Information Literacy Courses Content

transitional • transferable • transformational

2012
Course Content

5. Information management. Citation standards. References. Computer programs for references elaboration.
COURSE 1:

BASIC CONCEPTS IN INFORMATION LITERACY

1.1. INFORMATION LITERACY CONCEPT

1.1.1 Origin of information literacy concept

Paul Zurkowski, was the first to use the „information literacy” notion. The American researcher states that persons with skills in information area are „educated people with the purpose of applying information resources at their working place”. (Zurkowski 1974) The concept foundation was made by American Library Association (ALA): „in order to have information literacy, a person needs to be aware of the information necessity, to be able to locate it, assess and use it efficiently. People acquainted with information literacy are those who learned how to learn”. (ALA 1989) During the time from Paul Zukorski – 1974 and until the 1989 definition given by ALA the concept met some changes according to the methods of information retrieval and represented the basis of intellectual work techniques.

1.1.2 Equivalence of concept in various languages

Information literacy was considered equivalent with the Romanian term of Cultura informației. The equivalence of concept information literacy from English in other languages is a difficult process, so the information professionals from different countries should avoid semantic ambiguities. Thus:

- In German Medienkompetenz with respect to using technical means of information identification and processing and Informationskompetenz related to the correct perception and assessment of information;
- In French la culture de l’information or maîtrise de l’information means documentary – informational education (skills of documentary research)
- In Spanish „alfabetización informacional”, literal translation of the structure „information literacy”, is closely related to the „literacy” concept („literacy”: training), term that is usually associated by most people with the basic skills like: reading, writing and calculus. We have here a semantic equivalence usually rejected by people. This is why, the term accepted today by Spaniards is the one of „developing informational skills and abilities” (DHI - desarrollo de habilidades informativas), a phrase that emphasizes the overall process of information literacy, without referring to its initial moment, literacy.

1.1.3 Objectives of information literacy

Education in information literacy is one of the priority objectives of the learning process. Information literacy consists of:

- Creating a thinking style which is appropriate to the contemporary information society demands, expressed by the informational approach capacity, analysis of informational environment and development of alternative informational systems;
- Creating skills and working abilities with the information sources;
- Independent solution for each problem by information accessing, processing, storing and sending.

1.1.4 International concerns on information literacy

International Federation of Library Associations and Institutions (IFLA) include also among their sections the Information Literacy Section, as one of the most active and involved sections.

In The Alexandria Proclamation on Information Literacy and Lifelong Learning from November 2005 it is specified that: „[…] information literacy requires informational competencies necessary for the recognition of informational needs and to locate, evaluate, apply and create information in a determined cultural and social context; […]

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United Nations Educational, Scientific and Cultural Organization (UNESCO) developed a portal including important information concerning the events, conferences and lectures in this area. The following logo of Information Literacy was assigned by competition, fig.1.1.

![Logo used for Information Literacy](image)

Fig.1.1: Logo used for Information Literacy

### 1.1.5 Competencies in information literacy

A responsible citizen – a student or a professional – should be able to know the need of information, to locate information, identify, access, recover, evaluate, organize and use it. A person with information literacy is able to:

- prospect – the ability of locating the relevant information, of detailed and critical examination and selection;
- interpret – ability of transforming information and data in knowledge, insight and understanding;
- create (new) ideas – ability of developing new cognitive perspectives.

### 1.1.6 Standards of information literacy

#### 1.1.6.1 Standards’ structure

The standards of information literacy include three basic components according to figure 1.2.

![Basic components of information literacy](image)

Fig. 1.2 - Basic components of information literacy
Standards of information literacy established by IFLA, based upon the international practice and experience are grouped within the three basic components of information literacy: accessing, evaluation and use of information. (Lau 2004) Each of these has a certain significance:

- **Information accessing** – the user should access information in a sensible and efficient way.
- **Information evaluation** – the user should evaluate information in a critical and competent way.
- **Use of information** – the user should use the information in a correct and creative way.

### 1.1.6.2 International standards of information literacy

The first standards in information literacy were developed in the United States of America. In 1998, American Association of School Librarians (AASL) and Association of Educational Communications and Technology (AECT) published *Standards for Pupils’ Information Literacy.* (AASL 1998)

In 2000, Association of College and Research Libraries (ACRL), which is part of ALA, adopted and published *Information Literacy Competency Standards for Higher Education, 2000.* This document establishes 5 standards to determine the level of information literacy for students. According to these standards, the student with a certain level of information literacy is able to:

- Determine the information nature and quantity that he needs;
- Access the desired information in an effective and efficient way;
- Assess information and information sources in a critical way and assimilate the selected information in his knowledge and values system;
- Use the information for accomplishing a specific task, individually or within a group;
- Understand many of the economic, legal and social problems related to the use of information;
- Use the information within the boundaries of ethics and legality.

For each of these categories, the performance indicators and significant results are specified. The standards developed by ACRL are found in the manifesto ACRL, *Information Literacy Standards for Higher Education: A Manifesto/ Third Meeting on Information Competencies 2002* adopted at the third IFLA meeting for determining informational skills in Mexico on 11th of October 2002. The manifesto includes 8 competencies in information literacy, which involve several skills:

1. understanding the structure of knowledge and information;
2. determination of required information profile;
3. building an efficient strategy for information search and retrieval;
4. getting information;
5. information analysis and evaluation;
6. information integration, synthesizing and use;
7. presentation of researched information;
8. respect of copyright.

In July 2006, IFLA section – Information Literacy published in the final form the guide called *Guidelines for Information Literacy and Long-Life Learning* (IFLA 2002)

This guide has the purpose of creating a unique framework for professionals concerned with initiating a training program for information literacy. The document is firstly addressed to the libraries in the educational institutions, but can be successfully applied also in public libraries. It can be adapted and changed by librarians according to the needs and possibilities of their institution.

As far as the standards developed by ACRL are concerned, which regroup the academic and research libraries – they insist on the concepts of „standard“, „performance indicator“ and „result“, offering an efficient framework for evaluation. The user of information literacy follows these steps:

1. Defines the nature and context of the information he looked for. The performance indicators are:
   - His capacity of focusing and identifying various types and formats of possible sources that could be useful;
   - To consider the operation costs and benefits;
   - To reassess the nature and context of required information.
2. Accesses the information he needs, in an efficient and effective way. For this, the performance indicators are:
   - The capacity of choosing the best investigation methods or the most adequate systems of „information...
retrieval”;
- Building and implementing the adequate research strategies;
- Retrieval of information online or otherwise using different methods;
- Improvement – if necessary – of the research strategy (at the end of this route);
- Extracting, recording and administration of information and sources.

3. Evaluates in a critical way the retrieved information and data sources including the data selected in his cognitive memory. The performance indicators are:
- Synthesizing of main ideas extracted from the retrieved information;
- Applying the initial criteria for assessing both information and sources;
- Building new concepts starting from the main ideas;
- Comparing the new knowledge with the anterior ones, in order to determine their validity;
- Comparing the own acquisitions for a subsequent validation;
- Determine if the initial hypothesis needs to be revised.

4. Uses the information in an efficient way, in order to accomplish in time a specific objective. The performance indicators are:
- Applying the new information and the ones previously obtained, in planning and creating a certain product;
- Revising in a critical way of the process with respect to the respective product;
- Communicating the product to other informational subjects.

