

TDDD89

2018

Academic Writing

What is academic writing?

COMMUNICATION

Includes:

Written courses assignments

essays, written material for presentations, reports, etc.
bachelor's , master's, licentiate and doctoral theses

Professional writing

scientific papers,
reports
etc.

Communication of science makes a difference

Nikola **Tesla**, a Serbian-American inventor, physicist and electrical engineer, was a brilliant scientist. Yet, he is hardly known to the public although he contributed innovative ideas, improvements and inventions in **energy transmission and electrical engineering**.

Tesla also got involved in the "War of Currents". By inventing the induction motor, which works with alternating current (AC), he helped AC surpass the standard direct current (DC) electricity distribution that had always been promoted by Edison. Significant influence on the whole industrial revolution.

However, **Edison** is far better known. He was rather more of a salesman than a researcher. He **knew how to communicate** as well as **how to sell ideas and technology** - such as the light bulb - with which he paved his way into the history books.

Engineers must
COMMUNICATE!!!!!!!!!!

Engineers must write!

Communication

- What?

- Why?

- To whom?



- “Communication is not only the essence of being human but also a vital property of life” - something that we do all the time without understanding the underlying processes (John R. Peirce, 1972:31).
- The word “communication” derives from the Latin, “communicatio” which means a sharing, or imparting. The verb form, “communicare”, means to make common.
- Some kind of **mutual exchange** between speaker and hearer(s).

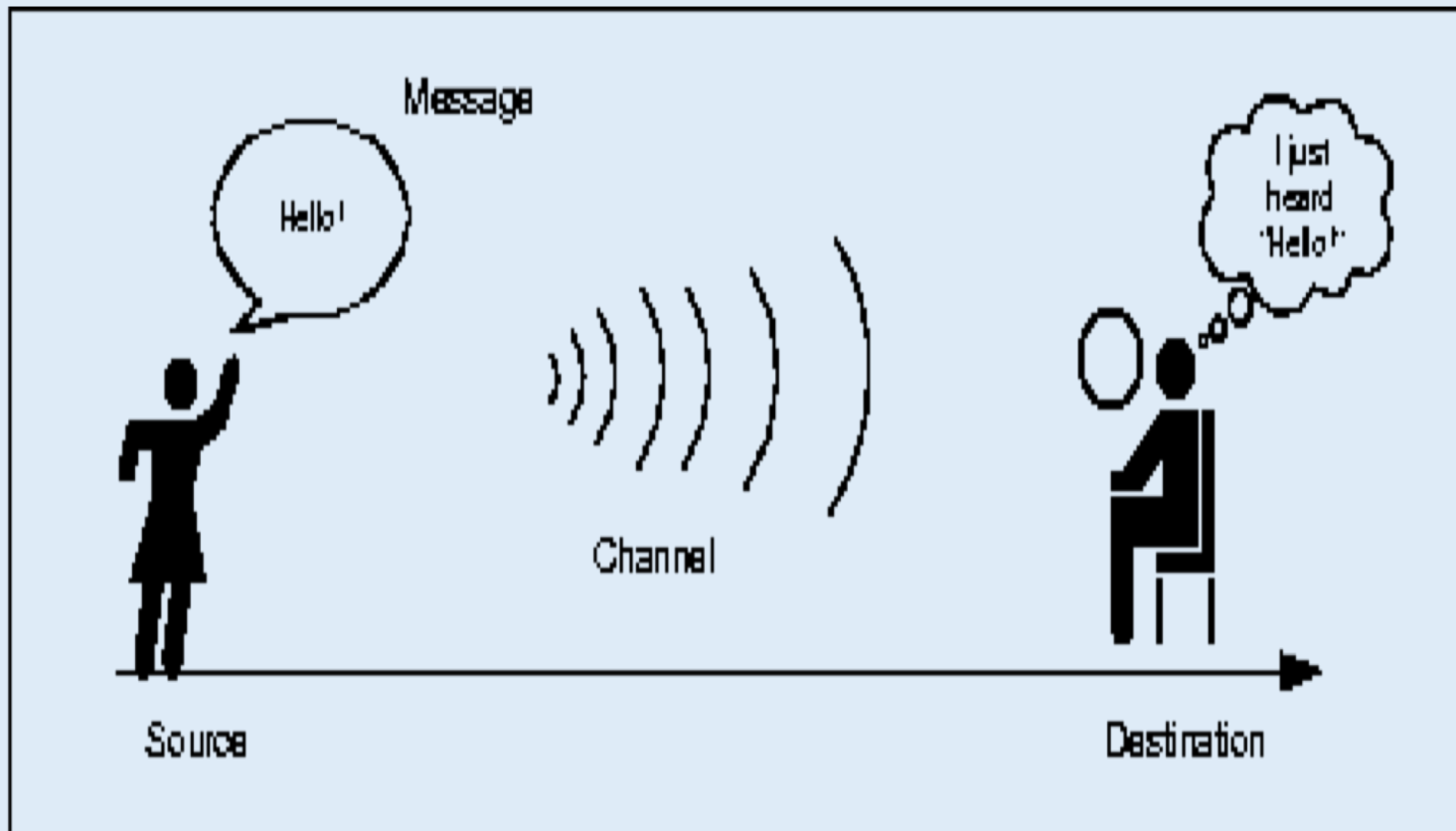
”Communication is an interpersonal process through which a certain symbolic content is shared and/or made available to others by means of transfer.”

André Jansson(2009:30)

my translation

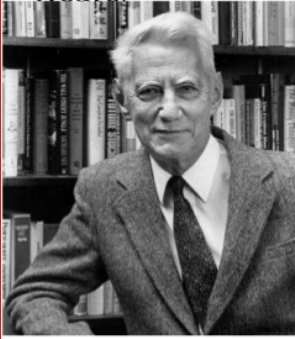
There is a lack of communication between science and other parts of society.

