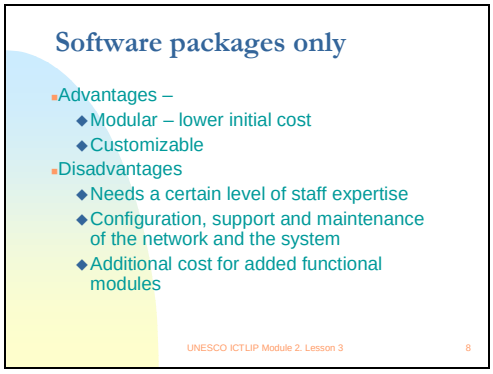
Slide 7



Turnkey systems

The more practical way of acquiring an ILS package is by buying one. The industry is a very mature one and almost every standardized package will fit the particular needs of any library. Ready-made commercial ILS packages are called "off-the shelf", turnkey systems). Turnkey means that: the package is ready to use, data has been converted, and the hardware and network have been installed by the supplier. But it also has its disadvantages. Libraries using turnkey systems often become highly dependent with the vendor since maintenance of the hardware and software provided may be available only from them. In addition these systems are usually costly in terms of initial cost and maintenance. It also usually uses proprietary systems, which make it difficult to upgrade or migrate to another system

Slide 8



Software packages only

You can also buy software-only packages instead of turnkey systems. Most ILS software packages are modular; the package is composed of several functional modules, which can be purchased separately resulting to a lower initial cost. Other modules, optional and/or add on modules can be purchased later on and integrated with the already existing modules. While most systems can be used immediately after installation, many systems need to be customized to suit specific needs. On the other hand, buying software-only packages is more difficult to manage

because you then need staff with the expertise to install, configure, administer and maintain the network and the system. Furthermore, additional features or functional modules entail additional cost.

Tip

Read the following articles on this site: Project LIS. Library Information Systems Project from the University of Missouri-Columbia.

LIS Overview. History of Library Information Systems (LIS)
http://www.coe.missouri.edu/~is334/projects/Project_LIS/overview.html

InfoResources. Selected Readings in Library Information Systems
http://www.coe.missouri.edu/~is334/projects/Project_LIS/readings.html

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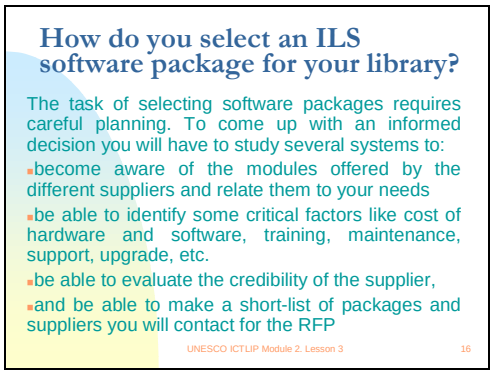


How do you select an ILS software package for your library?

The task of selecting software packages requires careful planning. To come up with an informed decision you will have to study several systems to:

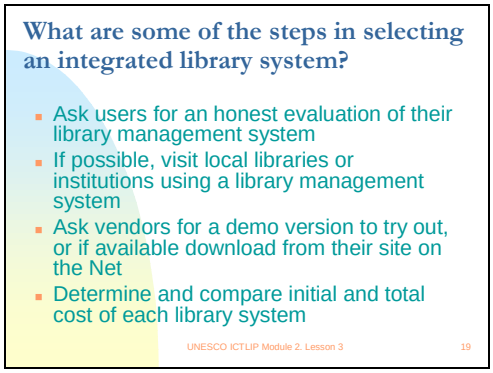
- become aware of the modules offered by the different suppliers and relate them to your needs
- be able to identify some critical factors like cost of hardware and software, training, maintenance, support, upgrade, etc.
- be able to evaluate the credibility of the supplier, and
- be able to make a short-list of packages and suppliers you will contact for the RFP.

Slide 10

What are some of the steps in selecting an integrated library system?

1. Analyze and identify your needs
2. Develop criteria for evaluation based on your needs assessment
3. Read relevant reviews of library automation systems and related technologies
4. Prepare a short list of library software packages, their features, functional modules available and standards supported

Slide 11

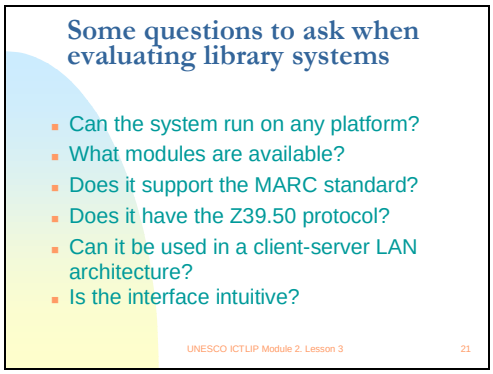


5. Ask users for an honest evaluation of their library management system
6. If possible, visit local libraries or institutions using a library management system
7. Ask vendors for a demo version to try out, or if available download from their site on the Net
8. Determine and compare initial and total cost of each library system

Tip

Explore this site: The Automation Toolkit. Colorado State Library: Technology Resources. Colorado Department of Education http://www.aclin.org/technology/automation/index.html

Slide 12

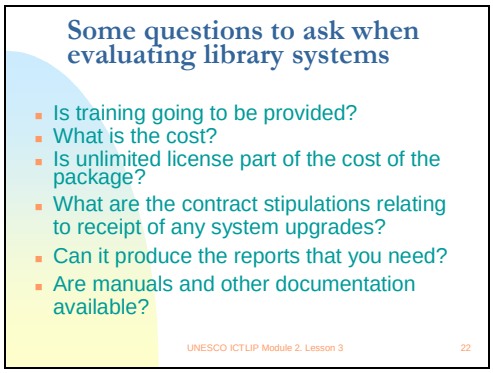


Some questions to ask when evaluating library systems

1. Can the system run on any platform?
2. What modules are available?
3. Does it support the MARC standard?

4. Does it have the Z39.50 protocol?
5. Can it be used in a client-server LAN architecture?
6. Is the interface intuitive?

Slide 13



7. Is training going to be provided?
8. What is the cost?
9. Is unlimited license part of the cost of the package?
10. What are the contract stipulations relating to receipt of any system upgrades?
11. Can it produce the reports that you need?
12. Are manuals and other documentation available?

Tip

Read this article:
Millard, Maree. Tips and Hints on Library Automation and Automated Library Systems. Online. URL: http://www.ilsr.com/hints.htm (mirror on ILSR)

Activity 3-1

1. Create a table listing down your top three integrated library systems. Compare the different features and functional modules of each package with the other packages.
2. Conduct a simple evaluation following the steps and questions outlined in this lesson.
3. Determine which one best fits your needs by analyzing and matching your needs with the features and functions of the selected integrated library systems.

Reference

Cohn, John M. and. Kelsey, Ann L and Fiels, Keith Michael. (1992) Planning for automation: a how-to-do-it manual for librarians. New York: Neal-Schuman

Day, Teresa T. et. al. (1994) ed. Automation for school libraries: how to do it from those who have done it. (American Library Association)

Swan, James. (1996) Automating Small Libraries. Ft. Atkinson, Wis.: Highsmith Press.

Electronic Resources

Millard, Maree. Tips and Hints on Library Automation and Automated Library Systems. Online. URL: http://www.ilsr.com/hints.htm (mirror on ILSR)

Project LIS. Library Information Systems Project from the University of Missouri-Columbia. Online. URL:

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InfoResources. Selected Readings in Library Information Systems.
http://www.coe.missouri.edu/~is334/projects/Project_LIS/readings.html

The Automation Toolkit. Colorado State Library: Technology Resources. Colorado Department of Education
http://www.aclin.org/technology/automation/index.html

Lesson 4

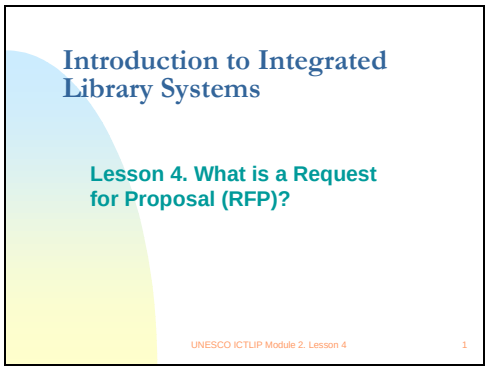
How do you prepare a request for proposal?

Teacher's Guide

Module 2. Introduction to Integrated Library Systems

Lesson 4. What is a Request for Proposal (RFP)?

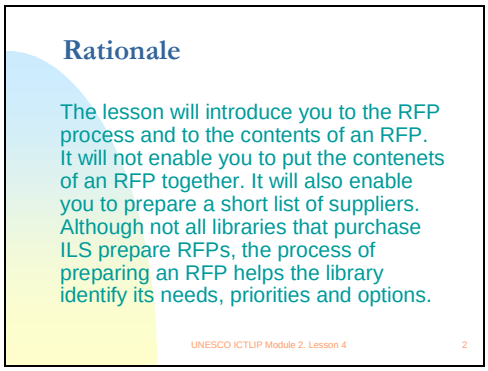
Slide 1



Note

This lesson will introduce the students to the RFP process. The process of preparing an RFP in combination with the evaluation of integrated library systems help the library choose and acquire the most appropriate system.

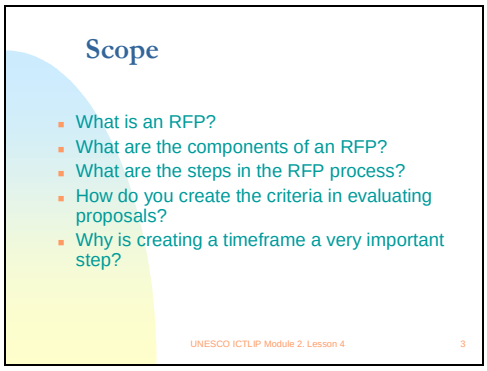
Slide 2



Rationale

The lesson will help you determine what must be included in an RFP and how they are put together. It will not enable you to prepare an RFP. It will also enable you to prepare a short list of suppliers. Although not all libraries that purchase ILS prepare RFPs, the process of preparing an RFP helps the library identify its needs, priorities and options.

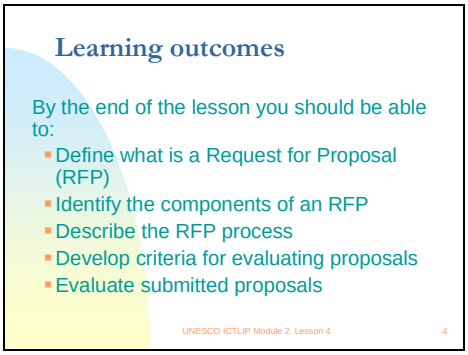
Slide 3



Scope

1. What is an RFP?
2. What are the components of an RFP?
3. What are the steps in the RFP process?
4. How do you create the criteria in evaluating proposals?
5. Why is creating a timeframe a very important step?

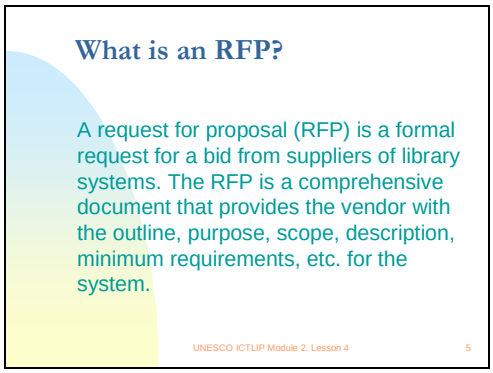
Slide 4



Learning outcomes

By the end of the lesson students should be able to:
1. Define what is a Request for Proposal (RFP)
2. Identify the components of an RFP
3. Describe the RFP process
4. Develop criteria for evaluating proposals
5. Evaluate submitted proposals

Slide 5



What is an RFP?

A request for proposal (RFP) is a formal request for a bid from suppliers of library systems. The RFP is a comprehensive document that provides the vendor with the outline, purpose, scope, description, minimum requirements, etc for the system. It is the vendor's basis for offering a solution to the library's stated needs. Since it is a formal bid, it goes through the legal office and other offices of the institutions that are concerned with tenders. The format of the RFP is dependent on the requirements of individual institutions. Remember that any information that you fail to include in your RFP will also be excluded by the vendors from their contract proposals.