5. Understands many of the economical, legal and social problems, from the context to the use, informs and has access to information, becoming aware of the social, economic, legal and moral elements. The performance indicators are:
- Understanding the moral, social, economic and legal elements, which represents the basic level in information universe and TIC, as a consequence of laws, regulations and institutional policies related to informational resources access and use;
- Use of informational sources in communication processes and their contribution to the final product.

1.1.7 Models of information literacy

There is a high number of research models and problem solving in information literacy. The most well known are: BIG6, Kuhlthau, The Seven Pillars Model, Research Cycle.

Next, the 2011 updated model called SCONUL is presented, a model developed by Society of College, National and University Libraries (SCONUL).

1.1.7.1 SCONUL model

The model resulted out of the reflection upon professional practice of those involved in developing informational capacities within the scientific communities. It is irrelevant whether the user has access to a virtual library by a desktop or he accesses a physical existing system, covered by people or the user is a child doing his homework or the research is taken from the beginning; the model should include all contexts. Still it is important to accomplish the connection between the model and the way of getting knowledge in universities.

As a follow, due to its genesis, the model SCONUL became more important with respect to other existing models. Schematic form of SCONUL model is shown in figure 1.3.
These are the seven basic competencies and their components: (SCONUL 2011)

1. Ability to recognize the information need.
2. Ability to distinguish ways in which „lack” of information can be approached:
   ➢ Knowledge of appropriate type of resources, both printed and unprinted;
   ➢ Selection of most adequate resources;
   ➢ Ability to understand, aspect that affects the sources accessibility.
3. Ability to build strategies in order to locate information:
   ➢ To develop a systematic method adequate to the need;
   ➢ To understand the principles of databases construction and generation.
4. Ability to locate and access information:
   ➢ To develop appropriate search techniques;
   ➢ To use information and communication technologies, including international academis networks;
   ➢ To use adequate indexing and abstracting services and citations databases;
   ➢ To use current information methods.
5. Ability to compare and assess information obtained from different sources:
   ➢ Understanding the aspects related to authority;
   ➢ Understanding the reviewing process in scientific publishing;
   ➢ Adequate extraction of information that corresponds to information need.
6. Ability to organize, apply and communicate the information to other people in some ways adequate to the situation:
   ➢ To cite the references in projects theses etc.;
   ➢ To build a personal bibliographic system;
   ➢ To effective communicate using the adequate mean;
   ➢ To understand aspects related to copyright and plagiarism.
7. Ability to synthesize and build based upon the existing information and contribute to create new knowledge.
COURSE 2

2. ACCESSING INFORMATION

Accessing information is based upon the two elements:
- Define and outline the need of information.
- Location /Information retrieval.

2.1 Defining the need of information

Users’ information needs changed, they being one of the consequences of electronic documents occurrence, whose content is available for all users. These information needs are only expectations of library users, depending on librarians’ needs to re-orientate their collections and services, while the users’ feedback is considered more like a certain factor in measuring the usefulness and efficiency of every library. In order to document, they need to define their requirements, to formulate key-questions and of course to know how to locate, assess and use information from several electronic sources.

1.2.2 Expressing and defining the need of information
- Research initiation: you have to make a report, a theme, an essay or a project.
- Writing techniques
- Research initiation methods

2.3 Research question

Definition of research subject will lead to the following stages:
- Formulating a preliminary question, writing a few lines to specify what you desire to research and the expectations of research results;
- Starting with a theme sketch.

Research question respects the following conditions:
- It is short and accurate;
- Clearly describes the main research questions;
- Must additionally offer the possibility of motivating the research;
- It has to be realistic and lead to a conclusion;
- The research question is not specific in the beginning. It becomes gradually clear as you work the text.

Creating a preliminary research question should answer the following questions:
- Which aspect of the subject do you wish to investigate?
- What theoretical perspective are you going to use?
- What methods were used by others?

2.4 Research strategies

We propose the refining of research terms using the following methods:
2.5 Keywords

Keywords are words that define the thematic content of a document. A keyword is a word or a phrase, significant for the research topic that will allow the reference retrieval in order to retrieve information.

Finding and combining keywords

After an overview of the research field, a preliminary research question was formulated and an outline or scheme was designed, we look for the necessary information to support and develop the proposed theme. A detailed search is started. An indicative research offers keyword related to the research question and outline. Keywords are used for searching.

Keywords may have various meanings in different academic subjects. We need to find the suitable word for the researched subject.

A keyword is indexed in a certain database but may not be indexed in another database. The use of a keyword is different according to the research field:

- General terms are used for libraries
- Specific terms are used for academic databases
- Use popular version of terms for news databases

Other landmarks to be taken into account for defining keywords are:

- Find out if the databases have a subjects’ index or a thesaurus (hierarchical index of topics, for example PubMed language MeSH)
- Which is the language used in the research?
- If it is English, we need to consider the fact that certain words are different in UK English with respect to American English
- Do the keywords have synonyms?

A list of words is developed using the following table:

<table>
<thead>
<tr>
<th>Keywords in English</th>
<th>English synonyms</th>
<th>Keywords in other languages</th>
<th>Synonyms in other languages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A search keyword uses free text to identify all the records including the word or words introduced in the search environment. The results may come from any data of the recording, meaning from the elements of...
bibliographic description, such as: title, abstract, subject within the libraries’ catalogues, databases and websites.

The websites are easier retrieved with keywords obtained out of a natural language while the databases use a controlled vocabulary, a list of terms in a form used for documents’ processing.

2.6 Using the thesaurus

A thesaurus is a predefined set of terms used to describe the content of an article. The search based upon the use of a controlled vocabulary will provide optimal results if we look in the databases using that specific vocabulary.

Example: Controlled vocabulary Medical Subject Headings (Mesh) is the vocabulary used for indexing medical subjects in the database financed by WHO - World Health Organization, PubMed, which is a free database in medical field, available on internet.

The use of predefined indexing terms will allow a more accurate search, based on the structured language of the database. Also, for publishing in certain journals, the authors are directed to check the keywords in the MeSH controlled vocabulary and to use it in the form adopted there so that the articles retrieval systems have maximum impact.

Another very often used thesaurus in Romanian libraries also, is EuroVoc- multilingual thesaurus of European Union, available in many language interface, [http://eurovoc.europa.eu/](http://eurovoc.europa.eu/)
Fig. 1.6 Interface of multilingual thesaurus EuroVoc

By selecting the domain and language, then the DOWNLOAD button is accessed and we get the electronic document from the figure containing the list of general and specific term used in this thesaurus.

Fig. 1.7 EUROVOC thesaurus, Education, Communication and Communications
2.7 Boolean logic operators

Boolean search is a method used to combine words and phrases in order to obtain more relevant search results. The principles of Boolean logic will allow you to relate the concepts in sets. Connection terms, known as operators, are used in all types of search, including library catalogues, databases and Internet.

Boolean logic was developed by the Irish mathematician George Bool.

The 3 main Boolean operators are:

AND OR NOT

Example:
- search word1 AND word2 in order to find documents containing both word1 and word2,
- search word1 NOT word2 in order to find pages containing word1 and not word2,
- search word1 OR word2 in order to find pages containing the sequence word1 word2.

AND operator directs search
AND operator is used to connect various concepts in order to focus the search.

OR expands the search area
OR operator is used to connect synonymous terms. It may prove very useful in case the search returns less results than you require.

NOT operator narrows the search
Sometimes, when performing a search, this will return a great number of articles upon a certain subject. NOT operator may be used to eliminate subjects with no relevance.

In case you perform a complex search, the efficiency may be improved by combining searches. Searches are combined by closing individual searches between brackets and then by connecting these searches to a Boolean operator.

