# GUIDELINES FOR WRITING A RESEARCH PAPER (ESSAY, COURSE PAPER, MA THESIS etc.)

# Defining science

„A branch of knowledge or study dealing with a body of facts or truths systematically arranged and showing the operation of general laws "

„Knowledge, as of facts or principles; knowledge gained by systematic study"

„Science is an area of activity, the purpose of which is to obtain new knowledge in exploratory way and also apply it for solving everyday problems"

# Scientific knolwedge vs everyday knowledge

| Everyday knowledge | Scientific knowledge |
|---|---|
| 1. **Objects** are first of all everyday **happenings, purposes, tools and things**. | **Constructed** situations, presumptions and simplifications. Science is *finding an inevitable in randomness/chance*. |
| 2. Knowledge we use on a daily basis that is not **logical-systematically structured**, does not require **special training or preparation** and is **available** to all of us. **It is individual practical experience (facts, recipes, recommendations)** and **collective social experience (proverbs, aforisms etc.)** as well as **science that is adapted for everyday needs** (popular science)<br>**For instance:** rule of thumb – ladder; i have a theory, why - > **no evidence, why it is so**… | Science is **proven knowledge**<br><br>Scientific knowledge is obtained through the use of **special methods and tools** that are not used in everyday operations.<br><br>The use of special methods and following rules enables to increase certainty, minimize errors, and eliminate non-scientific arguments.<br><br>**For instance**: force of gravity, motivation theories |

| | |
|---|---|
| 3. **Purpose – for human being / a person**. Directed towards practical solving of economic and cultural tasks. It does not deal with exploration in depth or finding out laws.<br><br>**E.g**: preparation of a trip – main characteristics of a visiting country, what you should take with You, the weather conditions etc. | The purpose is to **continuously generate new knowledge, prediction of new events and objects** – <u>everything about the object under study</u>.<br><br>Scientific knowledge is directed towards exploring laws & principles and it must be argumented / reasoned within scientific system.<br><br>**E.g**: Studying innovation policies in new member states of EU. |
| 4. **Presented** as **opinions,** claims, point of views, by referring to authority (bible, neighbour, politician). | - Notice of discovery (short notice about made discovery);<br>- Scientific article;<br>- Monograph (profound overview about one subject field) |
| 5. **Language and expressions** are ambiguous (different meanings) and related to psychological associations (emotions). Creation of concepts is spontaneous. | In scientific knowledge there are concepts taken from everyday knowledge (specified), and concepts created by science itself as well.<br>**E.g**: integration, coherence - structural funds; force |

# Research can be approached in the following ways:

| **Quantitative** | **Qualitative** |
|---|---|
| The emphasis of **Quantitative** research is on collecting and analysing numerical data; it concentrates on **measuring** the scale, range, frequency etc. of phenomena.<br>This type of research, although harder to design initially, is usually **highly detailed and structured** and results can be easily collated and presented statistically.<br><br>E.g used in physics, chemistry, genetics, biology etc.<br><br>Exploring and describing patterns (laws) of different phenomena and processes. | **Qualitative** research is more subjective in nature than Quantitative research and involves examining and **reflecting on the less tangible aspects** of a research subject, e.g. **values, attitudes, perceptions.**<br>Although this type of research can be easier to start, it can be often difficult to interpret and present the findings; the findings can also be challenged more easily.<br><br>E.G used in social sciences, philosophy, law, public administration, economics?<br><br>Understanding the unique, non-recurrent (one-time) phenomena and processes.<br>Tries to understand Why and for what reasons something happens or one behaves. |

# Scientific analysis in social sciences

**Scientific analysis means finding intersections (or generality) from random phenomena and subjective opinions:**

- - Why some companies are successful and other not?
- - Why some solutions give results, other no?

**Scientific analysis is directed towards <u>understanding</u> a problem or a question.**

- Why did II WW occur?
- How has the compensation of maternal leave affected birht rate?

**<u>Understanding</u> can occur through discussion:**

- what other analysis or country experiences tell us?
- There are no finite analyses.

# Main concepts related to research

**NB! Scientific knowledge exists only in case both theoretical and empirical component are present!**

- **Theory** – Abstract model or construct that gives an integral (wholesome/total), but simplified idea about some objective reality. Theory is a verified knowledge about the essence of explored object. Theories are analytical tools for understanding, explaining, and making predictions about a given subject matter. FRAMEWORK!
- Causal pattern or hypothesis (A causes B) with explanation, why such pattern exists or should exist.
- **Empirics** – direct study of an object with certain methods in order to obtain data, facts about the object.
- **Method** – refers to various specific tools or ways data can be collected and analysed; predetermined procedure to accomplish a task, set in research. (experiment, observation, interview, questionnaire, document analysis etc.)
- **The choice of method depends on object under study.**

- **Problem –** Every research consists of discovering a problem, formulating it, and solving it.