The RFP process is useful in identifying the needs and priorities of the library. The RFP outlines the resources that need to be acquired, the services that need to be offered, the selection criteria, and the requirements for the software vendor. It also sets the timeframe for the project. It is a critical document in the process of implementing an ILS.

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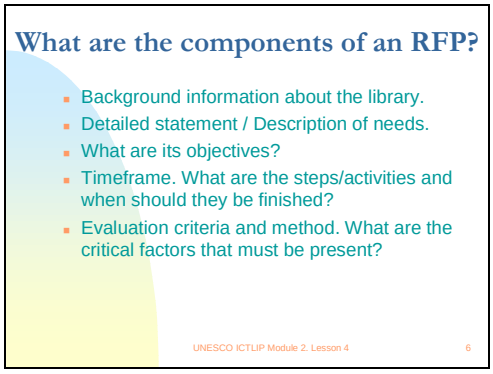


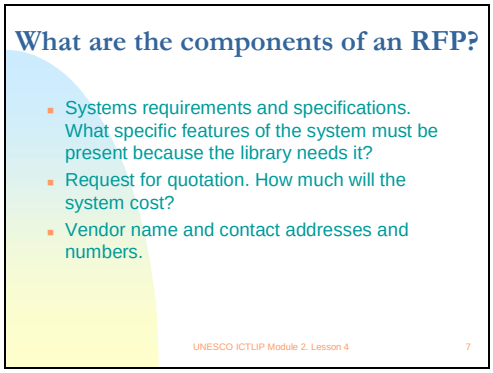
What are the components of an RFP?

The RFP must be informative. The supplier will base on your RFP the solution it is proposing. It must be clear so that there will be no questions arising at a later date from the lack of clarity and specificity of the RFP.

The following must be included:

1. Background information about the library.
   - What are its mission, vision and goals?
   - What services does it offer?
   - What is the size of its collection, circulation and user community?
2. Detailed Statement / Description of needs. What are the objectives of the library automation project?

Slide 7



3. Vendor name and contact addresses and numbers.
4. Timeframe. What are the steps/activities and when should each be finished?
5. Evaluation criteria and method. What are the critical factors that must be present?
6. Systems requirements and specifications. What specific features of the system must be present?
7. Request for quotation. How much will the system cost?

Activity 4-1

Examine some RFPs on the Internet. Compare them to the needs of your library.

Tip

Visit the following sites for sample RFP:

1. Integrated Library System Reports. Sample Request for Proposals (RFPs) and Request for Information (RFIs) for library automation projects. http://www.ilsr.com/sample.htm
2. SUNY Library Automation Migration RFP. State University of New York. Integrated Library Management System. Request for Proposals. http://ublib.buffalo.edu/libraries/units/cts/ctsplus/sunyrfp.html
3. Sample RFP. Library HQ. http://www.libraryhq.com/rfp.doc

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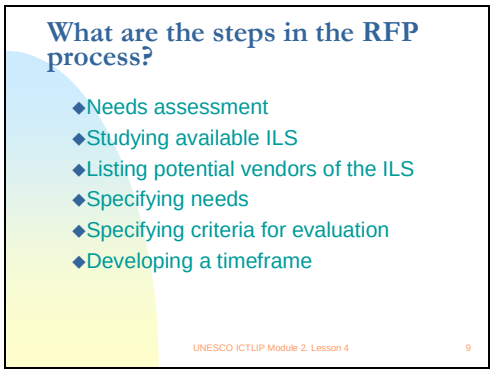

What are the steps in the RFP Process?

1. Needs assessment
2. Studying available ILS
3. Listing potential vendors of the ILS
4. Specifying needs
5. Specifying criteria for evaluation

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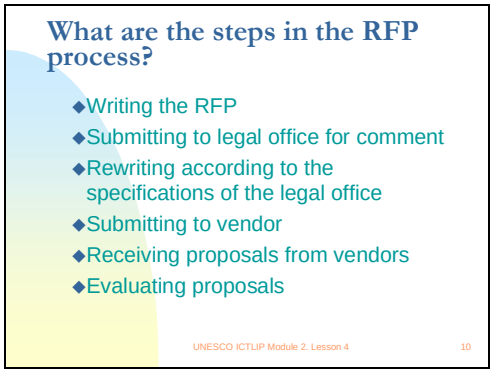
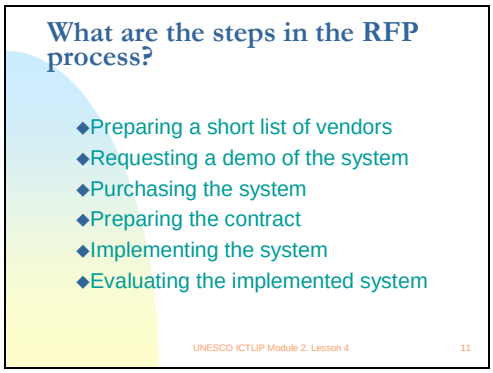


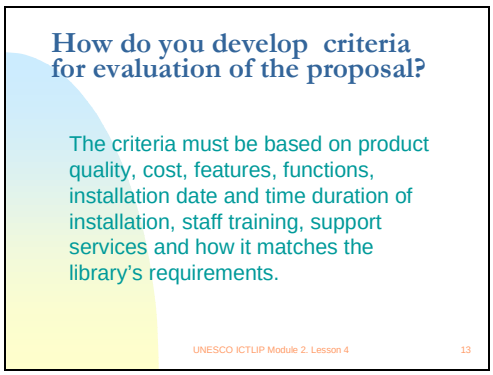
6. Developing a timeframe
7. Writing the RFP
8. Submitting to legal office for comment
9. Rewriting according to the specifications of the legal office
10. Submitting to vendors
11. Receiving proposals from vendors
12. Evaluating proposals

Slide 11



13. Preparing a short list of vendors
14. Requesting a demo of the system
15. Purchasing the system
16. Preparing the contract
17. Implementing the system
18. Evaluating the implemented system

Slide 12



How do you develop criteria for evaluation of the proposal?

The criteria must be based on product quality, cost, features, functions, installation date and time duration of installation, staff training, support services and how the proposal matches the library's requirements. The actual evaluation must be done by a team, and not by an individual. In this way objectivity in evaluation is obtained. One other criterion may be the existing or planned use of the product by neighboring libraries or libraries with which you work closely.

Activity 4-2

Prepare a set of criteria to evaluate an RFP. Consult the Internet for sample criteria.

Tip

Visit the following sites for more information about the RFP process:
1. Planning and Evaluating Library Automation Systems
http://dlis.dos.state.fl.us/bld/Library_Tech/Autoplan.htm

http://dlis.dos.state.fl.us/bld/Library_Tech/Autoplan.htm
2. Kirby, Chris. and Wagner, Anita. The Ideal Procurement Process: The Vendor's Perspective http://www.ilsr.com/vendor.htm
3. Cohn, John M. and Kelsey, Ann L. Planning for automation and use of new technology in libraries. http://web.simmons.edu/~chen/nit/NIT'96/96-065-Cohn.html

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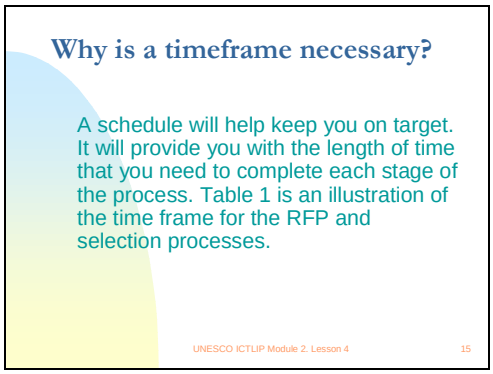


Why is a timeframe necessary?

A schedule will help keep you on target. It will provide you with the length of time that you need to complete each stage of the process. Table 1 is an illustration of the time frame for the RFP and selection processes.

Table 1. Steps in the RFP and Selection Processes

Steps	Month 1	Month 2	Month 3	Month 4	Month 5+
Needs assessment	X				
Studying available ILS	X				
Listing potential vendors of the ILS	X				
Specifying needs	X				
Specifying criteria for evaluation	X				
Developing a timeframe	X				
Writing the RFP		X			
Submitting to legal office for comment		X			
Rewriting according to the specifications of the legal office		X			
Submitting to vendors		X			
Receiving proposals from vendors			X		
Evaluating proposals				X	
Preparing a short list of vendors				X	
Requesting for a demo of the system				X	
Selecting your system				X	
Preparing the contract				X	
Implementing the system					X
Evaluating the implemented system					X

Reference

Cohn, John M. and. Kelsey, Ann L and Fiels, Keith Michael. (1992) Planning for automation: a how-to-do-it manual for librarians. New York: Neal-Schuman

Day, Teresa T. et. al. (1994) ed. Automation for school libraries: how to do it from those who have done it. (American Library Association)

Swan, James. (1996) Automating Small Libraries. Ft. Atkinson, Wis.: Highsmith Press.

Electronic resources

Cohn, John M. and Kelsey, Ann L. Planning for automation and use of new technology in libraries. Online. URL: http://web.simmons.edu/~chen/nit/NIT'96/96-065-Cohn.html

Integrated Library System Reports. Sample Request for Proposals (RFPs) and Request for Information (RFIs) for library automation projects. Online. URL: http://www.ilsr.com/sample.htm

Kirby, Chris. and Wagner, Anita. The Ideal Procurement Process: The Vendor's Perspective. Online. URL: http://www.ilsr.com/vendor.htm

Planning and Evaluating Library Automation Systems. Online. URL: http://dlis.dos.state.fl.us/bld/Library_Tech/Autoplan.htm

Sample RFP. Library HQ. Online. URL: http://www.libraryhq.com/rfp.doc

SUNY Library Automation Migration RFP. State University of New York. Integrated Library Management System. Request for Proposals. Online. URL: http://ublib.buffalo.edu/libraries/units/cts/ctsplus/sunyrfp.html

Lesson 5

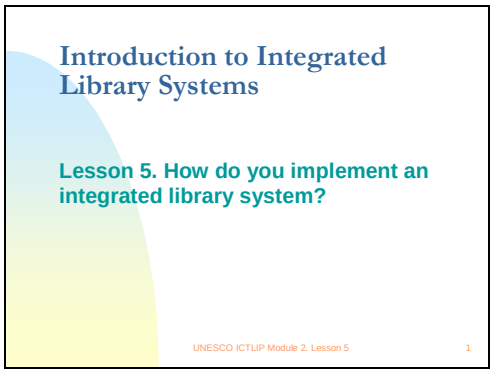
How do you implement an integrated library system?

Teacher's Guide

Module 2. Introduction to Integrated Library Systems

Lesson 5. How do you implement an integrated library system?

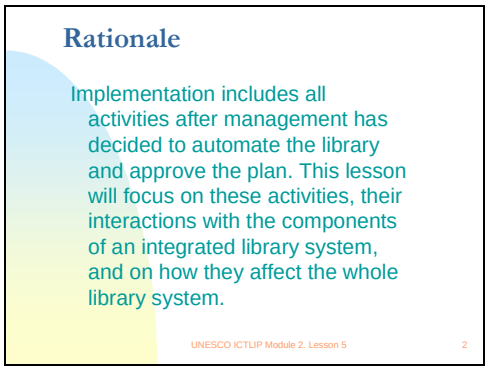
Slide 1



Note

This lesson will introduce the students to major activities in library automation during the implementation stage and will briefly discuss the benefits and difficulties of implementing integrated library systems.

Slide 2



Rationale

Implementation includes all activities after management has decided to automate the library and approve the plan. This lesson will focus on these activities, their interactions with the components of an integrated library system, and on how they affect the whole library system.