If you retrieve too many results for a subject, then use AND to direct your search. The more terms are connected with AND, the more focused will be the obtained results. Remove truncation. If you retrieve too many records for an unrelated subject, use NOT to narrow the search. If you get too few records for your topic, use OR to expand your search and to increase the number of references that you are going to find. Use truncation/wildcards in order to obtain alternative ways of spelling or choices of your term.

Combining keywords allows finding the most adequate informational resources about the subject. We recommend creating various combinations of keywords using Boolean operators, for example AND-OR-AND NOT

2.8 Search of phrases allows you to combine terms so that they are retrieved one near the other and in the same order. They are indicated by closing terms between quotation marks.
For example, "new york stock exchange" "Hilary Rodham Clinton"

2.9 Truncation may be very useful when you wish to retrieve variants of the same term. In order to truncate a word, keep the root or radical replacing the changing part with a wildcard symbol. The symbol may be *.
Example:
If you wish the terms’ search communication and communicate, the root might be "communicat" and the searched truncated term will have the following aspect: communicat*
COURSE 3

3. LOCATING AND RETRIEVING INFORMATION

A. 3.1 Traditional informational sources - libraries

Documentary fund or publications fund of a library is an assembly of documents organized according to certain criteria (content, form, etc.) having the purpose of being used in information and documentation activity.

Document is an assembly consisting of an informational support, the data recorded within and their significance are meant for consulting, study, evidence etc.

Primary document is the document obtained as a follow of a practical activity and contains original ideas, solutions, calculus, ways of interpretation etc.

The main elements of a primary document are: author, co-author, title, short title, preface, introduction, content, chapter, note, afterword, annex etc.

There are two kinds of primary documents:


- **Periodic primary documents**: periodical (article, editorial, supplement), journal, newspaper, year book, address book, almanac, calendar etc.

Secondary document is the document obtained following the information and/or data processing from one or more primary documents and contains their identification elements.

The main types of secondary documents are:

- annotation,
- bibliography (analytical bibliography, hidden bibliography, cumulative bibliography, current bibliography, bibliography of references, recommended bibliography, open literature, general bibliography, national bibliography, topic literature, retrospective bibliography, selective bibliography, special bibliography),
- catalogue (alphabetic catalogue according to authors’ names and titles, collective catalogue, numeric access catalogue, library catalogue, systematic catalogue),
- compendium,
- encyclopedia,
- catalogue sheet (document-sheet, term-sheet etc.),
- guide, index (publication index, alphabetic index, cumulative index, authors’ index, pattern’s index, citations index, formulas index, titles index by permutation, periodical index, systematic index),
- lexicon,
- review, essay (analytic essay, indicative essay), reference, essays’ journal, titles journal, abstract (author’s abstract), documentary synthesis etc.

3.2 Documents and information processing

Documents processing and implicitly of documents information comprises the entire number of operations performed in order to organize them so that they can be retrieved and valorized. The main forms of analytical and synthetic processing of documents are: bibliographic description, classification and indexing of documents’ content, annotation, essays and synthesis articles development etc.

The publications processing elements are presented in order to familiarize the reader with them, as they will be later used to retrieve information.

3.2.1 Bibliographic description of documents
Bibliographic description is made for all categories of documents, specifying the necessary elements for characterizing and identifying the types of documents, which are part of libraries collections and should be applied in documents processing both for manual systems and automated systems.

3.2.2 Description elements

Bibliographic description for the library catalogue consists of the following bibliographic elements, characteristic to each document, required for their identification and differentiation:

- Star
  - Star author
  - Title heading
- Description or descriptive note body
  - Title:
    - title itself;
    - alternative title;
    - collective title;
    - joined title;
    - multilingual title parallel title;
    - caption or title information.
- Edition particularities
- Issuing or publishing data
- Collation:
  - Quantity characterization;
  - Format.
- Series or collection
- Notes and observations of cataloguer

Traditional catalogues are the catalogues including mobile sheets with bibliographic description of publications. The description is made according to International Standard of Bibliographic Description (ISBD).

3.2.3 Documents classification

Classification is the operation of “arranging books or their description in the most advantageous manner for the readers” and responds to a logical need of ordering the human thought.

Classification is an intellectual process, a logical operation of grouping objects according to their degree of similarity and of separation according to their differentiation degree. It is the operation that helps determine the class to which the document belongs in order to distribute materials on domains, considering the content, so that they can be retrieved. However it is not only a general grouping of topics, but also involves arranging them in a logical order in order to establish the relationship among the topics.

The classification purpose is to make the information available to the user in due time.

Documents classification consists of the systematic division into classes according to their thematic content.

The main library classification systems are:

- Universal Decimal Classification
- Dewey Decimal Classification
- Bliss Bibliographic Classification
- USA Congress Library Classification
- Colon Classification of Ranganatan
- Cutter Classification

Universal Decimal Classification is a systematic classification scheme based upon the decimal division principle of all human knowledge. Universal Decimal Classification (U.D.C.) represents a systematic classification scheme used in libraries as a general scheme of ordering all domains of human knowledge, by using...
a decimal form notation to represent documents topics. The development of (U.D.C.) scheme is based upon a hierarchic principle, starting from general to particular; each of the components are divided in decimal system, reaching different levels of structure representation: classes, divisions, subdivisions.

UDC includes therefore the following large classes:
- 0,1 Philosophy. Psychology.
- 0,2 Religion. Theology
- 0,4 Free
- 0,5 Mathematics and natural sciences.
- 0,8 Language. Linguistics. Literature.
- 0,9 Geography. Biography. History.

In the traditional library UDC is used to create the systematic catalogue and to arrange collections on shelves. In the computerized library it is used especially for organizing the documentary fund of open access collections, also shelf access.

3.2.4 Indexing

It is the process of description and expressing the content of a document by help of some specific terms called descriptors.

Specific terms are studied in linguistic aspect (grammar and semantic form), scientific aspect and frequency of use aspect, using specialized programs able to select, systematize and validate the use in the indexing process of only some terms that will become descriptors.

Until these programs emerged, this selection and validation effort was exclusively the work results of some collectives consisting of linguists and librarians specialized in processing certain sciences and subjects. Currently this task is generally committed to national bibliographic agencies (national libraries) or national centers for information and documentation.

All terms established this way create the indexing language, which is a documentary language with a specific syntax. Principles and rules used to select and validate descriptors and also the rules of documents and information indexing are the subject of some international standards developed in order to assure unity and consistency to the information processing process.

The descriptors assembly in a certain language represents the indexing instrument called thesaurus.

3.2.5 Thesaurus is a standard list of descriptors, alphabetically ordered, indicating their semantic and logic relationships (hierarchic and associative).

Descriptors are unique accepted forms, therefore authorities and for this reason the controlled vocabularies and thesauri are known in library science literature as list of authorities.

Thesaurus or list of authorities functions:
- Assures the control of descriptor’s use at the level of document content description;
- Allows the interrogation of an online catalogue (bibliographic database) in a natural language that the thesaurus translates in a documentary language (allows also interrogation by excluded terms);
- Facilitates “navigation” within a search by specific and generic questions;
- Assures completion of a search by investigations and on the associated term;
- Assures a good understanding and usage of each term by applied notes and explicative notes.
- In indexing practice several types of thesauri or list of authorities are known. The most well-known and used are Library of Congress Subject Headings (LCSH), from Washington, United States of America and the French version RAMEAU which are monolingual thesaurus or encyclopedic lists of authorities.