Basic communication model



The Shannon and Weaver Model

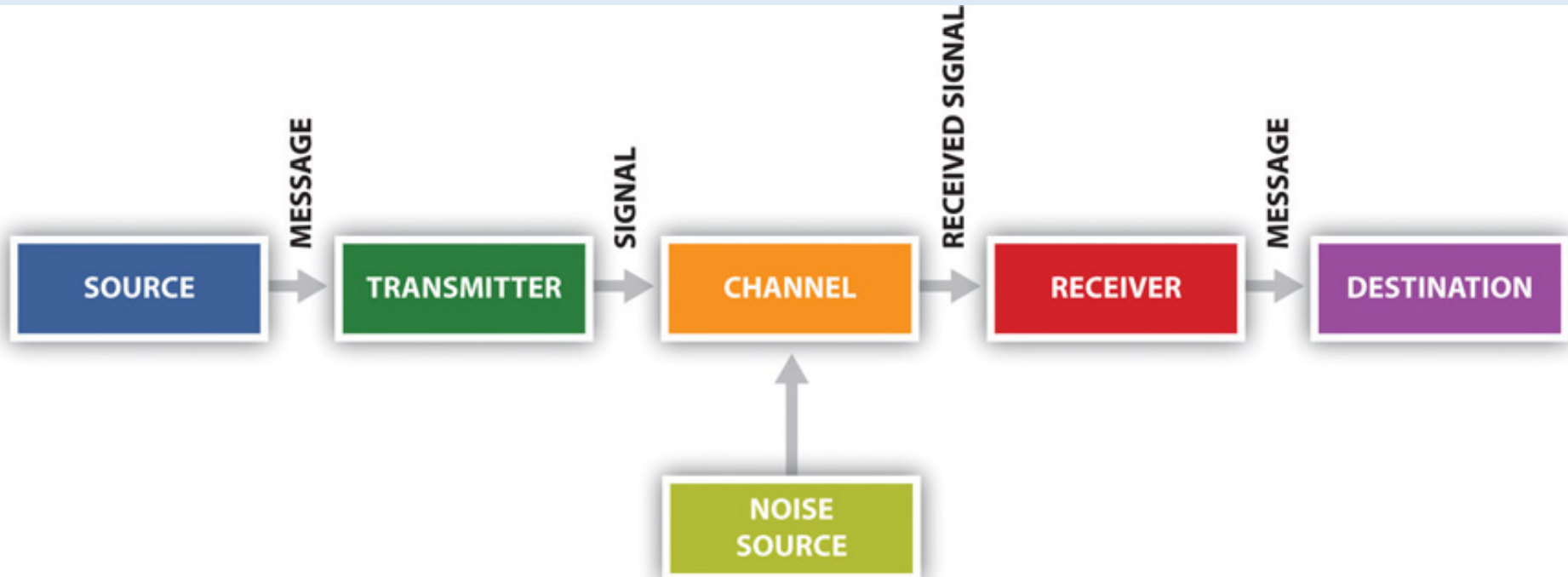
Claude Shannon
Weaver



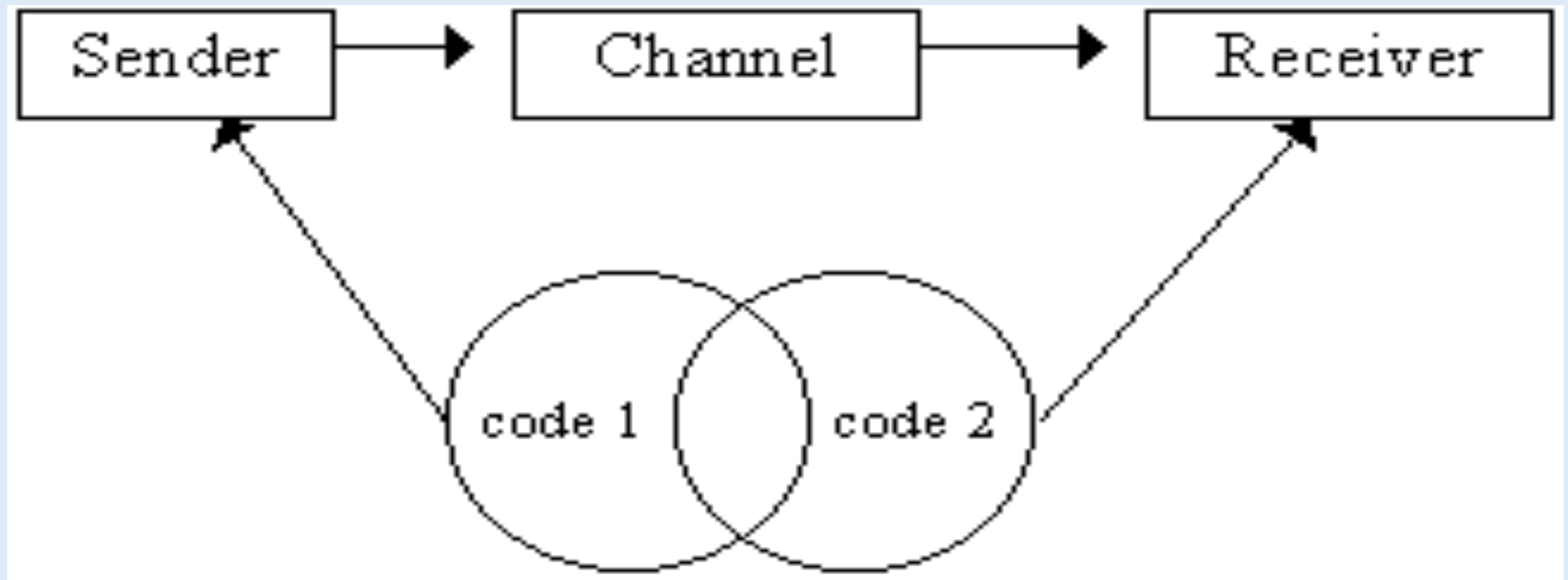
Warren

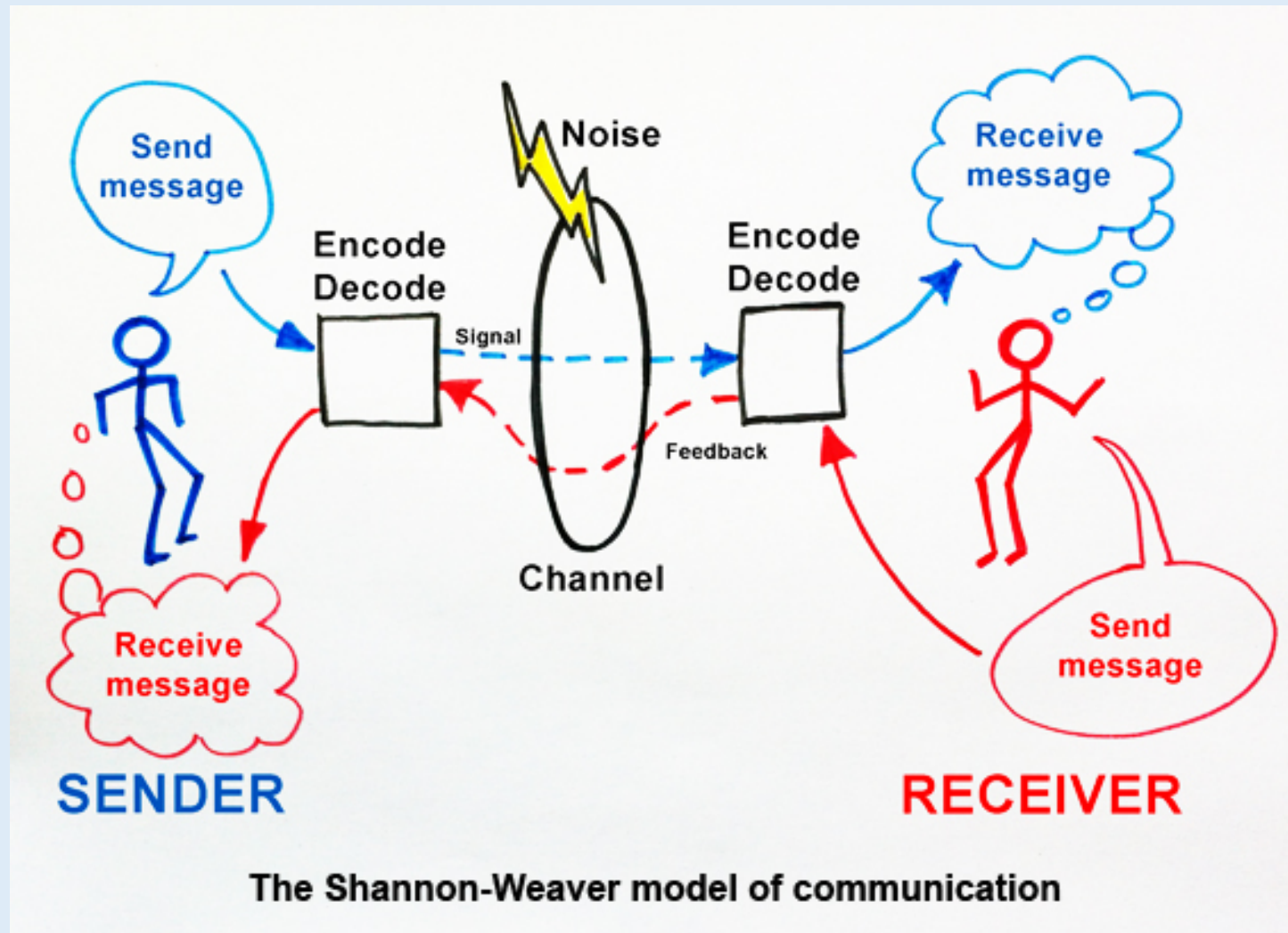


Warren Weaver



Moles appended Shannon's model in 1963, adding a crucial element, the **code**.





WHAT is NOISE?????



Communication **presupposes knowledge.**

The communication code is not a simple, single linguistic entity,
but an abstraction that encompasses the communicators'
lifeworlds, attitudes and history.

COMMUNICATION

Study handbook: Industrial Engineering and Management

....identify, analyse, solve and communicate complex interdisciplinary problems

.....

Engineers have good communication skills, both oral and in writing, in both Swedish and English....

Engineers must be able to communicate in a convincing and plausible manner both in writing and in speaking with different **stakeholders who have different technical knowledge.**

AUDIENCE DESIGN



Writing is used to
communicate

How do we make a text

AUDIENCE / READER-FRIENDLY?

Reader-Oriented Writing

- Audience
- Expectations
- Prior knowledge



Reader-centred communication.

- * What do you want to happen while your Readers read?
 - * What is the context?
 - * Provide any necessary background information.
 - * Answer the readers' questions.
 - * Include additional information they might need.
 - * **Organise your paper to support their reading.**
 - * Create an effective relationship with your readership.
-
- * **Give your readers a reason to read on.** (adapted from Paul V. Anderson (1999) *Technical Communication: A Reader-Centered Approach*)

A barometric low hung over the Atlantic. It moved eastward toward a high-pressure area over Russia without as yet showing any inclination to bypass this high in a northerly direction. The isotherms and isotheres were functioning as they should. The air temperature was appropriate relative to the annual mean temperature