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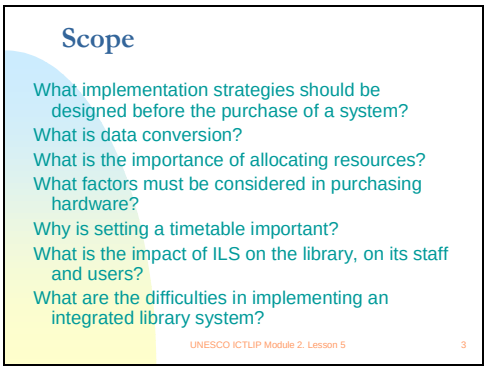
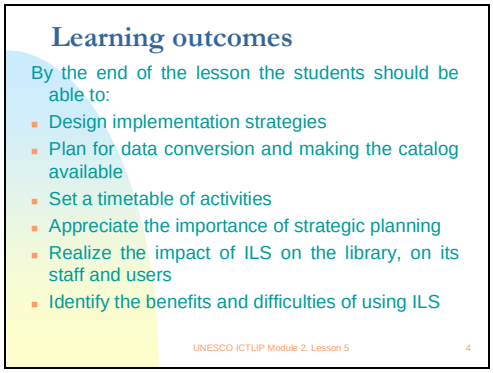


Scope

- What implementation strategies should be designed before the purchase of a system?
- What is data conversion?
- What is the importance of allocating resources?
- What factors must be considered in purchasing hardware?
- Why is setting a timetable important?
- What is the impact of ILS on the library, on its staff and users?
- What are the difficulties in implementing an integrated library system?

Slide 4

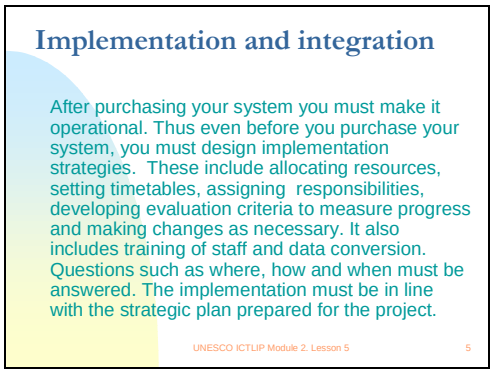


Learning outcomes

By the end of the lesson the students should be able to:

1. Design implementation strategies
2. Plan for data conversion and making the catalog available
3. Set a timetable of activities
4. Appreciate the importance of strategic planning
5. Realize the impact of ILS on the library, on its staff and users
6. Identify the benefits and difficulties of using ILS

Slide 5



Implementation and integration

After purchasing your system you must make it operational. Thus even before you purchase your system, you must design implementation strategies. These include allocating resources, setting timetables, assigning responsibilities and developing evaluation criteria to measure progress and make changes as necessary. The strategies should also include staff training and data conversion. Questions such as where, how and when must be answered. The implementation must be in line with the strategic plan prepared for the project. Some questions that you can ask during this process are:

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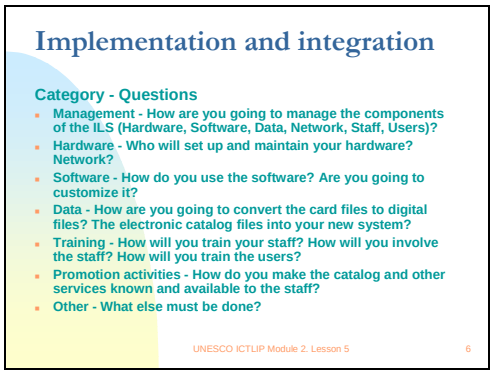
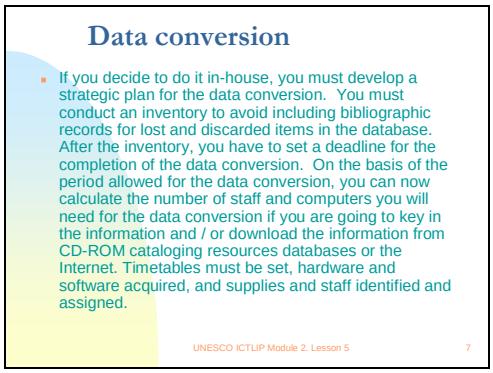


Category	Questions
Management	How are you going to manage the components of the ILS (Hardware, Software, Data, Network, Staff, Users)?
Hardware	Who will set up and maintain your hardware? Network?
Software	How do you use the software? Are you going to customize it?
Data	How are you going to convert the card files to digital files? The electronic catalog files into your new system?
Training	How will you train your staff? How will you involve the staff? How will you train the users?
Promotion activities	How do you make the catalog and other services known and available to the staff?
Other	What else must be done?

Slide 7



Data conversion

One of the major activities in any automation project is data conversion. If you decide to do it in-house, you must develop a strategic plan for the data conversion. You must conduct an inventory to avoid including bibliographic records for lost and discarded items in the database. After the inventory, you have to set a deadline for the completion of the data conversion. On the basis of the period allowed for the data conversion, you can now calculate the number of staff and computers you will need for the data conversion if you are going to key in the information and / or download the information from CD-ROM cataloging resources databases or the Internet. Timetables must be set, hardware and software acquired, and supplies and staff identified and assigned.

Activity 5-1

Task: You are required to convert 100,000 records on cards to MARC within six months (5 days a week) at eight hours a day.

Given: You have a CD-ROM cataloging resource database where you can download 30 records per hour with a hit rate of 60 %, your keying rate for records not found is 5 records per hour, and your editing rate is 10 minutes per record whether downloaded or keyed in.

Find: How many staff and computers will you need to finish the job?

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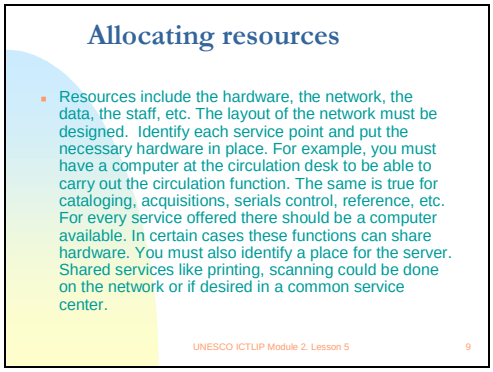
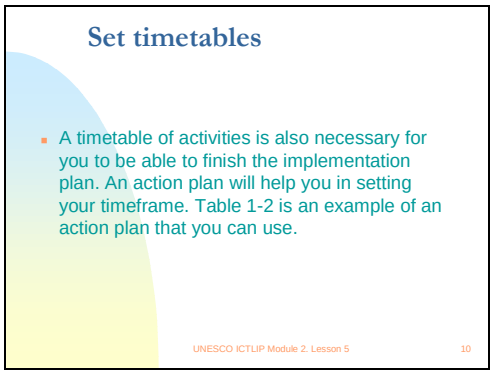


Allocating resources

Resources include the hardware, the network, the data, the staff, etc. The layout of the network must be designed. Identify each service point and put the necessary hardware in place. For example, you must have a computer at the circulation desk to be able to carry out the circulation function. The same is true for cataloging, acquisitions, serials control, reference, etc. For every service offered there should be a computer available. In certain cases these functions can share hardware. You must also identify a place for the server. Shared services like printing, scanning could be done on the network or if desired in a common service center.

Slide 10



Set timetables

A timetable of activities is also necessary for you to be able to finish the implementation plan. An action plan will help you in setting your timeframe. Table 1-2 is an example of an action plan that you can use.

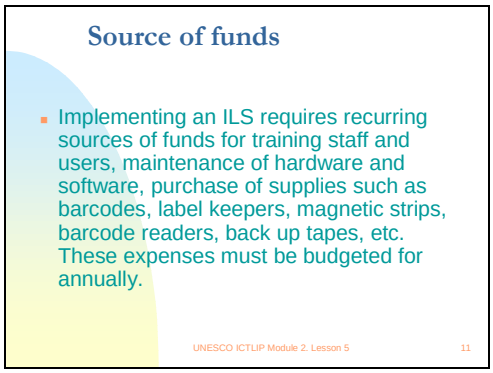
Note
Make sure that the students have a copy of table 1-2.

Table 1-2 Management Action Plan for the Implementation of an ILS

Task	Person Responsible	Time Frame	Expected Outcome	Staff who will implement the task
Set-up hardware and network	Head of Library	Month 1 after purchase	Working system	Computer Center Staff
Install the ILS	Head of Library	Month 1 after purchase	Working system	Supplier of the ILS
Train staff	Head of the Library Assistant Librarian	Month 2 after purchase	Trained staff on basic ICT and on the ILS	Supplier of the ILS Computer Center Staff

Data conversion	Head Cataloger Head Circulation Department	6 months after training	Electronic catalog bar coded materials and patron IDs	Cataloging staff and circulation staff
Implement OPAC Module	Head Circulation Department	Upon completion of retro conversion of catalog records	Working OPAC	Cataloging and Circulation Staff
Train Users	Head Reference Department	Upon implementation of OPAC module	Knowledgeable and skilled users	Reference Staff
Implement Circulation Module	Head Circulation Department	Upon completion of retro conversion of catalog records and patron records	Working Circulation system	Circulation Staff
Implement Serials Management Module	Head Serials Department	Upon completion of retro conversion of serials records	Working Serials Management System	Serials Staff
Implement Acquisitions Module	Head Acquisitions Department	Month after training staff	Working acquisitions system	Acquisitions Staff
Maintain the System	Computer Staff or trained Library Staff	From Day 1	Good system performance	Computer staff or trained library staff
Evaluate Implementation Progress	Head Librarian	6 months after the implementation of the OPAC	Report	All Library Staff Computer PERSONNEL Library Users
Start New Strategic Planning Cycle	Head Librarian	After system evaluation	Report	All library staff

Slide 11



Source of funds

Implementing an ILS requires recurring sources of funds for training staff and users, maintenance of hardware and software, purchase of supplies such as barcodes, label keepers, magnetic strips, barcode readers, back up tapes, etc. These expenses must be budgeted for annually.

Slide 12

Strategic planning for new planning cycle

Libraries normally do not conduct strategic planning exercises. The practice of librarianship is time tested and planning is conducted only when required for budgetary reasons. Changes in practice are made based on isolated events that require immediate action. The following table illustrates the difference between random planning and strategic planning

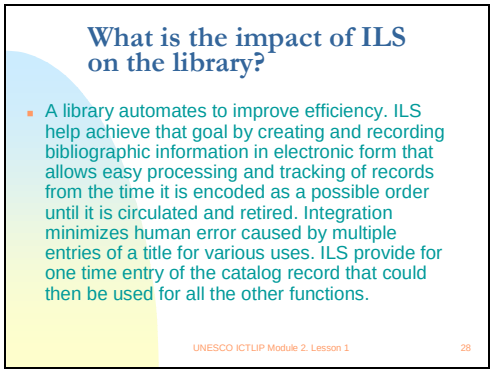
Random Planning	Strategic Planning
Reactionary	Visionary
Based on operational needs	Based on the organization's mission
Isolated decision making	Team / institutional decision making
Evaluates all possible options for isolated needs	Evaluates all possible options for the overall development plan
Implements decision immediately	Implements actions based on overall plan
Absence of an institutional vision and development plan	Carefully thought out plan is implemented in stages

Tip

Read these articles about strategic planning:

1. McNamara, Carter. Strategic Planning
   http://www.mapnp.org/library/plan_dec/str_plan/str_plan.htm
2. McNamara, Carter. Basic Overview of Various Strategic Planning Models
   http://www.mapnp.org/library/plan_dec/str_plan/models.htm
3. University of Illinois Library. Strategic Plan. FY2001-FY2003
http://www.library.uiuc.edu/committe/strategicplanning/reports/jan00report.htm

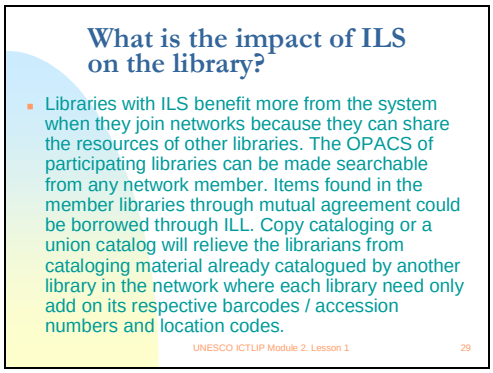
Slide 13



What is the impact of ILS on libraries?