Thesauri are multidisciplinary because they gather terms from all sciences and subjects. Due to the
encyclopedic character, therefore meaning a large volume of systematized information, this type of thesauri is developed in a single language.

**Specialized thesauri** came out of the information indexing necessity from certain domains and lead also to the development of specialized thesauri, which are developed not by national bibliographic agencies but by professional associations, research institutes or international organizations.

In order to facilitate the international information and knowledge exchange, these specialized thesauri are sometimes multilingual.

It is ideal that users apply keywords in search strategies as descriptors used in the information processing.

**COURSE 4**

4. SEARCH SOURCES OF TRADITIONAL INFORMATION

**Traditional library catalogues**

- represent lists of name, concepts or objects, recorded on different information carriers, arranged according to certain classification schemes and serving information purposes;
- offers information concerning the own funds of the information centre:
  - works of a certain author;
  - works referring to a certain subject

![Library catalogues classification](image)

**Types of catalogues:**

- alphabetical catalogue on authors’ names and titles: groups bibliographical descriptions of the primary and secondary documents in general alphabetical order of authors’ names and titles for works with more than three authors;
- systematic catalogue: groups bibliographical descriptions primary and secondary documents according to a systematic classification scheme. Traditional catalogues are catalogues including sheets with publications bibliographical descriptions.
Cases of informational sources in traditional catalogue:

**Case A: user knows author, but does not know the title of the searched publication**
- uses alphabetic catalogue following authors’ names;
- looks within the catalogue until he finds the desired author;
- writes down the source identification elements;
- goes to the identified source and finds the desired document.

**Case B: user knows the domain of the searched publication, but does not know the author**
- uses the systematic catalogue of the file, where at UDC class identifies the searched domain;
- he looks within the respective file until he identifies the desired publication;
- writes down the source identification elements;
- goes to the identified source and finds the desired document.

Example of research in traditional library

Research theme: forestry

**Understanding the concept**
- search in dictionaries or encyclopedias of *forestry* term definition,

**Establishing keywords**
- Definitions of forestry generate several keywords:
  - forestry;
  - forest cultivation;
  - forest arrangement;
  - forest exploitation;
  - forest protection;
  - forest, etc.

**Identification of information sources**
- In the traditional alphabetic and systematic catalogues there are two types of information sources:
  - printed:
    - atlases;
    - dictionaries;
    - encyclopedias;
    - books;
    - brochures;
    - journals.
  - Non-printed:
    - audio/video records;
    - databases (collections of information stored in order to be accessed by computer).
Case A: user knows the author, but does not know the title of the searched publication
- uses alphabetic catalogue of the file, according to author’s names;
- he looks within the respective file until he identifies the desired author;
- writes down the source identification elements in the library shelf;
- goes to the identified source and finds the desired document.
User looks for a publication written by Iosif Leahu, but does not know the title:
- Looks in alphabetic catalogue for letter L;
- Within the letter L records, he browses the publications sheets until he identifies the required author: Leahu;
- writes down the source identification elements in the library shelf;
- goes to the identified source and finds the desired information, namely the book Amenajarea pădurilor.

Case B: user knows the publication domain but does not know the author
- uses the systematic catalogue of the file, where at class 63 he will identify the searched domain, respectively Forestry;
- he looks within the respective file until he identifies the required publication;
- writes down the source identification elements in the library shelf;
- goes to the identified source and finds the desired information.
User looks for a publication in Forestry domain, namely Amenajarea pădurilor, but does not know its author:
- Looks in the systematic catalogue of the file (on human knowledge domains) where at class 63 he will identify the searched domain, respectively Forestry;
- he looks within the respective file until he identifies the required publication: Amenajarea pădurilor;
- writes down the source identification elements in the library shelf;
- goes to the identified source and finds the desired information.

References


[10] **Lau, Jesus.** *Guidelines on Information Literacy for Lifelong Learning/ Linii directoare privind cultura informației și instruirea de-a lungul întregii vieți.* [trad.] Asociația Bibliotecarilor din Moldova. Chișinău : s.n., 2010. IFLA. Traducere a ghidului elaborat de IFLA.


Course 5
INFORMATION MANAGEMENT

Information management means using information obtained during documentation process by help of standards of ethical use of information and also computerized systems for keeping information regarding the used sources and for automatic generating of references.

The third component of Information Literacy is information use and communication. In information using and communication, several requirements should be fulfilled, as shown in detail in figure 3.1.

Information use

- To find new ways in transmitting, presenting and using information
- To use the retrieved information
- To personalize the retrieved information
- To present the new informational product

Communication and ethical use of information

- To understand the ethical aspect in using information
- To respect legal provisions concerning the information use
- To respect intellectual property
- To use standards for references

Figure 5.1. Information use

5.1 USING INFORMATION IN THE RESEARCH PROCESS

5.1.1 Role of citation process

Citations and references are mandatory elements for any scientific paper. Citation represents the most effective way of establishing a relationship between the current scientific ideas and the previous ones, by means of which the relevance of author’s work on a certain topic is appreciated and publicly recognized. By citation, the copyright requirements are respected, avoiding plagiarism, which is considered a violation of author’s professional ethics.

Any scientific approach involves the author’s documentation based upon the scientific literature.

Use of references in scientific papers is a part of academic behaviour code.

References mean a set of bibliographic information about the quote mentioned within the document text, required to identify and retrieve the work and check the accuracy of citation. The references list is usually found at the end of the scientific
Using references is useful for accomplishing the following conditions:

- Proof of adherence to academic writing standards.
- Respecting the work of other researchers (avoiding plagiarism).
- Offering proofs regarding the relevant literature consideration and analysis.
- Validation and acknowledgment of sources used in the paper.
- Proofing the work credibility.

References citation is done in the following situations:

- Another person is cited word by word using quotation marks (direct citation). It does not matter if it concerns a phrase, sentence or paragraph, the reference of the source should be offered.
- Citation is done by paraphrasing or summarising the ideas or data obtained from other sources.
- Use of statistics obtained from other sources in the paper.
- Use of tables, figures, diagrams or images created by someone else.
- Use of controversial facts, opinions or data from other sources.

B. Information of general nature, generally recognized facts should not be listed in the references (for example the years of the second world war).

The rules of creating the bibliographic description are required to be known for the following situations:

- Compiling a list of references on a requested topic;

References became a very important tool in studying science itself and are used to investigate the information flow. Citations number is an indicator of publications quality and scientific level of researchers work efficiency. Citations analysis represents one of the scientometric/ bibliometric research methods. The impact of a journal is measured by means of the citations number of the published articles. The higher is the interest for a certain topic, the higher the number of persons using it as an information source.

5.1.2. Principles of describing information sources

Before citing the sources in a scientific paper, the researcher should know some descriptive principles related to the citation action: (Standardization, 1996)

- Bibliographic elements are extracted of the title page or the page equivalent to it (verso of title page, printing box, audio recording label etc.);
- Bibliographic elements are recorded in the original language as they appear in the source;
- For non-Latin characters (Cyrillic, Arabic, Japanese or Chinese) transliteration is required according to international standards;
- Bibliographic elements are separated by a coherent punctuation system: period, comma, colon;
- The author of a cited paper should be written in the following order: name, surname;
- For 2-3 authors of a paper, their name should be separated by semicolon and space;
- For more than 3 authors, the abbreviation [et al.] is used after the first author;
- If the author of an information source is anonymous then the source title is the input element for the reference;
- The input element of a reference (author or information source title) should be distinctly marked by comparison to the other bibliographic elements (using bold characters, italics or underlined);
- The heading of an information source will be mentioned after title using a colon and space;
- Additional information or spelling errors may be marked between brackets after the changed bibliographic element;
- The transliterated form of the information source title can be used instead the original form or between brackets after it;
- For the unknown publishing dates there are standard expressions [s.l.], for unknown publishing location, [s.n.], for unknown editor’s name or [s.a.], for unknown publishing date;
- For information sources that are to be published they may use the expression “in process of publication”, while for the ones not yet published, the expression “unpublished manuscript”;
- For electronic information sources whose bibliographic data are not complete, alternative information sources should be used;
The order of references may be alphabetical (for references), according to the input element or numerical (list of references), following the order of citations succession in the text.