and to the aperiodic monthly fluctuations of the temperature. The rising and setting of the sun, the moon, the phases of the moon, of Venus, of the rings of Saturn, and many other significant phenomena were all in accordance with the forecasts in the astronomical yearbooks. The water vapor in the air was at its maximal state of tension, while the humidity was minimal. In a word that characterizes the facts fairly accurately, even if it is a bit old-fashioned:

It was a fine day in August 1913. (Robert Musil, 1940).

The FOG FACTOR

(Robert Gunning 1952)

An index that estimates the years of formal education needed to understand the text on a first reading. A fog index of 12 requires the reading level of a U.S. high school senior (around 18 years old).

The Gunning fog index is calculated with the following algorithm

1. Select a passage (such as one or more full paragraphs) of around 100 words.

2. Do not omit any sentences;

3. Determine the average sentence length.

4. Count the complex words

Do not include proper nouns, common jargon or compound words.

Do not include common suffixes (such as -es, -ed, or -ing) as a syllable.

4. Add the average sentence length and the percentage of complex words; and

5. Multiply the result by 0.4.

The complete formula is:

$$0.4 \left[\left(\frac{\text{words}}{\text{sentences}} \right) + 100 \left(\frac{\text{complex words}}{\text{words}} \right) \right]$$

We write so that we can tell people what we think or know but if we use words incorrectly, or use words that our readers do not understand, we shall be misunderstood.

English is used for **international communication**. If you want to be understood, use plain words in simply constructed sentences.

Technical terms should be used when needed, but not to impress. Explain the concept if necessary. **(Who is the reader?)**

What are the characteristics of Academic Writing?

1. Academic Writing tends to build on previous knowledge.

A new brick in the building.