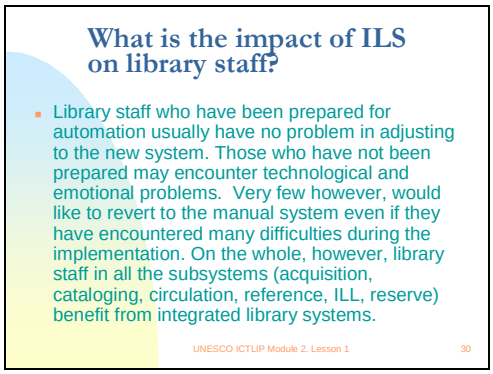
A library automates to improve efficiency. Single function library systems enable a library to produce digital records and provide an OPAC, while integrated library systems allow automation of major functions such as cataloging, OPAC, circulation, acquisitions and serials management using a shared database. An integrated library system can track down the record for a book from the time it is encoded as a possible order until it is circulated and retired. Integration minimizes human error caused by multiple entries of a title for various uses. An integrated library system provides for one time entry of the catalog record that could then be used for all the other functions.

Slide 14



Libraries with integrated library systems benefit more from the system when they join networks because they can share the resources of other libraries. It has implications for acquisitions, cataloging, interlibrary loan, reference and access of resources. The OPACs of participating libraries can be made searchable from any network member. Through mutual agreement items found in the member libraries need not be duplicated in the libraries of other members because they could be borrowed through ILL. Advantages for catalogers are numerous. Copy cataloging will relieve the librarians from cataloging material already catalogued by another library in the network; or a union catalog of the member libraries can be established where each library need only add on its respective barcodes/accession numbers and location codes.

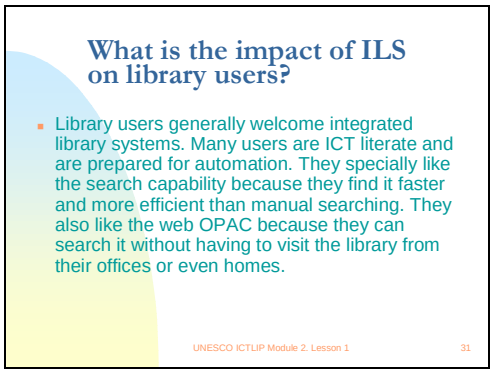
Slide 15



What is the impact of ILS on library staff?

Library staff who have been prepared for automation usually have no problem in adjusting to the new system. Those who have not been prepared may encounter technological and emotional problems. Very few however, would like to revert to the manual system even if they have encountered many difficulties during the implementation. Physical problems (Carpal tunnel syndrome, headaches, backaches, etc.) caused by extended use of computers have been noted and attended to. Some interventions that have been used are: rest periods given to staff after 2 hours of continuous use, and rotation of staff between different services points in the library. On the whole, however, library staff in all the subsystems (acquisition, cataloging, circulation, reference, ILL, reserve) benefit from integrated library systems.

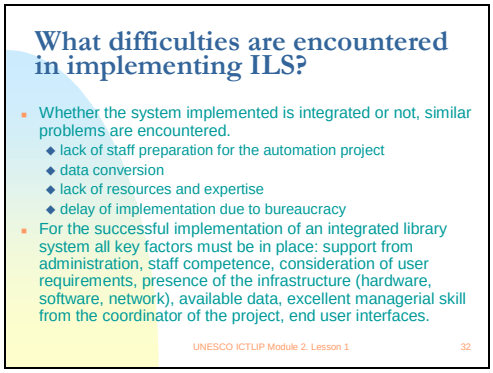
Slide 16



What is the impact of ILS on library users?

Library users generally welcome integrated library systems. Many users are ICT literate and are prepared for automation. They specially like the search capability because they find it faster and more efficient than manual searching. They also like the web OPAC because they can search it without having to visit the library from their offices or even homes.

Slide 17



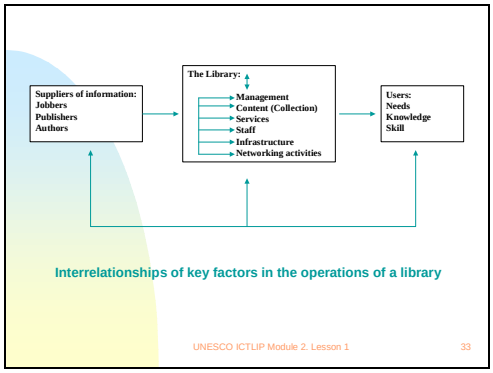
What difficulties are encountered in implementing an integrated library system?

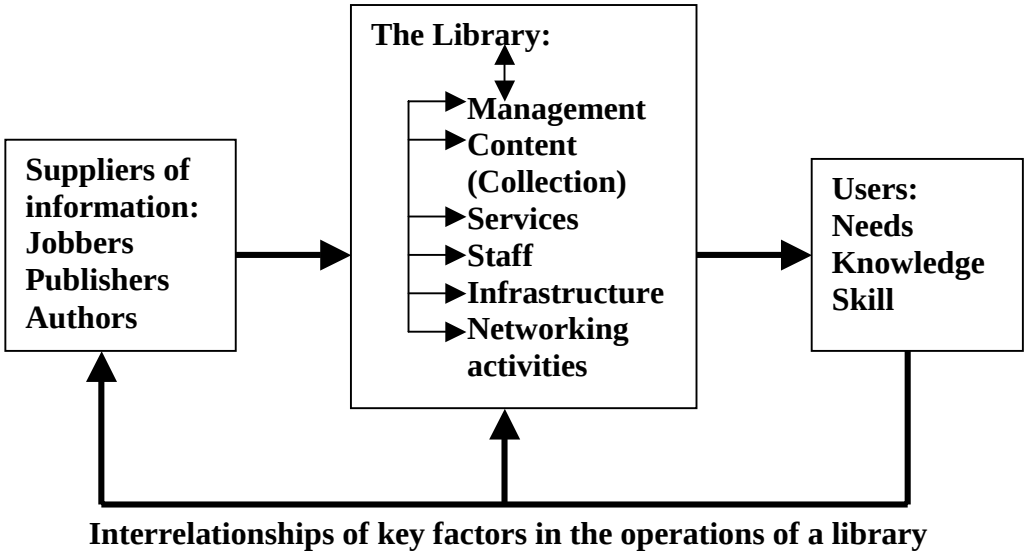
Whether the system implemented is integrated or not, similar problems are encountered. A major problem is the lack of staff preparation for the automation project. Staff need to be involved and consulted before and during the implementation. They have to be trained on basic ICT as well as on the use of the system. Data conversion is also a major problem. Many libraries are either not aware of outsourcing or refuse outside help with conversion. If done in-house, problems of lack of planning, lack of staff, lack of hardware, etc, are usually encountered. A good team is needed to avoid pitfalls in implementation.

On the side of administration, delay in implementation is usually caused by policies and procedures regarding the acquisition of hardware and software, and in the recruitment or training of competent staff. For the successful implementation of an integrated library system all key factors must be in place. These factors are: support from administration, staff competence, consideration of user requirements, presence of the infrastructure (hardware, software, network),

available data, excellent managerial skill from the coordinator of the project, end user interfaces. Slide 34 is an illustration of the interrelationships of these factors in the operations of a library.

Slide 18





Interrelationships of key factors in the operations of a library

Activity 5-2

List down the benefits and difficulties in implementing integrated library systems. You can use the information from the discussions, the articles you have read, and personal experiences if there are any, as the basis of your list.

Reference

Cohn, John M. and. Kelsey, Ann L and Fiels, Keith Michael. (1992) Planning for automation: a how-to-do-it manual for librarians. New York: Neal-Schuman

Day, Teresa T. et. al. (1994) ed. Automation for school libraries: how to do it from those who have done it. (American Library Association)

Swan, James. (1996) Automating Small Libraries. Ft. Atkinson, Wis.: Highsmith Press.

Electronic Resources

McNamara, Carter. Strategic Planning Online. URL: http://www.mapnp.org/library/plan_dec/str_plan/str_plan.htm

McNamara, Carter. Basic Overview of Various Strategic Planning Models. Online. URL: http://www.mapnp.org/library/plan_dec/str_plan/models.htm

University of Illinois Library. Strategic Plan. FY2001-FY2003. Online. URL: http://www.library.uiuc.edu/committe/strategicplanning/reports/jan00report.htm

Glossary of terms used in Module 2

- **Accession number.** The number assigned to a library material when it is received and processed after delivery.
- **Acquisition Section.** The section in the library that is concerned with the selection, ordering, receiving and payment for library materials.
- **Authority lists.** The dictionary file used by catalogers in assigning main entries to library materials.
- **Automated library system (ALS).** An automated library system (ALS) is software that has been developed to handle basic housekeeping functions of a library. The software may be focused on one library system only or may be capable of manipulating data from two or three modules to perform another basic function.
- **Barcode number.** A representation of a number by means of a code, which uses vertical lines.
- **Bibliographic database.** A collection of bibliographic records that are stored in a database for easy retrieval.
- **Boolean search.** A system of information retrieval that makes use of Boolean Logic where the information required may be limited to the terms defined by the search using the notation "and, or, not."
- **Carpal tunnel syndrome.** An ailment characterized by painful wrists because of inflammation of the joints between the carpal bones. It is usually caused by repetitive action such as typing on a computer keyboard. It is one of the ailments known as repetitive strain injury.
- **Cataloging.** The process of describing a book using conventions and standards such as AACR2 and the Library of Congress Classification Scheme and Subject Heading Lists. Other standards are available and may be in use in other countries.
- **CDS/ISIS.** A powerful information storage and retrieval software developed by UNESCO. It is distributed free of charge to libraries in developing countries. The latest version of the software is Windows ISIS..
- **Circulation section.** The section in the library that is in charged of lending books and other materials to users.
- **Copy cataloging.** The process of copying catalog entries from other libraries and adapting it to one's own library and fitting in the author number into the shelf list. In an electronic environment, the transfer of records and importation into the library system is effected by the Z39.50 protocol.

- **Data conversion.** The processes of converting data stored in catalog card into electronic format. It can also mean the processes of converting electronic records from one format to another.
- **Database.** A collection of related files.
- **Dictionary file.** It is an authority file arranged alphabetically like a dictionary. It usually refers to an electronic file.
- **Electronic catalogs.** Catalogs of books, serials, and other library materials that are online and could be access online. They are popularly known as OPACs.
- **Electronic indexes.** They are similar to catalogs but the records are for articles from serial publications.
- **Faculty number.** A borrower's number assigned to a faculty. It is usually his employee number.
- **Feasibility study.** A document that contains the results of a systems study, the proposed solutions and financial requirements to implement the project.
- **Goals.** Long term aims of an institution that are aligned with its mission.
- **Home page.** The index or main page that accompanies a Web site.
- **Indexing.** The process of describing an article and providing it with a link to the source for purposes of identifying articles and retrieving them.
- **Information networking.** The interconnectivity of computers to share information and other resources.
- **Information storage and retrieval software.** A program designed to store and retrieve information. An example is CDS/ISIS.
- **In-house.** Library management or information storage and retrieval software that is developed by an institution using its own staff and other resources.
- **Integrated library systems (ILS).** An automated library system that is capable of managing the operations of more than one basic library functions by sharing the files in the server to perform them. For example data from the book catalog master file and the patron master file can be retrieved and used in the circulation module to perform the circulation function of the ILS.
- **Interlibrary loan.** One of the functions of a library that is a member of a consortium or network, where materials are loaned to member libraries.
- **Item number.** The number assigned to a library material. It may or may not be the same as the accession number or the bar code number.