3.1.3 Citation methods

SR ISO 690:1996 standard indicates two citation methods of the information sources: numerical citation method (or Vancouver style) and the method of citing the first element and the publication date (or Harvard style).

5.1.3.1 Numerical citation method

This method refers to a scoring system that uses numbers, inserted into the content of a scientific work, between brackets or in exponential form.

When the notation in brackets is used, the numbers inside them will be associated to the information sources in the references list, numerically ordered. Final notes are the implementation solution of this method.

When exponential notation is used (fig.3.2), the inserted numbers will indicate the cited information sources, placed in the page footer. Footnotes or at the end of the chapter are the implementation solution of this method.

In order to understand better the insertion of final notes or of footnotes, the researcher working on the scientific paper should be aware of some basic principles:

- If an information source is cited several times, different numbers will be allocated to notes, for each citation;
- A note is used to cite only one information source or may include several cited information sources; (Ursachi & Scutelnicu, 2011)
- A note referring to a previous cited document should include either the entire citation or the number of the previous note followed by the page number (citation location).

In order to avoid the repetition of some elements of the bibliographic description, the following terms of Latin origin, standardized abbreviations, are used in citations:

- Apud (apud) = „quote after” indicates a quote taken not from the original source but from another work citing it. The term “Apud” will be mentioned at the beginning of the quote, also indicating the loan source.
- Ibid. (Ibidem) = “In the same paper” or „Also there” In the immediate succession of citations, the text of the repeated quote is omitted, being replaced by the Latin term Ibidem, short Ibid. or lb., written in italics characters. This allows avoiding the repetition of one and the same source.

In the repeated quoting of another page of the same source, the page number is added to the word „Ibidem”; in the repeated citation of the volume, the volume number is added to the word „Ibidem”.

- Id. (Idem) = „Same” (about the author). In the immediate succession of citations of different papers belonging to the same author, the term Idem or Id. will be used written in italics.
- When the same study of an author is cited several times along the paper, but not successively, first time the reference is entirely made, afterwards the Latin term opus citatum, is used, short op. cit., italics, underlined. In order to retrieve the reference of „op. cit.”, the previous notes or the general section of references will be reviewed, looking for the first citation of the author.

For the repeated quote of another page, the page number will be added to „op. cit.”; for the repeated citation of another volume (part, edition), the volume number is added to „op. cit.”.
- contra = „contra”. The reference is made to papers embracing opposite ideas or thesis to the ones supported by the author in his paper.

5.1.3.2. Citation of the first element and publishing date method

If the author’s name is mentioned in text, then the publishing date will be inserted between brackets. On the contrary, both bibliographic elements are written between brackets.

The page number may also be added (where the quote was taken from) after the publishing date.

In case of several documents with the same author and same publishing date, letters may be used additionally in order to distinguish between information sources.

5.2. CITATION STYLES

Citation of information sources in a scientific paper should be done in a standard form. This standard form is given by
the citation style chosen for the scientific paper editing. Usually, the citation style is imposed by the editor, such as publishing in the volume of a scientific meeting. Also, the selected citation style depends on the research topics (domain).

Standards or international requirements to work uniformly regarding the references application and description do not exclude a certain variety in citation formats and styles in editorial practice.

ISO 690:2010 develops general rules of presenting references in all fields of science.

There is a multitude of handbooks and instruction guides, models and citation examples in text or lists of references. Broadly, there are three systems of citation.

5.2.1 “Author-date” system (Harvard system)

In text, the author's name and publishing year (number of pages if necessary) are presented between parentheses. Full references appear in alphabetical order in a list at the end of the paper.

“Harvard system” designates the styles defining the quotes in the text by the “author-date” method and is based upon Recommendations for citing and referencing published material developed by British Standards Institution (BSI). ISI 690:2010 uses this format as well as the American Chemistry Association (ACS), American Psychology Association (APA), Chicago University with Chicago and Turabian styles, also the Council of Science Editors (CSE). Universities use the general principles of the system to develop their own guides. The benefit of this system is given by the identification of an author’s paper using a direct method. Unlike the Vancouver system, the “author-date” system does not cause trouble while renumbering the references, in case the citation order is changed within the text. The main disadvantage of this system is the need of larger space in body text and possible distraction in case of multiple citations made at the same place.

3.2.2 “Author-title”/ “author-page” style

It was provided for humanities and arts, where the paper title and pages are more important in citation than the publishing date. This information allows the scientific researchers to easily follow exact phrases in the text analysis process. A short title is required only when there are several works signed by the same author. This format is prefered by the Modern Languages Association from America (MLA).

5.2.3 Sequential number system or “author-number” (Vancouver system)

Citations are consecutively numbered (using Arabic numbers in brackets or superscripts) respecting the order of appearance in text. In the several cited reference, the number assigned the first time is maintained. Page number is indicated only if necessary. Complete references, numbered in order of appearance in text, are presented in a list at the end of the paper. The advantage of the Vancouver system is including numbers that do not interrupt the text flow. The main disadvantage of the system is the fact that in the process of paper editing, a later added reference will require renumbering the citations in text and references list, in this case increasing the risk of error.

5.2.4 References in notes system

Footnotes or final notes include the bibliographic description of the source, being consecutively numbered in text (by Arabic numbers between brackets or as superscripts). Complete references are arranged in alphabetical order in a list at the end of the paper.

Bibliographic notes are used mainly in the field of historical researches and represent an alternative to the citation in text. The disadvantage consists of the fact that footnotes are often too expensive for editorial reproduction. Long notes may distract the readers.

In case no citation standard is imposed, then it is mandatory to use the Romanian standard ISO 690:2010.

Regardless of the citation style, as a principle, the reference includes the same bibliographic elements, but the architecture may be different.

References can be organized in two different ways:

- **References list** – represents the list of information sources cited in a scientific paper, numerically organized, in order of appearance in text;
- **Bibliography** – represents the extended list of information sources that were consulted, and not necessarily cited, alphabetical organized according to author’s name or source’s title. (Ruskin University, 2011)
5.2.5. CITATION “ANATOMY”

The term of citation “anatomy” was defined in Library Workshop Manual: Section 4, published by Davis Schwartz Memorial Library (Davis Schwartz Memorial, 2011).

This section of the material related to the citation process is focused upon the description of mandatory bibliographic elements, for the most used information sources.

The formats and examples are presented and illustrated both for printed and electronic sources, published or unpublished.


5.2.5.1. Printed information sources


**Printed book chapter**


**Printed journal**


**Article in printed journal**

Article’s author(s). Title of article. In: *Title of journal*, year, volume, number, article’s pages.

**Standard**


**Pattern**

Name of applicant. *Title of pattern*. Country or office, pattern type, number. Publishing date.

**Paper in a conference**


**Legislation document**

Jurisdiction (country, institution). Title of legislation document (document type, number, day and month, official title of law). In: *Title of publication*, publication date, number, pages of legislation document.