An academic writer therefore must provide the reader with the **sources**/foundations upon which s/he is building.

These **sources** (references)

a) Provide authority

b) Show that your work is honest and that what you claim is your own work or idea is your own ... building on that of some **acknowledged** other.

CHECK and follow
the information that is available
about referencing and
plagiarism!!!!

e.g. the University Library and material recommended by
your supervisors and available on the course home pages.

2. The academic writer's ***approach*** to his or her material is:

Analytical

impressionistic

Intellectual

rather than

subjective

Rational

polemic

The academic writer's ***tone*** is:

Serious

conversational

Impersonal

rather than

personal

Formal

colloquial

NO SHORT FORMS!!!!!!!!!!

What is appropriate?

R.R.Jordan, (1997) *English for Academic Purposes*

The following sentences are mixed formal and informal. Identify the type.

- 1.The project will be completed next year.
- 2. I showed that his arguments didn't hold water.
- 3. I wonder why put up with those conditions for so long.
- 4. Five more tests will be necessary before the experiment can be concluded.
- 5. It is possible to consider the results from a different viewpoint.
- 6. It has been proved that the arguments so far are without foundation.
- 7.He'll have to do another five tests before he can stop the experiment.
- 8. It is not clear why such conditions were tolerated.
- 9. We'll finish the job next year.
- 10.There are a number of reasons why the questionnaire should be revised.

Language is the dress of thought.'

Samuel Johnson 1709-1784

([1755](#) *Dictionary of the English Language*)



Careless language and an untidy, confusing layout gives the reader the idea that your work is careless and unreliable.

Make your reader feel **positive** towards you and your message!

Do not forget to DEFINE every term you use.

This includes letters used to represent different elements in equations.

The first time that you name something which will later be referred to by initials, you **MUST** explain what the letters stand for.

Equations and other types mathematical reckoning cannot stand alone as though they were self-evident, but must be baked into the text. Explain how one thing leads to another.

This gives, Thus, It follows that etc.

3. Considerations in academic writing

a) Structure

b) Language

a i) What is a sentence?

A set of words that is complete in itself, typically containing a **subject** and **predicate**, conveying a statement, question, exclamation, or command, and consisting of a main clause and sometimes one or more subordinate clauses.

A **sentence** is a group of words that are put together to mean something. A **sentence** is the basic unit of language which expresses a complete thought. It does this by following the grammatical rules of syntax. A complete **sentence** has **at least a subject and a main verb to state (declare) a complete thought.**

Webster's defines a sentence as

A grammatically self-contained speech unit that expresses an assertion, a command, a wish, or an exclamation, that in writing begins with a capital letter and concludes with appropriate end punctuation.....

Paragraphs, punctuation and linking.

Punctuation

All English sentences must start with a **capital letter** and end with either a **full stop** (.), a **question mark** (?), or an **exclamation mark** (!).

Commas

are used as “**introducers**,” and follow any element that comes in front of the first independent clause in a sentence.

e.g. As a result of this, he resigned from his post. However, he now regrets this bitterly.

Commas are used to “**coordinate**” two (equal) elements of a sentence

e.g. Marie has a good salary, yet she never has any money. We were tired, so we went home early.

Commas also “**coordinate**” series of three or more words or phrases.

e.g. Peter speaks French, German and Spanish. Nurses have to work at night, at weekends and on Bank Holidays.

Commas are used before and after any element that is “**inserted**” into the middle of an independent clause.

e.g. My aunt, however, refuses to stop smoking. My boss, on the other hand, never arrives at work before 9 o’clock.

Commas also are used as “**tags**” for final elements of a sentence.

e.g. He appears to be in excellent health, however. He plays tennis twice a week, for example.

Semicolons

are very strong punctuation marks and are used in **three positions**:

1. Between two sentences that are closely connected in idea

e.g. The meeting ended at dawn; nothing had been decided.

Computer use is increasing; computer crime too.

2. Before conjunctive adverbs (*however, nevertheless, moreover, furthermore*) and some transition phrases (*for example, as a result, that is, in fact*) when they are followed by an independent clause

e.g. Skiing is dangerous; nevertheless, millions of people ski.

I have never been to Asia; in fact, I have never been outside Europe.

3. Between items in a series when the items themselves contain commas.

e.g. I cannot decide which car I like best: the Ferrari, with its quick acceleration and sporty look; the midsize Ford Taurus, with its comfortable seats and ease of handling; or the compact Geo, with its economical fuel consumption.

*If you are not sure how to punctuate a sentence, **try reading it aloud**.* Where you pause, put a comma. Where you stop, put a full stop.

If in doubt try reading this sentence aloud just like it is without any punctuation see how hard it is to make yourself understood

If in doubt, try reading this sentence aloud, just like it is, with punctuation. See how much easier it is to make yourself understood?

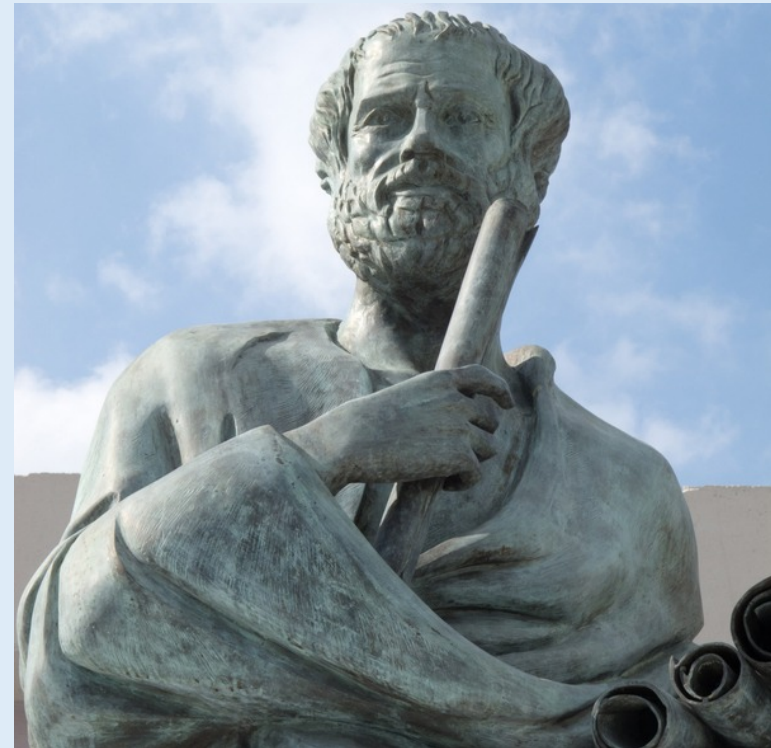
Punctuate the following sentences as necessary.