- **Library automation.** A generic term used to refer to the application of computers in libraries to automate operations.
- **Library management system.** See ALS or ILS.
- **Library networks.** The formal organization among libraries that have agreed to share resources. They may or may not be connected together electronically.
- **Library software developers.** Programmers or groups that develop automation software for libraries.
- **Library staff.** The non-professional personnel of a library.
- **Library system.** Software for automating the functions of a library.
- **Library user.** The patron, client or user of a library.
- **Local area network.** An interconnected group of computers located inside a room or building.
- **MARC records.** The Machine-Readable Cataloging (MARC) formats are standards for the representation of bibliographic and related information for books and other library materials in machine-readable form and their communication to and from other computers.
- **Objectives**. Short term aims designed to be achieved within a specified time period.
- **Off-the shelf systems.** Ready made commercial ILS packages.
- **OPACS.** On line public access catalogs or PCs that are used to access and retrieve information about the holdings of a library. It may or may not contain full text and/ or multimedia and may ot may not be connected to the Internet.
- **Outsourcing.** The processes of requesting outside groups or companies to do jobs for the library. Examples are: cataloging or software development or encoding.
- **Project proposal.** Proposals are based on the technology plan. They are prepared for presentation to funding agencies, hence they must be affordable for the funding agency, they must follow the format of the funding agency and they must be within the thrust of the funding agency.
- **Reference Section.** The section in the library in charge of assisting users in the conduct of their research. They also take care of interlibrary loan requests and document delivery services.
- **Request for proposal.** A request for proposal (RFP) is a formal request for a bid from suppliers of library systems. The RFP is a comprehensive document that provides the vendor with the outline, purpose, scope, description, minimum requirements, etc for the system.

- **Security system.** The system of providing checks against theft of library materials. They are usually gates that have electromagnetic detectors and produce sounds when the materials passing through the magnetic field have not been properly checked out.
- **Self check-in system.** The process of returning materials without the assistance of the library staff.
- **Self-check out system.** The process of borrowing library materials without the assistance of the library staff.
- **Serials management.** The function concerned with the monitoring of serials acquisitions.
- **Software packages.** Programs that are available off the shelf.
- **Strategic planning**. The process of solving problems in an organized and logical manner. It is usually not long term but top priority.
- **Student number.** The identification card number of the student.
- **Systems analysis and design.** The process of studying the system and designing solutions for it.
- **Systems study.** Collection of data about the library's operations, facilities, collection, procedures, staff expertise, etc. In general, the assessment involves gathering of information about user needs and wants and matching these with what the library can presently offer.
- **Systems requirement study.** Specifications for the system based on the systems study. It is also called systems design.
- **Technology plan.** A technology plan is the document prepared to put the vision, goals, and objectives in writing. It is an overall plan for all the technology components of the project. It includes the specifications for your system requirements, financial estimates, the action plan and the timetable for the project.
- **Turnkey systems.** Turnkey means that: the package is ready to use, data has been converted, and the hardware and network have been installed by the supplier.
- **UNIMARC.** The common MARC format.
- **User ID number.** The number synonymous at times to the student number or faculty number. It is the number on his identification card.
- **User number.** Similar to ID number if this is the number assigned by the library to the user.
- **Vision.** A vision is a dream. It is a vivid picture of what you would like your library to become in the near future. It is based on the mission of your library, the needs of your users and on the trends in library service. A vision provides direction and a philosophy for the library.

- **Web OPAC.** The online public access catalog that is accessible via the Internet.
- **Z39.50 standard.** The protocol observed in importing and exporting catalog records through the Internet.

Evaluation Form

To help us enhance the quality and effectiveness of this module, complete and return this evaluation form.

Module: _____
Date: _____
Teacher: _____

Please rate the module on the following categories using the scales below by drawing a circle around the appropriate number.

5=Strongly Agree [SA] 4=Agree [A] 3=Neutral [N] 4=Disagree [D] 1=Strongly Disagree [SD]

Objectives and Content	SA	A	N	D	SD
Were the course objectives clearly stated?	5	4	3	2	1
Were the objectives achieved?	5	4	3	2	1
Were the topics presented relevant to your work?	5	4	3	2	1
Was the course structured in a logical way?	5	4	3	2	1
Were the activities appropriate to the content of this course?	5	4	3	2	1
Was the course easy to follow?	5	4	3	2	1
Was the course interesting and enjoyable?	5	4	3	2	1
Were your expectations met?	5	4	3	2	1

Presentation	SA	A	N	D	SD
Were the concepts and techniques explained clearly?	5	4	3	2	1
Were you encouraged to actively participate during the course?	5	4	3	2	1
Were your individual questions/problems discussed to your satisfaction?	5	4	3	2	1
Was the course well paced?	5	4	3	2	1
Were the lessons presented in a clear and well organized manner?	5	4	3	2	1

Teacher	SA	A	N	D	SD
Was the teacher knowledgeable in the subject matter?	5	4	3	2	1
Did the teacher present the material effectively?	5	4	3	2	1
Did the teacher show interest in and enthusiasm for the subject?	5	4	3	2	1
Was the teacher effective in answering questions clearly and constructively?	5	4	3	2	1

Learning Environment	SA	A	N	D	SD
Are the course materials easy to read?	5	4	3	2	1
Were the manual and the other handouts useful?	5	4	3	2	1
Were the visual aids useful?	5	4	3	2	1
Was the venue suitable for the course?	5	4	3	2	1
Was the time frame appropriate for the course?	5	4	3	2	1

The Training in General

Before the training began, how experienced were you with the subject of training?
1 (Novice) 2 (Intermediate) 3 (Advanced) 4 (Expert)

How useful was the training for your level of experience?
1 (Not Useful) 2 (Fairly Useful) 3 (Useful) 4 (Very Useful)

Do you feel you have gained new skills and knowledge? Yes No

What is the most important concept or skill conveyed in this training?

_____

_____

What is the least important concept or skill conveyed in this training?

_____

_____

What additional information should be included in the training?

_____

_____

What did you like most about the training materials?

_____

_____

What did you like least about the training materials?

_____

_____

Other comments or suggestions:

_____

_____

_____

THANK YOU!

Student's Guide

Module 2. Introduction to Integrated Library Systems

Introductory note

This is Module 2 of the *ICT for Library and Information Professionals (ICTLIP) Training Package for Developing Countries*. This Package is intended to provide knowledge and skills dealing with the application of ICT to library and information services. It is meant for library and information personnel who may become trainers in the area. The Package has been developed by the UNESCO Asia & Pacific Regional Office with funding from the Japanese Fund in Trust for Communication and Information. It contains six modules:

Module 1 - Introduction to Information and Communication Technologies
Module 2 - Introduction to Integrated Library Systems
Module 3 - Information Seeking in an Electronic Environment
Module 4 - Database Design, and Information Storage and Retrieval
Module 5 - The Internet as an Information Resource
Module 6 - Web Page Concept and Design: Getting a Web Page Up and Running

Note: The content of Module 1 must be understood by all students (either by students first completing Module 1, or as a result of prior knowledge of ICT) before they proceed with the remaining five modules in the *ICTLIP Training Package*.

All the modules have a Teacher's Guide and a Student's Guide. The Student's Guide maybe copied by the students in electronic format. The Teacher's Guide should not be distributed to the students.

The Student's Guide contains the following:

- Module Introduction
  - Introductory note
  - Learning outcomes
  - Course outline
  - Learning environment
  - Duration
  - Course content and schedule
  - Typographical conventions
- Handouts: Lessons 1-7
- Glossary
- Activities
- List of references

Learning outcomes:

Module 2 focuses on the selection and use of an integrated library system in processing and managing information and automating library tasks.

By the end of the course, students should be able to:
1. Define and set the scope of library automation
2. Conduct and apply systems analysis
3. Plan for an integrated library system
4. Evaluate integrated library systems
5. Implement an integrated library system project
6. Be acquainted with existing automated library/information systems / networks in the region

Course Outline

Lesson 1. What are library management systems?

Scope

- What is a library management system?
- What is library automation?
- What is an integrated library system?
- What are the general features and functional modules of an integrated library system?
- What library automation standards are supported by most systems?
- What is the status of libraries in the Asian region regarding library management systems?

Objectives

By the end of the lesson, students should be able to:
- Define library management system, library automation, and integrated library system
- Describe the general features and basic functional modules of an integrated library system
- Define the role of standards in library automation and resource sharing
- Recognize the importance of a bibliographic record in machine-readable format
- Be aware of the situation of libraries in the Asian region regarding library management systems.

Lesson 2. How do you determine your automation requirements?

Scope

- What is a vision statement?
- Why do you have to conduct a systems study and system analysis?
- How do you determine the library's system requirements?
- What is a technology plan?

- How do you write a project proposal?

Objectives

By the end of this lesson, students should be able to:
- Develop a library vision statement
- Assess the library's status and needs through systems study and systems analysis
- Determine the system's requirements based on the vision statement and status of the library
- Prepare a technology plan
- Write a project proposal

Lesson 3. How do you evaluate integrated library systems?

Scope

- What ILS packages are available?
- Why is it necessary to conduct an evaluation of integrated library systems?
- What are the steps in evaluating ILS?
- What questions should be asked when evaluating integrated library systems?

Objectives

By the end of the lesson, students should be able to:
- Describe ILS packages and their features and functions
- Realize the importance of matching library needs and present ICT environment with the features and functions of the ILS
- Be aware of the ILS selection process for the automation of library operations
- Evaluate integrated library systems

Lesson 4. What is a request for proposal (RFP)?

Scope

- What is an RFP?
- What are the components of an RFP?
- What are the steps in the RFP process?
- Why is creating a timeframe a very important step?
- How do you create the criteria in evaluating proposals?

Objectives

By the end of the lesson students should be able to:
- Define what is a Request for Proposal (RFP)
- Identify the components of an RFP
- Develop an RFP

- Describe the RFP process
- Develop criteria for evaluating proposals
- Evaluate submitted proposals

Lesson 5. How do you implement an integrated library system?

Scope

- What implementation strategies should be designed before the purchase of a system?
- What is data conversion?
- What is the importance of allocating resources?
- What factors must be considered in purchasing hardware?
- Why is setting a timetable important?
- What is the impact of ILS on the library, on its staff and users?
- What are the difficulties in implementing an integrated library system?

Objectives

By the end of the lesson students should be able to:
- Design implementation strategies
- Plan for data conversion and making the catalog available
- Set a timetable of activities
- Appreciate the importance of strategic planning
- Realize the impact of ILS on the library, on its staff and users
- Identify the benefits and difficulties of using ILS

Learning Environment

The training room must have the facilities and technical support required to carry out the course. It should have computers with CD-ROM drives and online access to the Internet and other resources such as OPACs and CD-ROM databases. The Module should be conducted by a teacher who is knowledgeable and skilled in using computers, the Internet, CD-ROMs and a variety of electronic resources, and who is skilled in teaching courses of this nature.

Duration

The Module is designed for a one-week course of 40 hours: 8 hours per day for five days.

Course content and schedule

Day and time	**Course content**
Day 1	Lesson 1. What are library management systems?
Day 2	Lesson 2. How do you determine your automation requirements?
Day 3	Lesson 3. How do you evaluate integrated library systems?
Day 4	Lesson 4. How do you prepare a request for proposal?
Day 5	Lesson 5. How do you implement an integrated library system?

Selection criteria for participants (participants profile)

Participants should be working in a library or information center, or in a school of library and information science. Participants with a degree in library and information science are preferred. Participants should normally have:

- A degree in library and information science or at least five years' experience working in a library
- A working knowledge of English
- A working knowledge of using computers in a Windows environment

Typographical conventions

Activity

Activity for the students

Reference

Reference and further reading materials

Glossary

Glossary of terms used in the module

Lesson 1

What are library management systems?

Introduction to Integrated Library Systems

Lesson 1. What are library management systems?

Rationale

Realizing the important role that the library management system will play in planning and implementing library automation projects, it is necessary to educate ourselves and know more about these systems. This lesson will introduce you to library automation and will focus on integrated library systems (ILS), which is an essential component in library automation.

Scope

- What is a library management system?
- What is library automation?
- What is an integrated library system?
- What are the general features and functional modules of an integrated library system?
- What library automation standards are supported by most systems?
- What is the status of libraries in the Asian region?

Learning outcomes

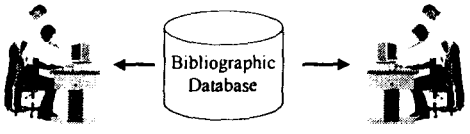
By the end of the lesson you should be able to:

- Define library management system, library automation, and integrated library system
- Describe the general features and basic functional modules of an integrated library system
- Define the role of standards in library automation and resource sharing
- Be aware of the situation of libraries in the Asian region concerning integrated library systems

What is a library management system?

A library management system, also known as an automated library system is software that has been developed to handle basic housekeeping functions of a library.