5.2.5.2. Electronic information sources

**Electronic book**

Author(s) of book. *Title of book* [support]. Publication place: Publishing house, year [accessing date]. Availability and accessibility.

**Chapter in electronic book**


**Electronic journal**
5.2.5.3. Other information sources

If other information sources are used in developing a scientific paper, this thing should be recognized and sources must be mentioned as references.

As an example, if an investigation is the result of cooperation with other experts or institutions/centres/research laboratories, then this thing should be recognized.

Harvard style includes such citation situations of information coming from information sources: unpublished or in process of publication, oral or personal information and comments on personal blogs, online video transmissions.

5.2.5.4 Unpublished information sources

Author, year. Title of paper. Unpublished manuscript/ manuscript submitted for publication.


ROOSEVELT, F. Childhood acquisition of Pig Latin by native speakers of English. Manuscript submitted for publication.

Oral presentation

Name of speaker. Title of presentation. Presentation in Title of conference, location (town, country), presentation date.

VONCILĂ, Mioara. Un model de organizare a bibliotecilor universitare ca sisteme întredeschise. Prezentare susținută în cadrul Lucrărilor Conferinței Naționale a Asociației Bibliotecarilor din România, Brașov, Romania, 10 of September 2004.

Informal publication

Authority, year. Title of publication [prospect/circular]. Publication place: Publishing house.


Publications on Internet (web pages)

Authority/source, year. Title of web document/webpage [online]. (update time). Available at: web address [accessing date].


Blogs/Weblogs

Author, year. Title of blog entry (posted message). Title of blog [blog]. Date of blog entry post. Available at: web address [accessing date].


Video online transmissions

Name of producer, year. Title of video transmission [video online]. Available at: web address [accessing date].
5.3 USING MICROSOFT OFFICE WORD - References

There are several electronic applications for references management: Reference Manager, EndNote, CrossReff. These applications are chargeable. We present to you a free instrument existing in all computers using Microsoft Office, 2007.

“References” is a useful instrument for the management of the used informational resources and for generating bibliography. In figure 3.4, all terms used in program operation are translated.

5.3.1 Steps for automatic bibliography generation

Adding reference to the document

When a new citation is added to a document, a new source is automatically created, appearing in the list of bibliographic references. On the menu bar choose REFERENCES.

![Fig. 5.2. The elements used in information management](image)

In REFERENCES menu, group CITATIONS AND BIBLIOGRAPHY, click on the arrow near STYLE and choose the style you wish to use. Microsoft Office Word 2007 offers the user the possibility of generating bibliographic references in various styles: APA, Chicago, GB7714, GOST – sort by name, GOST – sort by title, ISO 690 – citations by first element and date, ISO 690 – numeric citations, MLA, SISTO2, Turabian (Fig. 3.3).
Fig. 5.3. Citations styles in Microsoft Office Word

<table>
<thead>
<tr>
<th>ABBREVIATION</th>
<th>STYLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>APA</td>
<td>American Psychological Association</td>
</tr>
<tr>
<td>Chicago</td>
<td>The Chicago Manual of Style</td>
</tr>
<tr>
<td>GB7714</td>
<td>Standardization Administration of China</td>
</tr>
<tr>
<td>GOST - Name Sort</td>
<td>The Federal Agency of the Russian Federation on Technical Regulating and Metrology</td>
</tr>
<tr>
<td>GOST - Title Sort</td>
<td>The Federal Agency of the Russian Federation on Technical Regulating and Metrology</td>
</tr>
<tr>
<td>ISO 690 - First Element and Date</td>
<td>International Organization for Standardization</td>
</tr>
<tr>
<td>ISO 690 - Numerical Reference</td>
<td>International Organization for Standardization</td>
</tr>
<tr>
<td>MLA</td>
<td>Modern Language Association</td>
</tr>
<tr>
<td>SIST02</td>
<td>Standards for Information of Science and Technology by Japan Science and Technology Agency</td>
</tr>
<tr>
<td>Turabian</td>
<td>Turabian Style</td>
</tr>
</tbody>
</table>

Click in the place of the future citation. In REFERENCES menu, group CITATIONS AND BIBLIOGRAPHY, click on INSERT CITATION and select the necessary option: ADD NEW SOURCE or ADD NEW PLACEHOLDER (Fig. 3.6).

After click on ADD NEW SOURCE, the menu CREATE SOURCE click on the arrow near SOURCE TYPE, in drop-down menu, figure 5.5.
Select source type: book, section of book, article in a journal, article in periodical, conference proceedings, report, Web site, document in Web site, electronic source, art edition, audio recording, representation, film, interview, pattern, file, miscellaneous (Fig. 3.4). Also, select the publication language using LANGUAGE.

Fill in the bibliographic data for the document in the respective fields. In order to add more information about the document click on the selection box SHOW ALL BIBLIOGRAPHY FIELDS. Recommended fields are marked by asterisk. After filling in the bibliographic data, click on OK (Fig. 5.5).
Search for cited sources

- In order to search for cited sources, select: **CITATIONS REFERENCES** and **BIBLIOGRAPHY SOURCE MANAGER**.
- **SOURCE MANAGER** includes 2 lists: **MASTER LIST** and **CURRENT LIST**.
  
  When a new document is opened, all sources cited in previous documents are shown in **MASTER LIST** (Fig. 3.8).

- If the opened document already contains citations, then **MASTER LIST** includes all the resources consulted during the research, both in current document and in previous documents. **CURRENT LIST** contains all cited sources but only in the current document.

- In order to find a certain source, select the sort type in the drop-down menu: **BY AUTHOR**, **BY TAG**, **BY TITLE**, **BY YEAR**. Look for the required source in the resulting list (Fig. 3.8).

- If you introduce the title or author of the source you are looking for in the **SEARCH** box, the list of the cited sources narrows in order to obtain the search term.
References editing

- In order to edit the references, select: REFERENCES, CITATIONS AND BIBLIOGRAPHY – SOURCE MANAGER.
- Under the CURRENT LIST click on the placeholder you wish to change or fill in.
- Click the EDIT button.
- Click the arrow near the TYPE OF SOURCE.
- Fill in or change the necessary data.
- After editing the bibliographic data, click on OK.
- All the changes are automatically shown in the bibliography.

Creating the list of references

- Creating the list of references is possible by a click made at any time after introducing one or more sources.
- Set the cursor in text at the place where the list of references will appear (usually at the end of the paper or chapter)

5.4. Other publications identification elements: international codes for publications

5.4.1 International Standard Book Number

International Standard Book Number (ISBN) is used as a key-element of the recording and inventory systems for editors, distributors, libraries and other organizations. It was adopted in 1970 as an international standard ISO 2108. In Romania, the standard numbering system of the books was introduced in 1989. ISBN identifies the editor, specific title, edition and book format. Once it is assigned, the ISBN number cannot be changed, replaced or reused. It has no legal value, meaning that it does not offer the copyright protection http://www.isbn.org/standards/home/index.html
ISBN consisted of 10 digits until January 1st, 2007 when it was made of 13 digits, divided into 5 segments (separated by dashes):

- segment 1: EAN prefix or code (European Article Number) may be only 978 or 979;
- segment 2: identification number of the group representing the country, geographical area or language area that participates in the ISBN system. This element may have between 1 and 5 digits;
- segment 3: editor identification number (may have up to 7 digits);
- segment 4: title identification number in editor’s production (may have up to 6 digits);
- segment 5: control position that allows validity check of the ISBN code (a single digit that mathematically validates the integrity of the number considered as a whole).