1. My bus was late therefore I was late for work.
2. Writing is not easy and takes a lot of practice.
3. Your proposal is interesting however I do not fully agree with your final suggestion.
4. The computer dehumanizes society nevertheless it has some real advantages.
5. The restaurant was closed consequently we went home to eat.
6. The politician was discovered accepting bribes as a result his career was ruined.

a ii) Organisation of a text.

A **whole** is that which has a **beginning**, (introduction) a **middle**, (method/findings) and an **end** (conclusion/discussion).

Aristotle, *Poetics*



Paragraphs

- A group of related sentences that discuss one (and usually only one) main idea.
- Topic sentence (topic and controlling idea) (beginning)
- Development (middle)
- Concluding sentence (end)

A paragraph is defined as

- 'a subdivision of a piece of writing or a speech that consists of one or more sentences and **develops in an organized manner one point of a subject** or gives the words of one speaker'. (Webster's)

Paragraphs are visual aids to the reader. Normally, a new paragraph shows a new topic or a new point that is to be made.

Begin each paragraph with a sentence or word that helps the transition from one idea to the next. (linking words, or discourse markers such as: *again, for the same reason, however,*)

A paragraph always starts on a new line.

The **concluding sentence** signals the end of the paragraph and leaves the reader with important points to remember.

Identify the topic sentence.

What are the two main points that are made about the topic?

What examples are used?

What is the concluding sentence, how is it introduced and what is its function?

How are the sentences linked to make the paragraph coherent?

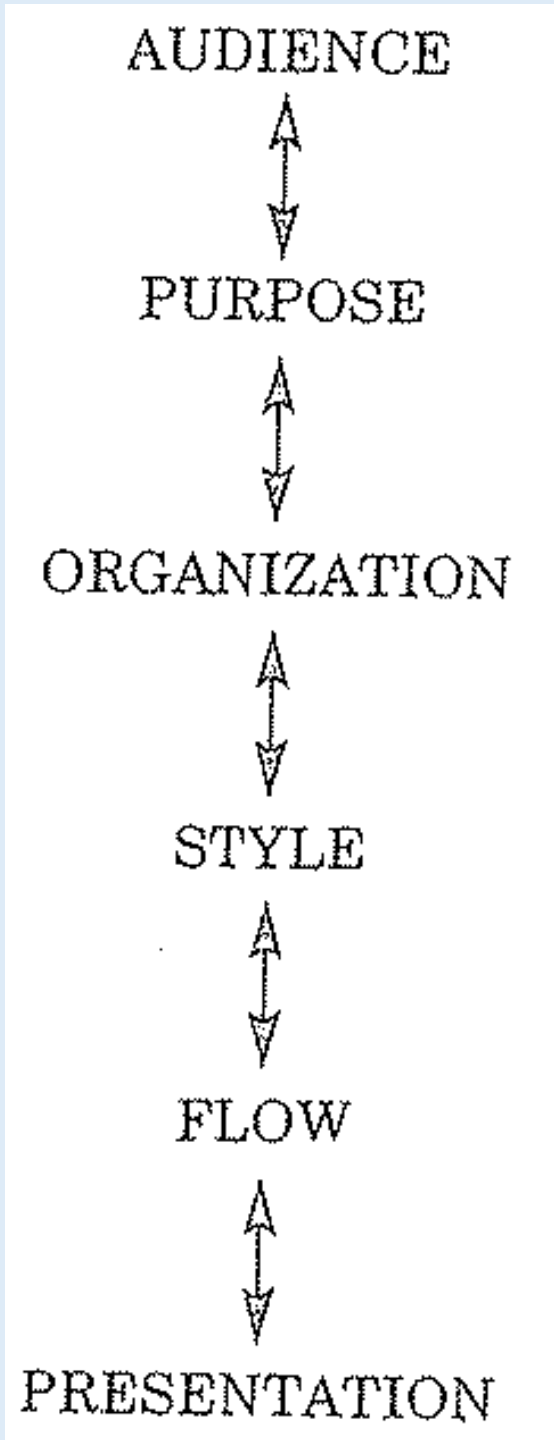
Gold, a precious metal, is prized for two important characteristics. First of all, gold has a lustrous beauty that is resistant to corrosion. Therefore it is suitable for jewellery, coins and ornamental purposes. Gold never needs to be polished and will remain beautiful for ever. For example, a Macedonian coin remains as untarnished today as the day it was minted 25 centuries ago. Another important characteristic of gold is its usefulness to industry and science. For many years, it has been used in hundreds of industrial applications, such as photography and dentistry. The most recent use of gold is in astronauts' suits. Astronauts wear gold-plated shields for protection when they go outside spaceships in space. In conclusion, gold is treasured not only for its beauty but also for its utility.

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Organise the following sentences into a coherent paragraph

- a. Another important change was that people had the freedom to live and work wherever they wanted.
- b. The earliest significant change was for farming families, who were no longer isolated.
- c. The final major change brought about by the automobile was the building of superhighways, suburbs, huge shopping centers and theme parks such as Disney World.
- d. The automobile revolutionized the way of life in the United States.
- e. The automobile enabled them to drive to towns and cities comfortably and conveniently.
- f. In fact, people could work in a busy metropolitan city and drive home to the quiet suburbs.

a iii)



Swales & Feak, (2004, p.1)

STANDARD REPORT STRUCTURE

Introduction

1. Aims, background

Main body of the text

2. Methods and materials

3. Results

4. Discussion

Concluding section

5. Conclusions

References,
Appendices



Introduction

Appeal to a readership.

1. Establish research territory
by showing that the area in general is important, mentioning what has previously been done in the field
2. Establishing a niche (a gap) or extending previous work
3. Occupying the niche
by outlining your purpose or stating the nature of your work
listing your research questions
stating its value
indicating the structure of your paper.

(Swales & Feak)

limitations and delimitations

When considering what **limitations** there might be in your investigation consider the following:

- your analysis.
- the instruments you utilized.
- the sample.
- time constraints.