A single function automated library system



- UNESCO's CDS/ISIS, a powerful information and storage retrieval software is used to create electronic catalogs and indexes and to provide OPAC to library users

What is library automation?

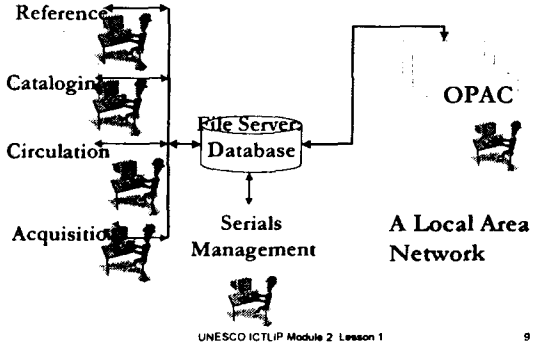
Library automation is the general term for information and communications technologies (ICT) that are used to replace manual systems in the library.

The functions that may be automated are any or all of the following: acquisition,cataloging, circulation,serials management and reference.

What is an integrated library system?

When the library management system shares a common database to perform all the basic functions of a library, the system is integrated.

A library with an integrated library system



Activity 1-1

Access the following sites to know more about the integrated library systems available on the market.

1. AcqWeb's Guide to Automated Library Systems, Library Software, Hardware and Consulting Companies
http://acqweb.library.vanderbilt.edu/acqweb/pubr/opac.html

2. Integrated Library System Reports: Vendors info
http://www.ilsr.com/search2.cfm

What are the general features of an ILS?

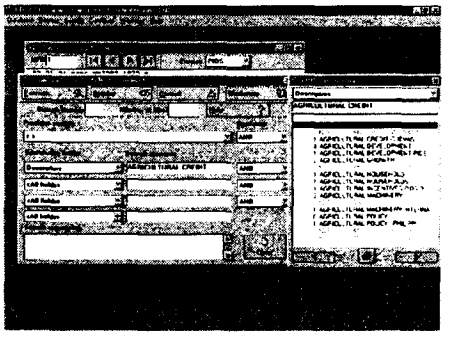
- Functional modules – most systems offer the basic modules - cataloging, OPAC and circulation - in a library software package, and the other functions such as acquisition, serial control, interlibrary loan (ILL), and Web OPAC are usually provided as optional add on modules or part of a main module
- Operating systems – each system may work for a particular OS like Windows, Unix, or it may work for both Windows and Unix environment
- Database systems – major systems normally make use of DBMS offered by different vendors like Oracle, Informix, MS SQL, MS Access etc...

What are the general features of an ILS?

- Network architecture – major systems run on the client-server architecture and use TCP-IP to communicate across networks (LANs and WANs)
- User interface – the use of a graphical user interface (GUI) is the norm for current systems because users find it easier to work with and it allows a wide range of tasks to be accomplished with a click of a mouse
- Library automation standards – provisions for library industry standards such as MARC and Z39.50 are normally integrated in major systems

Cataloging module

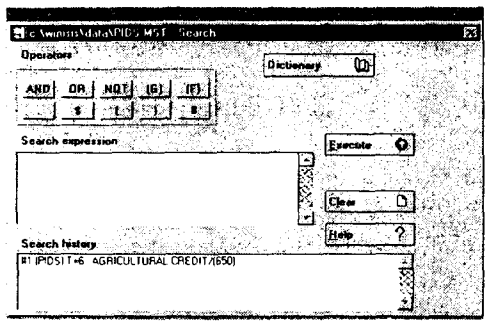
- Used for the creation, storage, retrieval and management of bibliographic records and/or indexes.
- Defines the record format used in the database and provides for authority control author, subject headings, etc.
- Usually there are two different interfaces for search and retrieval of the electronic catalog : one used by the catalogers that allows them to maintain the library database (the main cataloging module), and one provided for users that allows them to search and display the results – the Online Public Access Catalog (OPAC).



A dictionary file, which is used as an authority file by CDS/ISIS

The OPAC

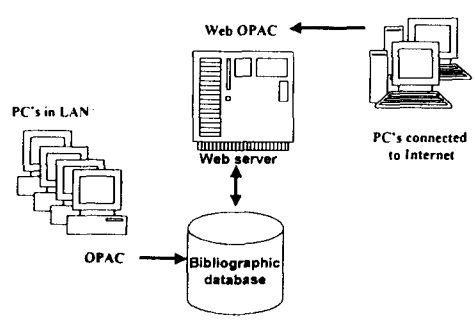
Cataloging activities using an ILS produce an electronic catalog. The means of access to the catalog for users which is limited to search and display is called an Online Public Access Catalog or OPAC. An OPAC is usually offered as an add-on module that is integral with the cataloging module. The specific search and display features of an OPAC vary from system to system.



CDS/ISIS OPAC with Boolean search

Developments in OPACs

- Recent developments in ICT have enabled libraries to publish their catalogs on the Web making them accessible locally (on site) and/or remotely through the Web as a Web OPAC.
- OPACs can also be linked to the circulation module so that users can find out from its OPAC record the status of an item (whether it is on loan, on-shelf, etc.) and loan information about it, as well as making a self-reservation and/or self-check-in/check-out (and maybe other features such as ILL, and links to electronic resources on the Web or local databases)



Activity 1-2

View some OPACS on the Web by visiting the home pages of some academic libraries. Click on their link to the library catalog.

Circulation module

- Handles circulation activities such as: lending, return, renewal, and place on hold
- Manages library materials - circulation type, location and status; patron database - patron type, profiles, privileges; and other transactions such as computation and payment of overdue fines, lost books, etc.
- May have added value functions like: import, export, and backup and restore functions for the databases; inventory; report generation; and support for MARC, Z39.50, ILL standards.
- May support integration with security systems that complement the self-check-in and checkout features of the circulation module.

Activity 1-3

Read the materials on security systems in libraries on these sites:

http://www.checkpointsystems.com/library/index.asp

http://www.3m.com/market/security/library/prod_info.jhtml

Acquisitions module

- Automates the acquisition process - ordering, receiving, claiming materials from suppliers, and returns, and cancellations of materials
- Used to maintain statistics, and in some cases manage accounting activities.
- Acquisition can be done online if system is linked to an external network.

Activity 1-4

Visit amazon.com at
http://www.amazon.com

Find out how materials can be ordered and paid for online

Serials Control Module

- Manages placing, canceling, claiming of orders; returning defective, unwanted and unordered material; and accounting and statistical information
- Provides a system for recording issues and keeping track of undelivered issues by generating claim reports.
- May permit serial ordering online.

Activity 1-5

Visit the home page of subscription agents that provide access and subscription to electronic journals and find out how IT provides online services to patrons.

1. EBSCO Online
http://www.ebsco.com/ess/services/online.stm

2. Swets & Zeitlinger Swetsnet
http://www.swetsnet.com

Interlibrary Loan Module

- Provides staff with an information management system for interlibrary loan transactions. This includes automatic monitoring of loans and accounts, making claims, putting holds on materials being borrowed, etc.
- Can also monitor the library's ILL activities, e.g. the number of items borrowed by individual clients, from where, for whom, etc. This module is seldom required except by libraries with very heavy ILL transactions.

Add-on Module

- Usually offer additional functions and features as optional to the basic functions or as an integral part of a module. Examples are report generation, inventory, short loan transactions, import / export of records from / to MARC formats, Web OPAC, Z39.50 client and/or server services, and security systems linked to or integrated with the cataloging / circulation module.

Activity 1-6

Choose 5 ILS from those you visited in activity 1-1.

Create a matrix listing their general features and functional modules

What library automation standards are supported by most systems?

The standards adopted by the library industry and community that facilitate data interchange between libraries and institutions, and which are supported by most systems are MARC (Machine Readable Cataloguing) standards and Z39.50, the information search and retrieve protocol standard.

What is MARC?

The Machine-Readable Cataloging (MARC) formats are standards used for the representation of bibliographic and related information for books and other library materials in machine-readable form and their communication to and from other computers.

Why is a bibliographic record in MARC format necessary?

A bibliographic record in MARC format will allow the application system or library automation system to:

- format the information correctly for printing a set of catalog cards or for displaying the information on a computer screen
- search for and retrieve certain types of information within specific fields
- display lists of items as required by the search

Why is support for the MARC standard important?

- The MARC standard allows libraries to share bibliographic resources with other libraries that also use it.
- It also enables libraries to easily migrate to commercially available library automation systems, a majority of which support only the MARC standard

Activity 1-7

For more information about the MARC standard visit the following sites:

http://lcweb.loc.gov/marc/marc.html

http://www.ifla.org/VI/3/p1996-1/unimarc.htm

What is Z39.50?

Z39.50 is generally defined as the information search and retrieve protocol standard used primarily by library and information related systems.

The standard specifies a client/server-based protocol for searching and retrieving information from remote databases simultaneously using a single interface.

Activity 1-8

Read more about Z39.50 by reading this article:

Z39.50. Part 1 - An Overview from Biblio Tech Review
http://www.biblio-tech.com/html/z39_50.html

What is the status of library automation in Asia?

- Reports by students

Lesson 2

How do you determine your automation requirements?

Introduction to Integrated Library Systems

Lesson 2. How do you determine your automation requirements?

Rationale

In planning and implementing library automation, a thorough study of the library's existing system as well as the library's vision is necessary to enable you to prepare a good technology plan and project proposal.

This Lesson will introduce you to developing a vision, conducting systems and feasibility studies , determining systems requirement, etc., that will help in determining the library's automation requirements.

Scope

- What is a vision?
- Why do you have to conduct a systems study and system analysis?
- How to determine the library's system requirements?
- What is a technology plan?
- How to write a project proposal?

Learning outcomes

By the end of the lesson you should be able to :

- Develop a library vision statement
- Assess a library's status and needs through systems study and systems analysis
- Determine the systems requirements based on the vision and status of the library
- Prepare a technology plan
- Write a project proposal

What is a vision?

A vision is a dream. It is a vivid picture of what you would like your library to become in the near future. It is based on the mission of your library, the needs of your users and on the trends in library service. A vision provides direction and a philosophy for the library.

Activity 2-1

Look for sample vision statements of libraries on the Internet.

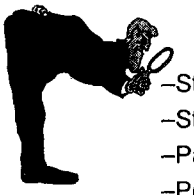
Study how they are formulated and make your own vision statement.

How do you determine the status of your library?

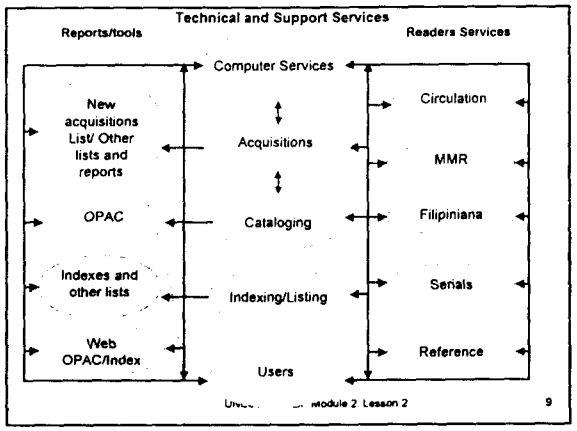
A systems study is conducted to assess the library's status and needs. It involves gathering data about the library's operations, facilities, collections, procedures, staff expertise, etc.

In general, the assessment should involve gathering information about user needs and wants and matching these with what the library can presently offer.

Sources of data



- –Statistics
- –Staff profile
- –Patron profile
- –Policies and procedures
- –Functional specifications



Activity 2-2

- Choose one library subsystem, e.g. cataloging.
- Study the different aspects of your subsystem and take note of your facilities, your procedures and policies, your problems, etc.
- Write down your findings.

How do you determine your requirements?

By comparing the actual status with the objectives of the project, the systems requirements can be determined.

Activity 2-3

Examine your card catalog.

- How are you going to convert your card catalog into an electronic catalog?
- What will you need?
- What is your target date for completion?
- Prepare your specifications for hardware, software and staff based on the objectives for the data conversion.

Feasibility study

Immediately after the analysis and design for the system has been completed, a feasibility study must be conducted. It is designed to answer:

- Is the proposed system possible?
- Is it necessary?
- What other options are available?
- Is it affordable?

The end product of a feasibility study is a report to management.

