

Terminology

1- Definition of terminology

Simple Definition of *terminology*

- the special words or phrases that are used in a particular field

Full Definition of *terminology*

1. the technical or special terms used in a business, art, science, or special subject
2. nomenclature as a field of study

Terminology is a science whose aim is to study terms, which are lexical elements used in specialised fields (subjects or their branches) and generated in such fields or modified from elements already existing in other fields.

Terminology allows the compilation, description and presentation of terms.

-Compilation of terms: preparation of lists with terms belonging to a certain subject, according to a previously established methodology.

-Description of terms: definition or definitions of each term (semantic focus) and description of the elements composing the term and its generation process (morphological focus).

-Presentation of terms: preparation of dictionaries.

2- Term and word

In Terminology,

- The “**term**” or “**terminological unit**” is the meaning unit made up of one single word (simple term) or several words (complex term) and represents a concept in a specific semantic field.

From this definition, we can understand that

- **A term** is a specialized word in relation to its meaning and the field in which it is used. It is considered in that way when used in a certain context in which it takes the function of a “**term**”.

Terms can be more or less complex lexical units that are generated following several processes:

-The extension of the meaning of a word in the standard language (for instance, “mouse” in computing terminology is a device that allows the user to interact with the computer).

-Generation of a phrase that functions as a whole with one specialized meaning (superconducting magnet).

-**Symbolic expressions**, as chemical element symbols (Na) or chemical and mathematical formulas (H₂SO₄).

-**Abbreviations** (PVC) and **acronyms** (NATO, from North Atlantic Treaty Organization).

-**Names of post** (Prime Minister), organizations or administrations (United Nations, Prime Minister).

3- Characteristics of a term

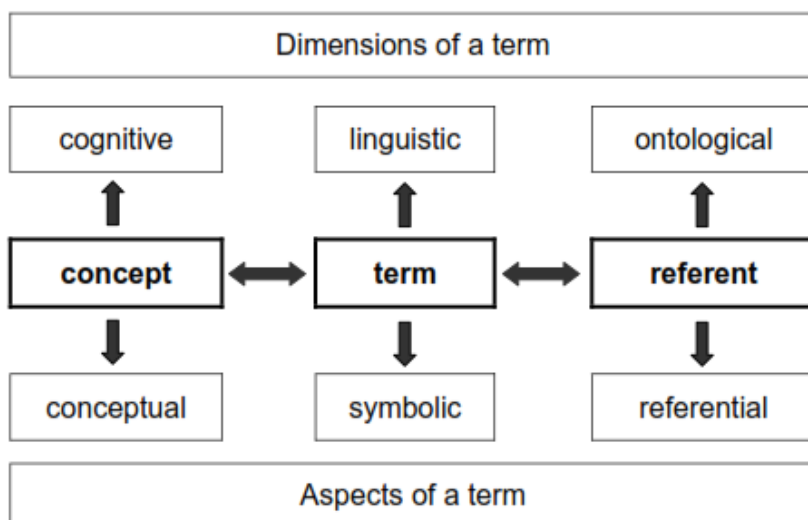
In order to establish the limit between term and word, it is important to know the characteristics of terms in a specialised language. According to Gutiérrez Rodilla (1998: 88-94) the characteristics of terms are **precision, emotional neutrality and stability over time**.

Thus, the term, as with any other word, is a sign with a triple dimension:

- Linguistic: the signifier (the formal aspect of the term).
- Cognitive: the meaning of the concept represented by a term.
- Ontological: the referent, the object from reality to be named.

The three dimensions give three different, but related, aspects of terms:

- **Linguistic dimension** – symbolic aspect: this refers to a term as a symbol representing an object, a referent.
- **Cognitive dimension** – conceptual aspect: in relation to the concept that allows the human mind to keep the referent.
- **Ontological dimension** – referential aspect: the referent itself to be named and understood.