Delimitations are choices **you** have made and describe the boundaries that **you** have set: e.g.

- the things that you are not doing (and why you have chosen not to do them).
- The methodological procedures you will not use (and why).

Limit your delimitations to the things that a reader might reasonably expect you to do but that you, for clearly explained reasons, have decided not to do.

b) **Language,**
Spoken or Written communication

CONTEXT

Audience knowledge and expectations,
Traditions, etc.

DISCOURSE COMMUNITY

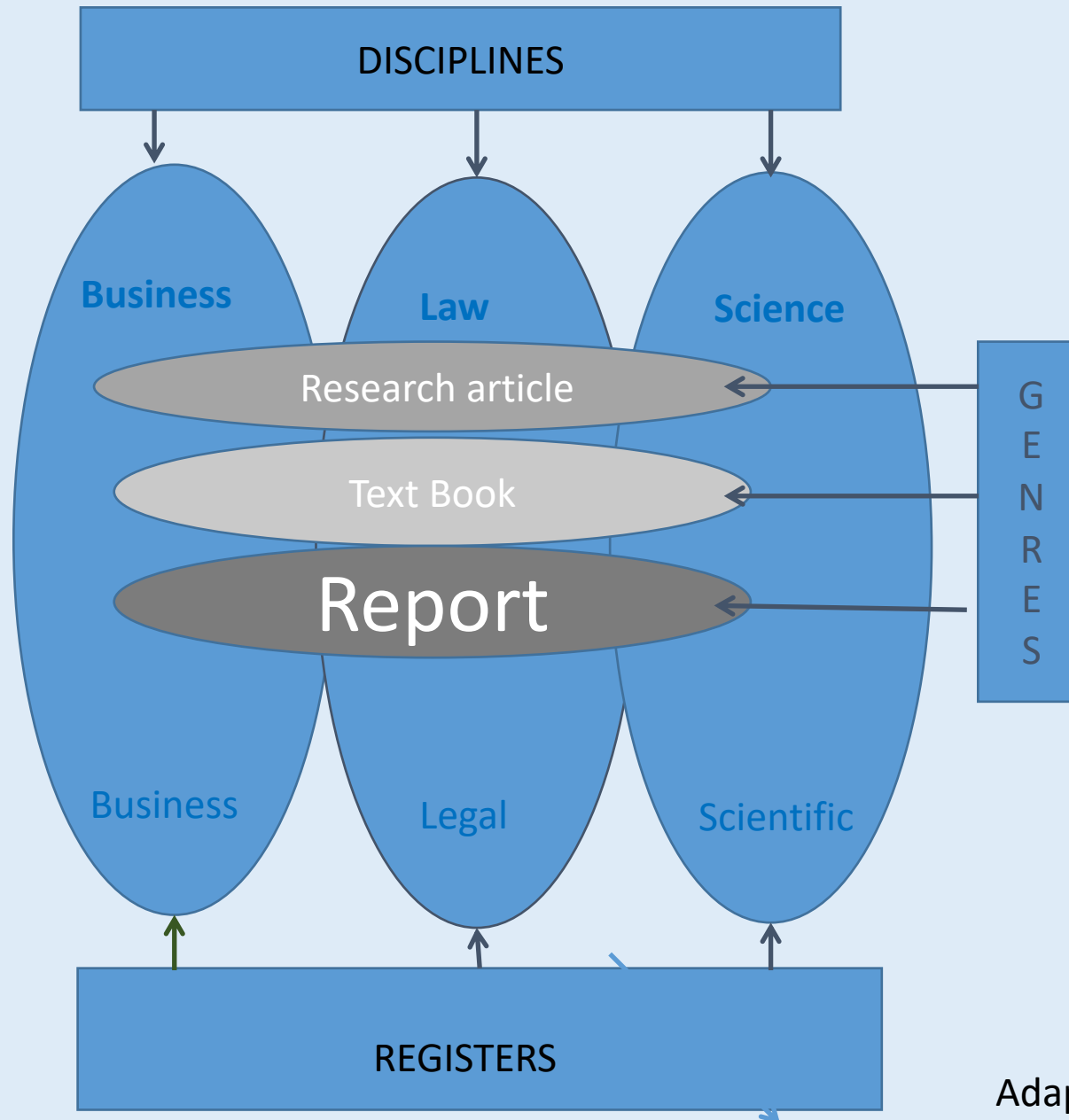
Discourse?????

Written or spoken communication

Discourse = Language **IN USE**

In social,
professional and
academic settings.

Examples of registers, genres and disciplines in written academic discourse



Adapted from Bhatia, 2014:36

Genre knowledge

Genres are recognizable communicative events, characterized by a set of communicative purposes identified and mutually understood by members of a professional or academic **community**.

Genres are highly structured and conventionalised constructs with a number of constraints, including those of a **lexico-grammatical** nature.

Established members of a particular professional/academic community have a much greater knowledge and understanding of the use and exploitation of genres than those who are **apprentices**, new members or outsiders.

Genres are viewed as **conventionalized constructs**, they are **reflections of disciplinary and organizational cultures** with a specific combination of textual, discursive and contextual factors.

In addition to these examples of **academic genres**, in at **professional context** many other written genres are encountered.

4) Academic writing should be clear and unambiguous.

Ambiguity can be a result of

- **faulty grammatical constructions,**
- **punctuation,**
- **word choice.**

Her brother who is a doctor lives in London.

Her brother, who is a doctor, lives in London.

Giggs is a quiet, reserved character. At 17, when David Beckham was still merely a promising youngster, he was already a pin-up.

Of course bribing the Saudis to sell warplanes (British Aerospace) and US doctors to sell drugs (GlaxoSmithKlein) is wrong, but ask yourself why, in highly competitive markets, they should be indulging in those expensive practices if their (US) competitors are not.

More examples of Ambiguity

Punctuation

However, for the discussion to follow advancements in technology will be assumed to be unavoidable.

Wrongly used **lexical items**

e.g. Over the years, ***several*** environmentalists have analyzed the then ongoing trend in population growth and have finally ***concluded*** the three causes for environmental degradation.

Agency?

Biogas solutions contribute to better ***sustainability performance*** as ***it*** is a waste treatment and ***it*** enables the conversion of biomass and organic waste into energy.