For printed publication, the ISBN number should be on the reverse of the title page, lower left part, in CIP description and on the 4th cover. The ISBN number of the electronic document is displayed on the title presentation page or its equivalent, on CD-ROM (cover or disk) and on the presentation page.

5.4.2 International Standard Serial Number

International Standard Serial Number (ISSN) is the international standard code of the serial publications like: newspapers, journals, annals, bulletins, scientific papers. ISSN was released and developed under the United Nations International Scientific Information System program (UNISIST) created together with UNESCO. In 1975 the international standard ISO 3297 was adopted.

ISSN International Centre based in Paris records every ISSN code together with the publication title and bibliographic description in a specialized database The ISSN Register. This database, constantly updated within the network has an annual growth between 40.000 and 60.000 ISSN numbers.

ISSN network consists of national centres which are responsible for the efficient continuation of the ISSN system, achieving bibliographic control. As an ISSN National Centre, Romanian National Library distributes ISSN in Romania.

An ISSN number consists of two segments each made of 4 digits (Arabic numbers) separated by a dash, preceded by the ISSN logo, followed by space. The last element (control element) can be X.

According to standard ISO 3297:2007, ISSN liaison number (ISSN-L) is assigned to a serial publication in order to regroup different physical supports of the respective resource, regardless of the number of supports (each of these supports should have an ISSN number (different) www.issn.org.

5.4.3 International Standard Music Number

International Standard Music Number (ISMN) is an instrument applicable to printed musical publications.

Each standardized international number for written or printed musical publications, should be preceded by letters ISMN and each component element should be separated by the following using a space or a dash as in the following examples: ISMN M 571 10051 3, ISMN M-01-123456-3.

5.4.4 Digital Object Identifier

Digital Object Identifier (DOI) represents an identification system of a document produced in a digital environment. The DOI system is currently being standardized using ISO. The international standard project ISO / DIS 26324 was approved at the end of the year 2010.

DOI International Foundation (IDF) was established in 1998, in order to develop an infrastructure, policies and procedures framework to support the suppliers needs and to protect the intellectual property in digital environment http://www.doi.org/.

DOI number consists of prefix and suffix, separated by slash. Prefix starts with „10”. The next element of the prefix identifies the name of the organization that wishes to record the DOI number. Prefix blocks are assigned by DOI Registration Agency. Suffix is chosen by the editor, by identifying the specific object. It can be a simple sequential number or the already established code is used (ISBN or any other property ID), that allows integration based upon the existing systems. This looks like follows: [“doi” logo with regular letters, followed by a colon (:) no space].

Each DOI is unique and final. A document keeps its own DOI along its entire existence and in case of document elimination, the number could never be used again.
REFERENCES


INFORMATION COMMUNICATION

6.1 INFORMATION USE ETHICS

6.1.1 Plagiarism

According to the Romanian Language Explanatory Dictionary:
- to plagiarize = to acquire, to copy someone's work, presenting them as personal creations; to commit a literary, artistic or scientific theft and
- plagiarism = literary, artistic or scientific work of someone else, entirely or partially acquired and presented as personal creation. (DEX, 1998)

The word “plagiarism” comes from Latin „plagium”, translated as “selling to others stolen slaves or slaves that do not belong to the seller”.

Plagiarism appeared in ancient times. The term “plagiarism” occurred the first time with the Greek epigram writer Martialius who, in the conflict with another author, Fidentius, that published care a Martialius’ poetry as his own, accused him of plagiarism, stolen children. Martialius considered his poems as “the children of the mind” and felt they were stolen by Fidentius. Many authors have been accused rightly or not of plagiarism over the time but only after the concept of copyright appeared for the first time in an encyclopaedia in 1800 it became clear that it is not ethical to use somebody else’s work without a correct citation.

Plagiarism is the presentation of an author’s work in such a manner that it offers the reader the impression it belongs to this author. Examples of plagiarism:

- taking a phrase from a book without placing it in quotation marks,
- copying information from any sources that include internet,
- use works for which credit has been already obtained,
- failure to adequately use endnotes or other citation methods.

Paraphrasing is a method to avoid plagiarism. By paraphrasing we avoid copying a paragraph word by word. Reformulating the idea with your own words helps the conceptual understanding and avoids plagiarism at the same time. The following steps are to be taken:

- The original passage should be read several times to fully understand its message;
- The passage will be reformulated using your own words;
- Borrowed language should be avoided;
- All the essential information will be expressed accurately but in a new form;
- Quotation marks are used;
6. Citation

Citations are an important form of communication in the school environment. These present in a formal manner the origin of ideas and concepts, so that anyone can follow the development of research on a certain topic.

They offer enough information for any person interested in accessing the same research for an ulterior study.

A citation offers all the necessary information to someone to locate one copy of a book if this is what they want. A citation does not include a library code as the person who reads a paper or an article will not be always in the same institution as the author.

With the internet spreading and multitude of online available texts the tendency and easiness of plagiarism increased. It is obvious that in an educational environment, many pupils and students are not aware of the plagiarism term and do not understand the issue. They consider that available information belong to everybody.

Here comes the need for Information Literacy courses. This guide offers all the necessary information to create a paper in an ethical manner and to avoid the plagiarism accusation.

Information industry offers many tools to detect plagiarism.

6.1.3 Plagiarism detection

Digital documents are vulnerable to copying. Most of the copying detection prototypes use an exhaustive method based upon comparing the text subjected to verification to other original documents in order to identify the plagiarism activities.

Practically, the software detects all documents that contain the same sentences or phrases, using the same order of words. In case the citation is correctly done and the sentence is written using quotation marks and the source is indicated, the detector will not signal anything wrong. Each software indicates on the presentation page which search engines are checked. Most of them check on Google, Yahoo.

Also, by paraphrasing, the words order is not the same any more, the source is indicated and the plagiarism avoided.

Various types of plagiarism can be classified:

- copy&paste;
- copy, shake&paste;
- patchwriting (rewording);
- structural plagiarism;
- translations.

Which of these frauds can be discovered? Translations detection is not possible. Structural plagiarism is also difficult to determine. If the ideas are presented in the same order and the footnotes respect the same sequence as for other authors but phrase semantics is not at the same syntactic level, then plagiarism can be detected only by the human factor.

6.1.3.1 Plagiarism detection for text documents

A few anti-plagiarism softwares are presented as a follow, in order to understand how they work and how useful they are. (Ephorus, 2011)

The best considered software are:

- The Dutch system Ephorus – is a paid system, pretty expensive but it is used by most universities in Northern countries.
Fig. 6.1. Anti-plagiarism system Ephorus (source: https://www.ephorus.com/en/home)

- German system PlagAware, http://www.plagaware.com/
- Copyscape free, free version offered by Google. There is a limitation regarding the checking of only 10 documents per month. The results are fast and of medium quality. http://www.copyscape.com/

There are a lot of anti-plagiarism software, some more expensive, some cheaper. We present you now, how does a free version work.

6.1.3.2 Operation of plagiarism detection systems

Step 1: Loading the document to be checked.
Step 2: Comparing text to the documents indexed by the main search engines on the internet.
Step 3: A report is received regarding the paragraphs and sentences that were plagiarized and also the sources the paragraph was copied from. Also a report is sent about what percentage is considered original.

Practical example


Viper is an anti-plagiarism software, free downloadable from internet. We present to you the duty cycle. We subjected to checking the chapter “Information management” of this guide.
Step 1: Opening the working window, figure 6.2
Developing information literacy for lifelong learning and knowledge economy in Western Balkan countries

Step 2: Load the document subjected to checking and select the document type. By selecting a certain domain, the search software will be oriented towards the sites containing this type of information, figure 6.3.