Activity 2-4

Prepare a feasibility study for the data conversion.

- Set a target date
- Determine how much time you will need to convert all your catalog records if you have only one staff doing it.
- Adjust the number of staff, hardware, software, to meet target
- Calculate the cost.

Is it feasible?

How do you prepare a technology plan?

A technology plan is the document prepared to put the vision, goals and objectives in writing. It spells out the components of the project in terms of needs to achieve the vision. It is an overall plan for all the components of the project. It includes the specifications for your system requirements, financial estimates, the action plan and the time table for the project.

Activity 2-5

Prepare a technology plan for the data conversion.

Use the Internet to view some sample plans.

How do you prepare a project proposal?

Proposals are based on the technology plan.They are prepared for presentation to funding agencies, hence they must be affordable for the funding agency, they must follow the format of the funding agency and they must be within the thrust of the funding agency. In the case of our data conversion project, the technology plan will serve as the basis for the project proposal.

Activity 2-6

- Look for sample project proposals on the Internet

Lesson 3

How do you evaluate integrated library systems?

Introduction to Integrated Library Systems

Lesson 3. How Do You Evaluate Integrated Library Systems?

Rationale

The task of evaluating integrated library systems is necessary to choose the most appropriate library management system that will answer the needs of the library in automating its operations. This Lesson will introduce you to the selection and evaluation process for an ILS.

Scope

- What ILS packages are available?
- Why is it necessary to conduct an evaluation of integrated library systems?
- What are the steps in evaluating an ILS?
- What questions should be asked when evaluating integrated library systems?

Learning outcomes

By the end of the lesson you should be able to :

- Describe ILS packages and their features and functions
- Realize the importance of matching library needs and the existing ICT environment with the features and functions of the ILS
- Be aware of the ILS selection process for the automation of library operations
- Evaluate integrated library systems

What ILS packages are available?

- In house - locally developed by the institution
- Commercial software
  - Off-the-shelf turnkey systems
  - Software packages only - modular, customizable systems

To determine the best package for your library, analyze and identify your needs and match it with the features and functions of integrated library systems.

In-house systems

- Advantages:
  - highly customized, specific to the library's wants and needs
  - Make use of locally available resources: materials and personnel
- Disadvantages:
  - Strong need for staff expertise
  - Proper documentation
  - Turns out to be more expensive
  - May not be as flexible and user-friendly

Turnkey systems

- Advantages:
  - Ready to run standardized package
  - Worry free installation: hardware and software
- Disadvantages:
  - Highly dependent with the vendor
  - Costly – initial cost and maintenance
  - Usually uses proprietary systems - difficult to upgrade or migrate to another system

Software packages only

- Advantages:
  - Modular – lower initial cost
  - Customizable
- Disadvantages:
  - Needs a certain level of staff expertise
  - Additional cost for added functional modules

Why is it necessary to conduct an evaluation of integrated library systems?

The task of selecting software packages requires careful planning. To reach an informed decision you will have to study several systems to:

- become aware of the modules offered by the different suppliers and relate them to your needs
- be able to identify some critical factors like cost of hardware and software, training, maintenance, support, upgrade, etc.
- be able to evaluate the credibility of the supplier,
- and be able to make a short-list of packages and suppliers you will contact for the RFP

What are some of the steps in selecting an integrated library system?

- Analyze and identify your needs
- Develop criteria for evaluation based on your needs assessment
- Read relevant reviews of library automation systems and related technologies and standards
- Prepare a short list of library software packages, their features, functional modules available, and standards supported

What are some of the steps in selecting an integrated library system?

- Ask libraries for an honest evaluation of their library management system
- If possible, visit local libraries or institutions using a library management system
- Ask vendors for a demo version to try out, or if available download from their site on the Net
- Determine and compare initial and total cost of each library system

Some questions to ask when evaluating library systems

- Can the system run on any platform?
- What modules are available?
- Does it support the MARC standard?
- Does it have the Z39.50 protocol?
- Can it be used in a client-server LAN architecture?
- Is the interface intuitive?

Some questions to ask when evaluating library systems

- Will training be provided?
- What is the cost?
- Is an unlimited license part of the cost of the package?
- What are the contract stipulations relating to receipt of any system upgrades?
- Can it produce the reports that you need?
- Are manuals and other documentation available and in a suitable language?

Activity 3-1

1. **Create a table listing your top three integrated library systems. Compare the different features and functional modules of each package with the other packages.**
2. **Determine which one best fits your needs by analyzing and matching your needs with the features and functions of the selected integrated library systems.**
3. **Conduct a simple evaluation following the steps and questions outlined in this Lesson.**

Lesson 4

How do you prepare a request for proposal?

Introduction to Integrated Library Systems

Lesson 4. How do you prepare a request for proposal (RFP)?

Rationale

The Lesson will help you determine what must be included in an RFP and how it is put together. But it will not enable you to prepare an actual RFP – this takes a lot of time and effort. It will also enable you to prepare a short list of suppliers. Although not all libraries that purchase ILS prepare RFPs, the process of preparing an RFP helps the library identify its needs, priorities and options.

Scope

- What is an RFP?
- What are the components of an RFP?
- What are the steps in the RFP process?
- How do you create the criteria in evaluating proposals?
- Why is creating a timeframe a very important step?

Learning outcomes

By the end of the lesson you should be able to:

- Define what is a Request for Proposal (RFP)
- Identify the components of an RFP
- Develop an RFP
- Describe the RFP process
- Develop criteria for evaluating proposals
- Evaluate submitted proposals

What is an RFP?

A request for proposal (RFP) is a formal request for a bid from suppliers of library systems. The RFP is a comprehensive document that provides the vendor with the outline, purpose, scope, description, minimum requirements, etc. for the system.

What are the components of an RFP?

- Background information about the library.
- Detailed statement / Description of needs.
- What are its objectives?
- Timeframe. What are the steps/activities and when should they be finished?
- Evaluation criteria and method. What are the critical factors that must be present?

What are the components of an RFP?

- Systems requirements and specifications. What specific features of the system must be present because the library needs it?
- Request for quotation. How much will the system cost?
- Vendor name and contact addresses and numbers.

Activity 4-1

Examine some RFPs on the Internet. Compare them to the needs of your library.

What are the steps in the RFP process?

- Needs assessment
- Studying available ILS
- Listing potential vendors of the ILS
- Specifying criteria for evaluation
- Specifying needs
- Developing a timeframe

What are the steps in the RFP process?

- Writing the RFP
- Submitting to the legal office for comment
- Rewriting according to the specifications of the legal office
- Submitting to vendor
- Receiving proposals from vendors
- Evaluating proposals

What are the steps in the RFP process?

- Preparing a short list of vendors
- Requesting a demo of the system
- Purchasing the system
- Preparing the contract
- Implementing the system
- Evaluating the implemented system

How do you develop criteria for evaluation of the proposal?

The criteria must be based on product quality, cost, features, functions, installation date and time duration of installation, staff training, support services and how it matches the library's requirements.

Activity 4-2

Prepare a set of criteria to evaluate an RFP.

Consult the Internet for sample criteria.

Why is a timeframe necessary?

A schedule will help keep you on target. It will provide you with the length of time that you need to complete each stage of the process. Table 1 is an illustration of the time frame for the RFP and selection processes.

Lesson 5

How do you implement an integrated library system?

Introduction to Integrated Library Systems

Lesson 5. How do you implement an integrated library system?

Rationale

Implementation includes all activities after management has decided to automate the library and approved the plan. This Lesson will focus on these activities, their interactions with the components of an integrated library system, and on how they affect the whole library system.

Scope

- What implementation strategies should be designed before the purchase of a system?
- What is data conversion?
- What is the importance of allocating resources?
- What factors to consider in purchasing hardware?
- Why is setting a timetable important?
- What is the impact of an ILS on the library, its staff and users?
- What are the difficulties in implementing an integrated library system?

Learning outcomes

By the end of the Lesson you should be able to:

- Design implementation strategies
- Plan for data conversion and making the catalog available
- Set a timetable of activities
- Appreciate the importance of strategic planning
- Realize the impact of ILS on the library, on its staff and users
- Identify the benefits and difficulties of using ILS

Implementation and integration

After purchasing your system you must make it operational. Thus even before you purchase your system, you must design implementation strategies. These include allocating resources, setting timetables, assigning responsibilities, developing evaluation criteria to measure progress and making changes as necessary. It also includes training of staff and data conversion. Questions such as where, how and when must be answered. The implementation must be in line with the strategic plan prepared for the project.

Implementation and integration

Category - Questions

- **Management - How are you going to manage the components of the ILS (Hardware, Software, Data, Network, Staff, Users)?**
- **Hardware - Who will set up and maintain your hardware? Network?**
- **Software - How do you use the software? Are you going to customize it?**
- **Data - How are you going to convert the card files to digital files? The electronic catalog files into your new system?**
- **Training - How will you train your staff? How will you involve the staff? How will you train the users?**
- **Promotion activities - How do you make the catalog and other services known and available to the staff?**
- **Other - What else must be done?**

Data conversion

- If you decide to do it in-house, you must develop a strategic plan for the data conversion. You must conduct an inventory to avoid including bibliographic records for lost and discarded items in the database. After the inventory, you have to set a deadline for the completion of the data conversion. On the basis of the period allowed for the data conversion, you can now calculate the number of staff and computers you will need for the data conversion if you are going to key in the information and / or download the information from CD-ROM cataloging resources databases or the Internet. Timetables must be set, hardware and software acquired, and supplies and staff identified and assigned.

Activity 5-1

- **Task:** You are required to convert 100,000 records on cards to MARC within six months (5 days a week) at eight hours a day.
- **Given**: You have a CD-ROM cataloging resource database where you can download 30 records per hour with a hit rate of 60 %, your keying rate for records not found is 5 records per hour, and your editing rate is 10 minutes per record whether downloaded or keyed in.
- **Find:** How many staff and computers will you need to finish the job?

Allocating resources

- Resources include the hardware, the network, the data, the staff, etc. The layout of the network must be designed. Identify each service point and put the necessary hardware in place. For example, you must have a computer at the circulation desk to be able to carry out the circulation function. The same is true for cataloging, acquisitions, serials control, reference, etc. For every service offered there should be a computer available. In certain cases these functions can share hardware. You must also identify a place for the server. Shared services like printing, scanning could be done on the network or if desired in a common service center.

Set timetables

- A timetable of activities is also necessary for you to be able to finish the implementation plan. An action plan will help you in setting your timeframe. Table 1-2 is an example of an action plan that you can use.

Source of funds

- Implementing an ILS requires recurring sources of funds for training staff and users, maintenance of hardware and software, purchase of supplies such as barcodes, label keepers, magnetic strips, barcode readers, back up tapes, etc. These expenses must be budgeted for annually.

Strategic planning for new planning cycle

- After systems installation and evaluation, it is time to plan for the next development cycle.

What is the impact of ILS on the library?

- A library automates to improve efficiency. ILS help achieve that goal by creating and recording bibliographic information in electronic form that allows easy processing and tracking of records from the time it is encoded as a possible order until it is circulated and finally retired. Integration minimizes human error caused by multiple entries of a title for various uses. ILS provide for one time entry of the catalog record that can then be used for all the other functions.

What is the impact of ILS on the library?

- Libraries with ILS benefit more from the system when they join networks because they can share the resources of other libraries. The OPACS of participating libraries can be made searchable from any network member. Items found in the member libraries through mutual agreement could be borrowed through ILL. Copy cataloging or a union catalog will relieve the librarians from cataloging material already catalogued by another library in the network where each library need only add on its respective barcodes / accession numbers and location codes.

What is the impact of ILS on library staff?

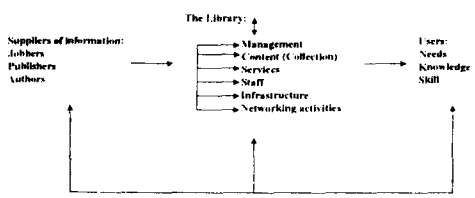
- Library staff who have been prepared for automation usually have no problem in adjusting to the new system. Those who have not been prepared may encounter technological and emotional problems. Very few, however, normally want to revert to the manual system even if they have encountered many difficulties during implementation. On the whole, however, library staff in all the subsystems (acquisition, cataloging, circulation, reference, ILL, reserve) benefit from integrated library systems.