As a result, the robot can fold itself by simply heating up the sheet.

(pronouns, “-ing forms” common culprits)

More examples of lack of clarity

The sentences that follow all display ambiguity.

Identify the ambiguity and its cause and then try to resolve the problem.

Can you find other language problems?

1. Food supply could be solved by genetically modified plants that can grow in dry areas.
2. Over the past decade, Additive Manufacturing (AM) has significantly gained interest in the field of rapid manufacturing high-value and high-performance metallic components.
3. Today, we cannot think our lives without technology.
4. A.K. Geim discussed the future of a new technology, using building blocks on the atomic scale.
5. The trade-off can be explained by giving up some of the medical care to take care of cleaner rivers.
6. The first phase contributed to identify global warming as a problem within the scientific community.

Aristotle on Style

The foundation of good style is **correctness of language:**

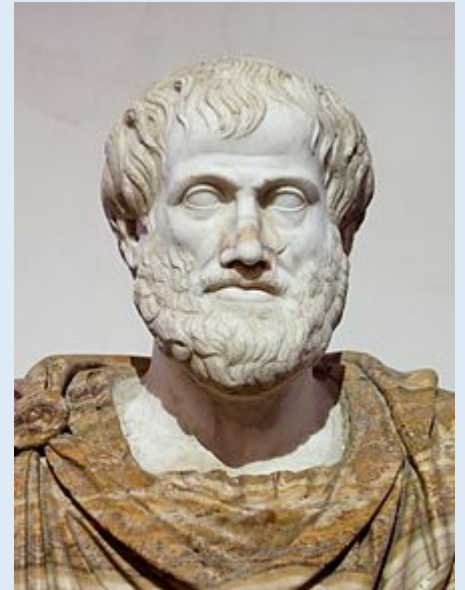
connecting words

terms which are not vague

avoidance of ambiguity

correct indication of grammatical number

Aristotle, *Rhetoric*



Discourse markers as sentence openers. (Connecting words)

The table below lists eight functions. Which function do the words or expressions below fulfill?

As a consequence,

As the next step,

Besides,

Finally,

In fact,

First of all,

For example,

For instance,

Formerly,

Thus,

In contrast,

In particular,

In short,

Secondly,

Therefore,

On the other hand,

In addition,

Previously,

Specifically,

To conclude,

Summing up,

To begin with

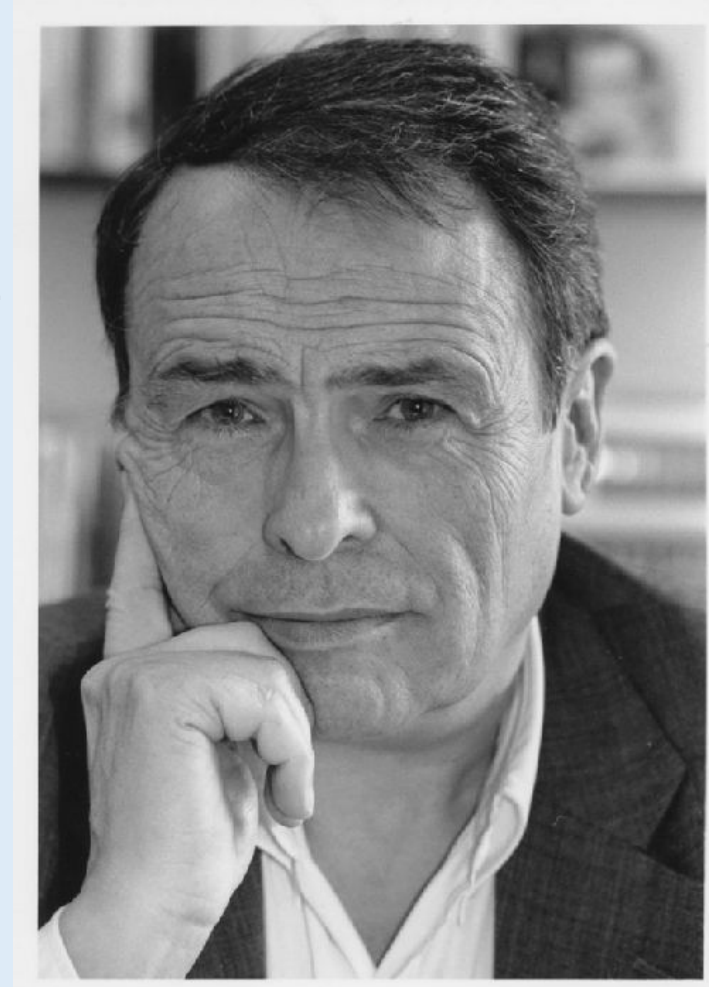
Hence,

Function	Examples
Summarising	
Establishing a sequence	
Expanding on a point	
Contrasting	
Referring to the past	
Drawing a conclusion or inference through reasoning	
Emphasising	
Giving an example	

Language is power.

”Ambiguity and too many basic grammatical errors undermine the reliability and authority of a communication.”

(Pierre Bourdieu, 1977).



The Seven Deadly Sins



Thou shall't

NOT

make mistakes with

- Subject / Verb agreements (It is/ They are)
- Adjective or Adverb (He is a careful driver. He drives carefully)
- Basic Verb Forms
- Common Irregular Verbs
- Standard Word Order (The cat **S** sat **V** on the mat.)
- Basic Spelling (there /their, which/witch)
- Capital Letters