Application: Hospital Acquired Infections GLOSSARY

Hospital Acquired Infection – An infection caught while hospitalized. The medical term for a hospital-acquired infection is "nosocomial." Most nosocomial infections are due to bacteria. Since antibiotics are frequently used within hospitals, the types of bacteria and their resistance to antibiotics is different than bacteria outside of the hospital. Nosocomial infections can be serious and difficult to treat. A nosocomial infection is strictly and specifically an infection "not present or incubating prior to admittance to the hospital, but generally occurring 72 hours after admittance."

CDC (Center for Disease Control) – The Centers for Disease Control and Prevention (or CDC) is a United States federal agency under the Department of Health and Human Services headquartered in Druid Hills, unincorporated DeKalb County, Georgia, in Greater Atlanta. It works to protect public health and safety by providing information to enhance health decisions, and it promotes health through partnerships with state health departments and other organizations. The CDC focus national attention on developing and applying disease prevention and control (especially infectious diseases and food borne pathogens and other microbial infections), environmental health, occupational safety and health, health promotion, injury prevention and education activities designed to improve the health of the people of the United States.

AAMI – Association for the Advancement of Medical Instrumentation, dedicated to advancing safety in medical technology.

Sterilization- a term referring to any process that eliminates (removes) or kills all forms of microbial life, including transmissible agents (such as fungi, bacteria, viruses, spore forms, etc.) present on a surface, contained in a fluid, in medication, or in a compound such as biological culture media.

Decontamination- Public health Use of physical or chemical means to remove, inactivate, or destroy blood borne or other pathogens on a surface or item, to the point where they are no longer capable of transmitting infectious particles, and the surface or item is rendered safe for handling, use, or disposal.

Staph Infection- Staph infections are caused by staphylococcus bacteria, a type of germ commonly found on the skin or in the nose of even healthy individuals.

Hospital Acquired Pneumonia - nosocomial pneumonia refers to any pneumonia contracted by a patient in a hospital at least 48–72 hours after being admitted. It is usually caused by a bacterial infection, rather than a virus.

Sterile-Processing Department- comprises that service within the hospital in which medical/surgical supplies and equipment, both sterile and non sterile, are cleaned, prepared, processed, stored, and issued for patient care.

Pathogenicity- the capacity of the infectious agent to cause disease or to produce progressive lesions in a susceptible host.

Virulence- the degree of pathogenicity.

Invasiveness – the ability to enter tissues of the host, multiply, and spread.

Toxigenicity – the ability to produce toxic substances. Also, the manifestation of some host-parasite biochemical activity.

Direct Contact – actual touching of the infected person or animal or other reservoir of infection.

Indirect Contact – Touching of contaminated objects such as clothing, bedding, toys, handkerchiefs, surgical instruments, and dressings, with subsequent hand-to-mouth transfer of infective material; less commonly, transfer to abraded skin or mucous membrane.

Droplet Spread – projection onto the conjunctivae and the face or into the nose or mouth of the spray emanating from an infected person during sneezing, coughing, singing, or talking.

Vehicle – water, food, milk, or biological products, including serum and plasma, by which an infectious agent is transported from a reservoir and introduced into a susceptible host through ingestion, inoculation, or by deposit on skin or mucous membrane.

Scientific Article

What is a scientific article?

- A scientific article is a piece of writing that reports the findings of a scientific experiment.
- A scientific paper is a written and published report describing original research results.
- Scientists use these types of articles to inform other scientists, as well as regular people, about their discoveries.
- A good scientific article does several things: It explains **why** the experiment was done, **how** it was performed, **what** conclusion was reached, and **how** the results support that conclusion.
- The purpose of a scientific writing is to communicate new scientific findings..
- It should be clear, simple and well ordered communication to transmit new scientific findings.
- Scientific article must use proper English which gives the sense in the fewest short words.

Why we read a scientific article?

I read research papers because of:

- **The Content:**

Looking for new ideas or new proof techniques to write a new paper.

- **The Topic:**

What are the new directions in my field or learning a new topic.

- **The Authors:**

Looking for valuable colleagues to work with or new comers.

The typical “anatomy” of a scientific article:

- Title and authors
- Abstract/summary
- Introduction
- Materials and Methods
- Results
- Discussion

- Acknowledgements
- References
- Figures/Tables

Title and authors

- Title is very descriptive (often states the main finding) and is not about being creative and “catchy”!
- Order of authors is important. What can you tell from it?