What is the impact of ILS on library users?

- Library users generally welcome integrated library systems. Many users are ICT literate and are prepared for automation. They specially like the search capability because they find it faster and more efficient than manual searching. They also like the web OPAC because they can search it without having to visit the library from their offices or even homes.

What difficulties are encountered in implementing ILS?

- Whether the system implemented is integrated or not, similar problems are encountered.
  - lack of staff preparation for the automation project
  - data conversion
  - lack of resources and expertise
  - delay of implementation due to bureaucracy
- For the successful implementation of an integrated library system all key factors must be in place: support from administration, staff competence, consideration of user requirements, presence of the infrastructure (hardware, software, network), available data, excellent managerial skill from the coordinator of the project, end user interfaces.



Interrelationships of key factors in the operations of a library

Activity 5-2

List the benefits and difficulties in implementing integrated library systems. You can use the information from the discussions, the articles you have read, and personal experiences if any, as the basis of your list.

Glossary of terms used in Module 2

- **Accession number.** The number assigned to a library material when it is received and processed after delivery.
- **Acquisition Section.** The section in the library that is concerned with the selection, ordering, receiving and payment for library materials.
- **Authority lists.** The dictionary file used by catalogers in assigning main entries to library materials.
- **Automated library system (ALS).** An automated library system (ALS) is software that has been developed to handle basic housekeeping functions of a library. The software may be focused on one library system only or may be capable of manipulating data from two or three modules to perform another basic function.
- **Barcode number.** A representation of a number by means of a code, which uses vertical lines.
- **Bibliographic database.** A collection of bibliographic records that are stored in a database for easy retrieval.
- **Boolean search.** A system of information retrieval that makes use of Boolean Logic where the information required may be limited to the terms defined by the search using the notation "and, or, not."
- **Carpal tunnel syndrome.** An ailment characterized by painful wrists because of inflammation of the joints between the carpal bones. It is usually caused by repetitive action such as typing on a computer keyboard. It is one of the ailments known as repetitive strain injury.
- **Cataloging.** The process of describing a book using conventions and standards such as AACR2 and the Library of Congress Classification Scheme and Subject Heading Lists. Other standards are available and may be in use in other countries.
- **CDS/ISIS.** A powerful information storage and retrieval software developed by UNESCO. It is distributed free of charge to libraries in developing countries. The latest version of the software is Windows ISIS..
- **Circulation section.** The section in the library that is in charged of lending books and other materials to users.
- **Copy cataloging.** The process of copying catalog entries from other libraries and adapting it to one's own library and fitting in the author number into the shelf list. In an electronic environment, the transfer of records and importation into the library system is effected by the Z39.50 protocol.

- **Data conversion.** The processes of converting data stored in catalog card into electronic format. It can also mean the processes of converting electronic records from one format to another.
- **Database.** A collection of related files.
- **Dictionary file.** It is an authority file arranged alphabetically like a dictionary. It usually refers to an electronic file.
- **Electronic catalogs.** Catalogs of books, serials, and other library materials that are online and could be access online. They are popularly known as OPACs.
- **Electronic indexes.** They are similar to catalogs but the records are for articles from serial publications.
- **Faculty number.** A borrower's number assigned to a faculty. It is usually his employee number.
- **Feasibility study.** A document that contains the results of a systems study, the proposed solutions and financial requirements to implement the project.
- **Goals.** Long term aims of an institution that are aligned with its mission.
- **Home page.** The index or main page that accompanies a Web site.
- **Indexing.** The process of describing an article and providing it with a link to the source for purposes of identifying articles and retrieving them.
- **Information networking.** The interconnectivity of computers to share information and other resources.
- **Information storage and retrieval software.** A program designed to store and retrieve information. An example is CDS/ISIS.
- **In-house.** Library management or information storage and retrieval software that is developed by an institution using its own staff and other resources.
- **Integrated library systems (ILS).** An automated library system that is capable of managing the operations of more than one basic library functions by sharing the files in the server to perform them. For example data from the book catalog master file and the patron master file can be retrieved and used in the circulation module to perform the circulation function of the ILS.
- **Interlibrary loan.** One of the functions of a library that is a member of a consortium or network, where materials are loaned to member libraries.
- **Item number.** The number assigned to a library material. It may or may not be the same as the accession number or the bar code number.

- **Library automation.** A generic term used to refer to the application of computers in libraries to automate operations.
- **Library management system.** See ALS or ILS.
- **Library networks.** The formal organization among libraries that have agreed to share resources. They may or may not be connected together electronically.
- **Library software developers.** Programmers or groups that develop automation software for libraries.
- **Library staff.** The non-professional personnel of a library.
- **Library system.** Software for automating the functions of a library.
- **Library user.** The patron, client or user of a library.
- **Local area network.** An interconnected group of computers located inside a room or building.
- **MARC records.** The Machine-Readable Cataloging (MARC) formats are standards for the representation of bibliographic and related information for books and other library materials in machine-readable form and their communication to and from other computers.
- **Objectives**. Short term aims designed to be achieved within a specified time period.
- **Off-the shelf systems.** Ready made commercial ILS packages.
- **OPACS.** On line public access catalogs or PCs that are used to access and retrieve information about the holdings of a library. It may or may not contain full text and/ or multimedia and may ot may not be connected to the Internet.
- **Outsourcing.** The processes of requesting outside groups or companies to do jobs for the library. Examples are: cataloging or software development or encoding.
- **Project proposal.** Proposals are based on the technology plan. They are prepared for presentation to funding agencies, hence they must be affordable for the funding agency, they must follow the format of the funding agency and they must be within the thrust of the funding agency.
- **Reference Section.** The section in the library in charge of assisting users in the conduct of their research. They also take care of interlibrary loan requests and document delivery services.
- **Request for proposal.** A request for proposal (RFP) is a formal request for a bid from suppliers of library systems. The RFP is a comprehensive document that provides the vendor with the outline, purpose, scope, description, minimum requirements, etc for the system.

- **Security system.** The system of providing checks against theft of library materials. They are usually gates that have electromagnetic detectors and produce sounds when the materials passing through the magnetic field have not been properly checked out.
- **Self check-in system.** The process of returning materials without the assistance of the library staff.
- **Self-check out system.** The process of borrowing library materials without the assistance of the library staff.
- **Serials management.** The function concerned with the monitoring of serials acquisitions.
- **Software packages.** Programs that are available off the shelf.
- **Strategic planning**. The process of solving problems in an organized and logical manner. It is usually not long term but top priority.
- **Student number.** The identification card number of the student.
- **Systems analysis and design.** The process of studying the system and designing solutions for it.
- **Systems study.** Collection of data about the library's operations, facilities, collection, procedures, staff expertise, etc. In general, the assessment involves gathering of information about user needs and wants and matching these with what the library can presently offer.
- **Systems requirement study.** Specifications for the system based on the systems study. It is also called systems design.
- **Technology plan.** A technology plan is the document prepared to put the vision, goals, and objectives in writing. It is an overall plan for all the technology components of the project. It includes the specifications for your system requirements, financial estimates, the action plan and the timetable for the project.
- **Turnkey systems.** Turnkey means that: the package is ready to use, data has been converted, and the hardware and network have been installed by the supplier.
- **UNIMARC.** The common MARC format.
- **User ID number.** The number synonymous at times to the student number or faculty number. It is the number on his identification card.
- **User number.** Similar to ID number if this is the number assigned by the library to the user.
- **Vision.** A vision is a dream. It is a vivid picture of what you would like your library to become in the near future. It is based on the mission of your library, the needs of your users and on the trends in library service. A vision provides direction and a philosophy for the library.

- **Web OPAC.** The online public access catalog that is accessible via the Internet.
- **Z39.50 standard.** The protocol observed in importing and exporting catalog records through the Internet.

Lesson 1

Activity 1-1

Ask the students to access the following sites to know more about the integrated library systems available on the market.

1. AcqWeb's Guide to Automated Library Systems, Library Software, Hardware and Consulting Companies
http://acqweb.library.vanderbilt.edu/acqweb/pubr/opac.html
2. Integrated Library System Reports: Vendors info.
http://www.ilsr.com/search2.cfm

Lesson 1

Activity 1-2

Ask the students to view some OPACS on the Web by visiting the home pages of some academic libraries. Click on their link to the library catalog.

Lesson 1

Activity 1-3

Read the materials on security systems in libraries on these sites:

http://www.checkpointsystems.com/library/index.asp

http://www.3m.com/market/security/library/prod_info.jhtm

Lesson 1

Activity 1-4

Visit the amazon.com on the Internet at http://www.amazon.com
Find out how materials can be ordered and paid for online.

Lesson 1

Activity 1-5

Visit the home page of subscription agents that provide access and subscription to electronic journals and find out how IT provides online services to patrons.

1. EBSCO Online
http://www.ebsco.com/ess/services/online.stm
2. Swets & Zeitlinger Swetsnet
http://www.swetsnet.com

Lesson 1

Activity 1-6

1.Choose 5 ILS from those you have visited in activity 1-1.
2.Create a matrix listing down their general features and functional modules.

Lesson 1

Activity 1-7

For more information about the MARC standard visit the following sites:

- http://lcweb.loc.gov/marc/marc.html
- http://www.ifla.org/VI/3/p1996-1/unimarc.htm

Lesson 1

Activity 1-8

Read more about Z39.50 by reading this article:

1. Z39.50. Part 1 - An Overview from Biblio Tech Review
   http://www.biblio-tech.com/html/z39_50.html

Lesson 2

Activity 2-1

Look for sample vision statements of libraries on the Internet.
Study how they are formulated and make your own vision statement.

Lesson 2

Activity 2-2

Choose one library subsystem, e.g. cataloging. Study the different aspects of your subsystem and take note of your facilities, your procedures and policies, your problems, etc. Write down your findings.

Lesson 2

Activity 2-3

Examine your card catalog, then answer the following questions:
How are you going to convert your card catalog into an electronic catalog?
What will you need?
What is your target date for completion?
Prepare your specifications for hardware, software and staff based on the objectives for the data conversion.

Lesson 2

Activity 2-4

Prepare a feasibility study for the data conversion.

- Set a target date
- Determine how much time you will need to convert all your catalog records if you have only one staff doing it.
- Adjust the number of staff, hardware, software, to meet target
- Calculate cost.

Is it feasible?

Lesson 2

Activity 2-5

Prepare a technology plan for the data conversion.
Use the Internet to view some sample plans.

Lesson 2

Activity 2-6

Look for sample project proposals on the Internet.

Lesson 3

Activity 3-1

1. Create a table listing down your top three integrated library systems. Compare the different features and functional modules of each package with the other packages.
2. Conduct a simple evaluation following the steps and questions outlined in this lesson.
3. Determine which one best fits your needs by analyzing and matching your needs with the features and functions of the selected integrated library systems.

Lesson 4

Activity 4-1

Examine some RFPs on the Internet. Compare them to the needs of your library.

Lesson 4

Activity 4-2

Prepare a set of criteria to evaluate an RFP. Consult the Internet for sample criteria.

Lesson 5

Activity 5-1

Task: You are required to convert 100,000 records on cards to MARC within six months (5 days a week) at eight hours a day.

Given: You have a CD-ROM cataloging resource database where you can download 30 records per hour with a hit rate of 60 %, your keying rate for records not found is 5 records per hour, and your editing rate is 10 minutes per record whether downloaded or keyed in.

Find: How many staff and computers will you need to finish the job?

Lesson 5

Activity 5-2

List down the benefits and difficulties in implementing integrated library systems. You can use the information from the discussions, the articles you have read, and personal experiences if there are any, as the basis of your list.

Lesson 1

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AcqWeb's Guide to Automated Library Systems, Library Software, Hardware and Consulting Companies Online. URL:
http://acqweb.library.vanderbilt.edu/acqweb/pubr/opac.html

Checkpoint Systems, Inc. Online. URL:
http://www.checkpointsystems.com/library/index.asp

EBSCO Online. Online. URL: http://www.ebsco.com/ess/services/online.stm

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http://www.harrassowitz.de/top_resources/ejresguide.html

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