Step 3: If you want to, Viper also checks the files in the personal computer. This option is valuable in case of a professor who keeps electronic files of students’ papers. This way he may find if there are identical home works. Also we can detect if the same form of information was used in other personal papers, figure 6.5.

If we wish to scan the web space, we select the button Go to step 3 and then START Fig. 6.5.
Step 4: Viper scans web space. We can see it is working following the left of the screen: Queered for processing, figure 6.6, then the scanned percent of the paper and sites where already similar expressions or passages were identified, as in the document subjected to scanning.

Step 5: Finalizing the scan and creating the report, figure 6.7.
Viper detects documents where there are 5 or more words in the same order as in the checked document. Fragments with the same order of words may be identified but they are not necessarily plagiarism. Important thing is that these fragments are not ignored. This may attract attention upon possible reformulations of the author, keeping the initial structure but failing to credit the used material. The software checks direct citations. A percentage of direct cited words is calculated.

Assessment of plagiarism

The percentage finally indicated represents the assessment concerning the number of identified and used identical documents. Thus:

- ≤ 6% - Very unlikely to contain plagiarised material. In this case, the size of the document is taken into account. In case the document is over 15,000 words, we may consider that 6% represents plagiarism.
- 6-12% - Low risk of containing plagiarised material. Most fragments detected to be identical to other sources may be usual sentences in the field. A careful review of sources is recommended and their citation.
- 13-20% - Average risk of containing plagiarised material. Certain matches may be with different websites. It must be checked if the author cited correctly. It is possible that the footnotes are not detected by scanning. This should be checked again very carefully.
- Over 21% - High risk of containing plagiarised materials. Document must be reviewed.

In the presented practical case, the assessment identifies 2% documents with similar phrases and the software also offers the list of plagiarised documents, see figure 6.8.
6.2 INTELLECTUAL PROPERTY. COPYRIGHT. LEGISLATION

In Romania, Law no. 8/1996 concerning copyright and related rights supplemented and amended by Law no. 285/2004 and OUG no. 123/2005 and updated until 28/12/2005 applies broadly the European principles regarding exceptions and limitations. “Using short extract of an opera is allowed (without specifying their size), by respecting citation principles, within libraries, museums, archives etc., but also the entire reproduction of a work, excluding the serious damage, destruction or losing the only copy of a collection. Intellectual creative work is recognized and protected, regardless of disclosure to the public, by the mere fact of its creation, even unfinished.” (Law of copyright, 2005)

“Author – Physical person or persons that created the work.
When the work was disclosed to the public in an anonymous form or using a pseudonym that does not allow the author’s identification, the copyright is exerted by the physical or legal person that makes it public only on author’s consent, as long as he does not reveal his identity.

Common work – work created by several authors in collaboration.

Copyright on a common work belongs to its co-authors, among which one can be the main author.” (Law of copyright, 2005)

“Reproduction of a work is allowed without the author’s consent, for personal use or the normal family circle, provided this does not contradict the interests of copyright holders.” (Law of copyright, 2005)

“Duration of works’ protection by copyright is identical to the one stated in European Union’s directives, meaning 70 years after the author’s death.” (Law of copyright, 2005)

6.3 INFORMATION COMMUNICATION

6.3.1 Creating and presenting academic works

The structure of academic works is done according to standard STAS 8660-82, Books and brochures: editorial presentation/ Romanian Institute for Standardization, 1982 and is presented in figure 6.9.
As a follow, we present some recommendations required to achieve this structure.

**Project's title**
- Too general titles are to be avoided
- Customizing the general title by help of an expression or subtitle is attempted
- Paper's title may be customized in order to express what was researched in the practical part.

**Structure on chapters – general recommendations**
- Very short chapters should be avoided and also excessive fragmentation of the work
- There should be accordance between the chapter's title and its content
- The first step in creating a coherent paper is a content, its chapters representing a gradual development of ideas.

**Introduction** is a reflection of the entire work, created for the reader who does not have the time to read the work.

**Motivation of the topic choice should highlight:**
- Relevance for administrative domain
- Short presentation of the domain's research state of art
- Presentation of structure on chapters
- Presentation of achieved research and conclusions

**Structure on chapters – Theoretical part represents:**
- A way of taking over theories and definitions: theoretical contribution may consist in analyzing definitions elements, finding similitude/differences
- We start from credible sources and then extend search to internet sources (credible sources: organizations’ reports, Ph.D. thesis, statistics of some research institutes)
- Avoid taking over paragraphs or entire pages; if you take more extended paragraphs, reformulation should be attempted

**Practical part represents:**
- Aim of research/research hypotheses
- Research instrument/ sampling
- Presentation and interpretation of research results (use graphical supports, tables, figures)
- Conclusions

**Presentation creation, scientific papers editing**
- Any scientific paper can be presented to be capitalized in an explicit form by editing its text.
Editing scientific paper is an important part of scientific research, presenting the results of scientific investigations to be appreciated.

Editing represents a communication of research results. We will find in it the accomplishment of the proposed objectives, used methods and techniques and communication of the obtained results. It is necessary to respect some rules of form and content unification:

- Simple style, clear and precise speech, appropriate to the object’s expression;
- Respecting communication law by legibly writing, using a demonstration logic, correct use of punctuation, concise phrases;
- Well thought structure of the work by highlighting its components;
- Emphasizing reasoning and conclusions, demonstrations of each part, each presented idea etc.;
- A volume of the work at a suitable extent and a balance between the work components;
- Accurate conclusion and consistent to the researched problem or topic.

Title page
There are some related elements of the scientific work which are important for its editing and presentation. Among them – cover, title page, content, bibliography, annexes, indexes, lexicons, glossaries etc.

In the page title we mention the work identification elements.

Content
The following elements of the scientific paper elements are fixed in the contents:
- Introduction (preliminaries);
- Parts;
- Chapters;
- Subchapters.

They are accurately fixed by pagination. In some papers the content is placed immediately after the title page, sometimes after the introductory note, sometimes at the end of the paper, after the conclusions.

Bibliography
It is a systematization of the used bibliographic sources list and cited by the author of the scientific paper.

Examples of bibliographies, listed in alphabetical order, seldom according to the importance order.

Annexes
Tables, diagrams, graphics etc. By their help, more important details or less significant of the paper, calculus, analysis etc. are synthesized and exposed.

They are usually presented at the end of the work and in exceptional cases they are presented in a smaller format which is inside the scientific paper format.

Indexes
There are several types: alphabetic indexes of notions, concepts and ideas, keywords, authors etc.

6.3.2 Scientific communications presentation
An important stage in research development is the presentation and demonstration of scientific investigation results. In presenting and demonstrating the scientific paper, an outstanding righteousness is required; the public must be persuaded by various methods of the scientific communication update.

The paper presentation assumes some requirements:
- plan;
- free presentation;
- fluency, vocabulary choice;
- academic presentation level.

The value of the performed scientific research will be assessed by the commission and its chairman respecting the established order. The moral requirements and deontological codes existing in the domain will be respected.

6.3.2.1 Scientific communication scheme
Scientific communication will be presented in 3-5 pages and will take 10-15 minutes. The following will be presented:
- contribution to the researched topic;
- research novelty and value;
- applicability.
6.3.2.2 Information presentation

A modern form of presenting information is represented by Power Point or Prezi presentations.

References