Abstract

- Brief background of subject
- Purpose of the study
- Major findings of the study
- Relationship between these findings and the field

How to approach the introduction?

- What is the accepted state of knowledge?
- What data led directly to the work of this paper?
- What is the hypothesis being tested?
- What are the basic conclusions? (Scientists don't really like surprise endings and this is usually stated in the last paragraph.)

Materials and Methods

- Should be detailed enough for another scientist to replicate the work (volumes, times, company material was purchased from etc.)

Results

- While the introduction poses the questions being asked, the results describes the outcome of the experiments that were done to answer the questions.
- Results are often simply stated with *interpretation* of them coming later in the discussion.
- Figures and tables allow the reader to see the outcomes of the experiments for themselves!

Discussion

- Data is analyzed to show what the authors believe the data show. (You don't have to agree with their interpretations!)
- Findings are related to other findings in the field (contribute to knowledge, correct errors, etc.)

- How is this work significant?

Acknowledgements

- Thank people who contributed materials.
- Thank people who contributed technically but maybe not intellectually (would not be authors).

References

- Papers cited in the text
- What parts of the paper cite other papers?
 - Introduction
 - Materials and Methods
 - Discussion
 - (Maybe a few in Results)

Question: How should we READ a scientific paper?



HOW TO READ SCIENTIFIC PAPERS

Much of a scientist's work involves reading research papers. Because scientific articles are different from other texts, like novels or newspaper stories, they should be read differently. Here are some tips to be able to read and understand them.

1 SKIM



First get the "big picture" by reading the title, key words and abstract carefully; this will tell you the major findings and why they matter.

- Quickly scan the article without taking notes; focus on headings and subheadings.
- Note the publishing date; for many areas, current research is more relevant.
- Note any terms and parts you don't understand for further reading.

RE-READ 2

Read the article again, asking yourself questions such as:

- What problem is the study trying to solve?
- Are the findings well supported by evidence?
- Are the findings unique and supported by other work in the field?
- What was the sample size? Is it representative of the larger population?
- Is the study repeatable?
- What factors might affect the results?

If you are unfamiliar with key concepts, look for them in the literature.



3 INTERPRET



- Examine graphs and tables carefully.
- Try to interpret data first before looking at captions.

- When reading the discussion and results, look for key issues and new findings.
- Make sure you have distinguished the main points. If not, go over the text again.

SUMMARIZE 4

- Take notes; it improves reading comprehension and helps you remember key points.
- If you have a printed version, highlight key points and write on the article. If it's on screen, make use of markers and comments.



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- Lenny Bittve, "How to Read a Scientific Paper," Research4Life Training Portal.
- Valerie Matarese, PhD (Ed), "Using strategic, critical reading of research papers to teach scientific writing," *Supporting Research Writing: Roles and Challenges in Multicultural Settings*, Chandos Publishing, Elsevier (2012).
- Allen H. Bernal, PhD, and Corale L. Palival, PhD, "Strategic Reading, Ontologies, and the Future of Scientific Publishing," *Science* (2009).
- Angel Dorja, PhD, "11 steps to structuring a science paper editors will take seriously," *Elsevier Connect* (June 24, 2014).
- Mary Paragaram, PhD, and Jan Hewitt, PhD, "How to Read a Scientific Article," *Cain Project in Engineering and Professional Communication*, Rice University.
- "How to Read and Review a Scientific Journal Article," *Writing Studio*, Duke University.
- Robert Siegel, PhD, "Reading Scientific Papers," Stanford University.

research4life

Application

Example of a scientific article to analyze

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2009;4(1):25-29
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ORIGINAL ARTICLE

Symptomatic nosocomial urinary tract infection in ICU patients: identification of antimicrobial resistance pattern

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ABSTRACT

Background: Nosocomial infections are generally occurring 72 hours after admittance and are not present or incubating prior to admittance. The most common nosocomial infection is urinary tract infection (UTI). Scanty data are available regarding the nosocomial infections in Iranian teaching hospitals. The aim of the present study was to determine the frequency of symptomatic nosocomial UTI, identify the etiologic organisms, and determine their antimicrobial susceptibility pattern.