Subject/verb agreements

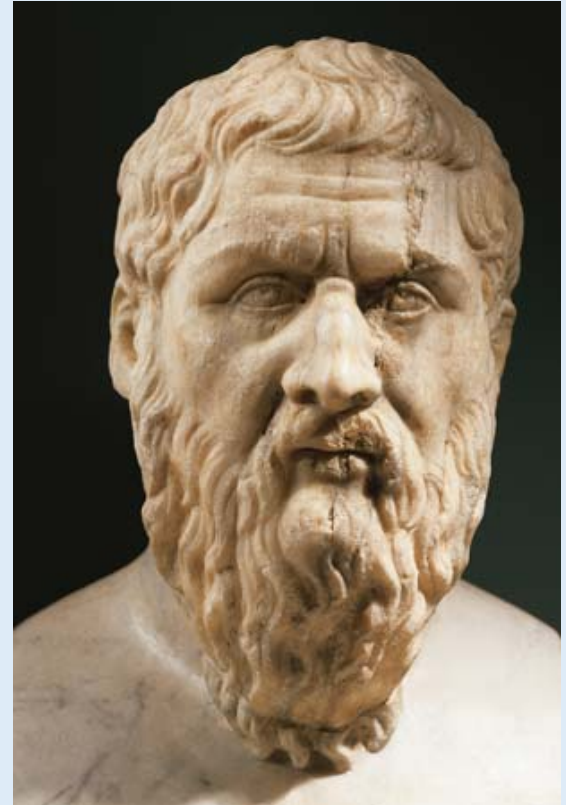
1. Exercise for the middle-aged considered a prophylactic. (*is / are*)
2. On the basis of the tests, the doctor likely to recommend an exercise programme. (*is/are*)
3. Analysis with the aid of computers those accounts that appear to be conduits for money laundering. (*select/selects*)
4. Both science and medicine to preparing athletes for competition.
(*contribute/contributes*).
5. The sound spectrum is divided into frequency bands, each separately coded. (*is/are*)
6. The job of establishing sufficient controls and measurements tediously complex. (*is/are*)

The Introduction

“The beginning is half the whole.” (Plato)

The main purpose of the introduction is to provide a rationale for the paper/report.

A secondary purpose is to attract interest – and hence readers.



WHAT is the report about?

WHY is it interesting?

WHAT will it tell the reader?

TENSES

Present simple

- *Permanent situations and things that are generally true.
- *Habits,
- *Things that happen regularly,
- *Current states
- *With certain verbs (e.g.accept, admit, promise, deny, insist)

Present continuous

- *Actions in progress
- *We describe situations or current states that are permanent with the present simple and as temporary with the present continuous.

Introduction	present simple tense (the situation)
Method	past simple (what we did)
Findings	past simple (what we found)
Discussion, conclusion	present simple (what we think)

HELP your readers!

Sections should be clearly labelled and headings should fully reflect the text that follows.

Start each with a **topic sentence** NOT with an answer or a table.

Sections should end with a short, **concluding sentence**.

Repeat important information (for **the majority** who have **not** read every word of your report/paper).

Do NOT end with calculations. Lead your readers through the logic. The **answer** to your optimization problem should be briefly stated **in words**.

Do not answer questions "yes/no" but rewrite them in an indirect form to give the answer.

Superfluous words confuse, distract and annoy.

A well-constructed sentence should have neither too many nor too few. Every word should be included for a **purpose**.

Verbosity (tautology, circumlocution and ambiguity) often arise from ignorance of the exact meaning of the word.

It may also be due to affectation and from an attempt to appear learned and cultured.

- Late 90's and early 2000's is widely considered to be a golden era in the history of mobile telephones which also saw many new companies manufacturing mobile phones.

What problems does the reader experience with this sentence?

Grammatical number?

To what does WHICH refer???????

Backwards or forwards?

History? Era? Telephones?

Other problems?

Communication revisited

Written discourse compared with spoken discourse?

REPAIR!

International Communication

Use short sentences

Frequent transition phrases

Avoid redundancy

Avoid jargon

Avoid humour

Use metaphors, similes and analogies with caution

Keep acronyms to a minimum

Avoid contractions

Do not abbreviate date forms (11.12.2019 12.11.2019?)

Ensure that headings and figure captions are understandable.

Do not use telescopic language.

Communication is more than language. It is

“a form of social action between people, in which people **assess, interpret, and influence each other** on multiple levels.”

Ensink & Sauer (2003:1)

Communication **presupposes knowledge**, or as Kress (2010:19) states, “always has been and will remain subject to social, cultural, economic and political givens.”

What makes a good piece of written communication?

CLEAR

COHERENT

CONCISE

CORRECT

Vocabulary

Be consistent in your use of terminology.

Aim? Purpose? Goal?

Thesis? Paper? Study? Project

USA? UK?

Think about the **headings** you use.

Hyphens?

So-called Pre-process

A light grey computer = A light, grey computer? A light-grey computer?

A/an?

LTE network

NN

CPU

Careless language and an untidy, confusing layout gives the reader the idea that your work is careless and unreliable.

Texts are like blank cheques the readers put their own signatures on them. (adapted from Thornton Wilder)

Make your reader feel **positive** towards you and your message!



**The next best thing
to knowing something
is knowing where to
find it.
- Samuel Johnson**

Dictionaries.

Physical and on-line.

First bilingual

Then **CHECK** how the alternatives are used in a MONOLINGUAL dictionary.
Google is not always reliable and anybody can add things to Wikipedia, so
use **multiple sources**.

CHECK that the words you use are those that are **appropriate** for meaning and register.

Ensure that you use them in the correct form.

USE, but **do not rely on** the spelling and grammar checks provided by your computer software.

GRADING CRITERIA

Highest grade

The text contains **no major errors of spelling or grammar**, and the style and register of the language used is **appropriate to the genre**.

Suitable linking expressions provide a clear flow from one idea to another and statements are unambiguous.

The report is **easy to read**, has a good structure, **clear references** and all **terms are sufficiently explained**.

Figures and tables are used in a satisfactory manner. They have been carefully selected, are **clearly and concisely described** and have suitable, descriptive legends.

The text contains **almost no errors of spelling or grammar** and the **style and register** of the language used is **appropriate to the genre**. **Linking** expressions are used to provide a **clear flow** from one idea to another and statements are **generally unambiguous**.

The report is **easy to read**, has a good structure, clear references and most terms are sufficiently explained.

Figures and tables have been carefully selected their use throughout the report is satisfactory.

The text is **generally free** of spelling and major grammatical errors and errors which occur **do not impede communication**. A **good attempt** has been made to write in a style and register that is **generally appropriate** to the genre.

Some linking expressions have been used to facilitate the flow from one idea to another and the text is generally coherent. The report is **relatively easy to read** although long sentences, unclear references and unexplained terms may occur.

Fail

The text contains **errors of spelling or grammar that make it difficult to understand the message** that the writer intended to communicate.

There are figures, tables or code examples that are difficult to read, that are not referenced or that have been plagiarized from other sources.

WRITING IS NOT EASY.

It requires TIME and PRACTICE!!!!!!!

Write, wait and revise

GOOD LUCK!