Patients and methods: This cross sectional study was conducted on ICU patients of Firoozgar hospital affiliated to Iran University of Medical Sciences from September 2003 to September 2005. Antimicrobial susceptibility pattern was achieved by disk-agar diffusion and E. test methods.

Results: Totally, 306 patients were admitted to ICU, of whom 28 (9.2%) suffered from symptomatic UTI. The most common isolated organism was Klebsiella (13 cases, 46%) followed by E.coli, Pseudomonas and Enterobacter spp. A high level of resistance was observed for third generation cephalosporins (Pseudomonas 100%, Klebsiella 92%, E.coli 71% and Enterobacter 25%), however, microorganisms were less resistant to imipenem and ceftipime.

Conclusion: Based on observed results, carbapenems and ceftipime are the drugs of choice for empiric antibiotic therapy of nosocomial UTIs in Firoozgar hospital.

Keywords: Nosocomial infection, Urinary tract infection, Antimicrobial susceptibility pattern.
(Iranian Journal of Clinical Infectious Diseases 2009;4(1):25-29).

INTRODUCTION

Urinary tract infections (UTIs) are the most common nosocomial infections which account for about 40% of all hospital – acquired infections and constitute a major source for nosocomial septicemia and related mortality in acute care hospitals. The vast majority of UTIs occur in patients with temporary indwelling bladder catheters (1). Indwelling urinary catheters pose a risk for many infective complications such as

parasphric, vesical, and urethral abscesses as well as epididymitis, prostatitis and orchitis. The overall incidence of these complications is unknown, although 20 to 30 percent of patients with asymptomatic catheter-induced UTIs may develop local or systemic symptoms (2).

The microorganisms usually responsible for catheter-associated UTIs are derived from the fecal flora native to the patient or originate in the hospital environment. They include E.coli, Enterococcus species, Pseudomonas aeruginosa, Klebsiella pneumoniae, Proteus mirabilis and Candida albicans (3).

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How to summarize an article?

How to analyze an article?

Write and present a scientific article in English

IMRAD Story (Introduction, Methods, Results and Discussion)

- **I** = Introduction, what question (problem) was studied.
- **M** = Methods, how was the problem studied.
- **R** = Results, what are the findings.
- **A** = and
- **D** = Discussion, what do these findings mean.

Some important Language points

- Poor experimentation cannot be masked by brilliant writing; however, poor writing can mask brilliant experimentation.
- Avoid complex sentence structure.
- Use simple and clear English.
- Always keep in mind that the paragraph is the essential unit of thought.

Oral communication

Purpose of a research talk

Is not to

- Impress the audience
- Tell them all you know about a subject
- Present every little detail of your work

Is to

- Give the audience a sense of what your idea/work is
- Make them want to read your paper

Get feedback on your work

Know your audience

- Who would be there?
 - Scientists expert in your field
 - Scientists not expert in your field
 - Students
 - Non experts

Most likely a mix so have something for all

How to Present a Scientific Work

Topics we'll discuss

- Getting started
- Displaying text
- Displaying graphics
- Animating
- Presenting
- Critiquing sample slides

Preparing the presentation

- Prepare the slides in advance

- Show them to friends
- When you think you are done read them again
- Check all animations with the sound on 😊
- Practice, practice, practice
 - Give a practice talk to a general audience
 - Give a practice talk to an audience of expert
 - Time your presentation (allow for speed up effect caused by nervousness)
- Always assume technology will fail you. Have backups.

Samples

Features to consider:

- **Text**
 - Fonts, use of phrases, parallelism
- **Visuals**
 - Readability, drawing attention
- **Slide design**
- **Organization/ hierarchy**
 - Titles, bullets, arrangement of information, font size

Application

Examples of Some oral presentations in the field

- Nosocomial infections
- Hospital materials
- Treatment of hospital wastes
- Microorganisms: Bacteria (Gram+ and Gram-), Yeasts, Viruses, Fungi
- Risks of working in a hospital
- Preventions towards Nosocomial infections
- Antibiotics' resistance