Problem is a starting point for a research and it gives a meaning to a research. By explaining the problem, you can also bring forth the topicality of a subject matter.

Problem is a difference (contradiction/conflict) between current situation and desired situation, between then and now, between here and there.

E.g. The situation of young teachers in Estonia

After the formulation of a problem, one needs to find ways of solving it.

- **Hypothesis** – is an assumption that is presented for explaining the observable phenomenon and requires controlling and prooving with facts. Scientists generally base scientific hypotheses on previous observations that cannot satisfactorily be explained with the available scientific theories.

Hypotheses must correspond to well-knows facts, controlled theories, and be controllable in terms of internal logic and matching with previous theories.

**In the Faculty of Social Sciences, it has been mandatory to state the purpose of a research, which is derived from a problem (why the research is needed), and for structuring a research we have advised to form research questions.**

# Requirements for scientific research

## I Clear purpose

- **The wording of purpose of research must be clear and bounded**

## - II Topicality

- **What is the benefit of a research? Is it of significance and for who?**
- **Does the research contribute to the development of existing knowledge?**
- **reference to real problems and topics**
- **orientation of a reserach towards nowaday topics**

## IV Originality

- **Take the direction to finding out something that previously was unknown**
- **does not mean writing only about absolutely new topics, but also finding a new angle for studying previously covered reserach questions (niche)**

**e.g. using different methods:**

1. To what extent your research differes from previous ones?
2. Whether your findings and conclusions are novel? To what extent?
3. Whether the reserach explains something in a new way?

## IV Feasibility – selectiveness

- Temporal restrictions on conducting research
- Availability of data

## V Relevance ja reliability

- Do the questions have been asked from right persons
- Whether the data gathered are important in the context of scientific research
- how the data has been gathered and analysed: whether the used methods have been reasoned (understanding of boundaries)

## VI Applicability

- if and to what extent one can make generalization, based on research
- whether the sample has been sufficient and representative

## VII Objectivity

- The author must be objective and not rely on his/her own personal experience, practice, prejudice, attitudes, evaluations etc.
- The author must explore, describe and analyze all relevant and real causes, features and patterns that are related to observed object.

## VIII Provability and controllability (verifiability)

**- all presented facts, arguments, conclusions and recommendations must be proven, verified and referred to:**

1. All theoretical propositions, arguments, conceptions that are used in reserach, must be referred to.
2. The conduct of practical work, ways of data collection and made conclusions must be controllable.
3. Analytical discussions need to be presented in complete and logical way, so that reader would not get a fragmented overview about the discussion from the problem statement till the end conclucions.

## IX Accuracy

- **Accurate distinction between concepts, numerical accuracy**

## X Systematic approach

**- Theoretical and empirical parts of a research must form a unified entirety**

## XI Critique

- **An author should be critical about used theories, primary and secondary sources of data, obtained data and his/her own standpoints/conclusions**

## IX Ethical issues

**- agreements with those who answer questionnaries or give interviews.**
**- use of information that is meant only for in-house use.**

# III THE STRUCTURE OF RESEARCH PAPER

# Structure of research paper

- Title page
- Table of contents
- Introduction
- Core text

(divided into chapters and sub-chapters)
(divided into theoretical and empirical part)

- Summary (conclusions and recommendations)
- Resumé (in Estonian language)
- Bibliography (References)
- Appendices

# Title page

- THE TITLE is most important
- Exact, but informative and gives a reader clear signal about the topic of a work.

Compare:
Structural Funds and Innovation Policies

or

The Analysis of Financial Mechanisms of Innovation Policies in the Baltic States.

The Improper of Use of Structural Funds in the Context of Innovation Supporting Funds. The Case of Estonia.

Abstract just at the beginning of a research work is also one of the characteristics of scientific article.

*Journal of Management Studies* 39:1 January 2002
0022-2380

# PUBLIC AND PRIVATE MANAGEMENT: WHAT'S THE DIFFERENCE?

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## ABSTRACT

Critics of New Public Management argue that differences between public and private organizations are so great that business practices should not be transferred to the public sector. In this paper the theoretical arguments on the differences between private firms and public agencies are reviewed, and 13 hypotheses are identified on the impact of publicness on organizational environments, goals, structures and managerial values. Evidence from 50 empirical studies of differences between public agencies and private firms is critically evaluated. Only three of the publicness hypotheses are supported by a majority of the empirical studies: public organizations are more bureaucratic, and public managers are less materialistic and have weaker organizational commitment than their private sector counterparts. However, most of the statistical evidence is derived from studies that use narrow measures of publicness and fail to control for other relevant explanatory variables. Whether the existing evidence understates or overstates the distinctiveness of public agencies is therefore unclear. A research agenda and methods are identified for better comparisons of management in public and private organizations.

## INTRODUCTION

A central element of the reform programme associated with New Public Management (NPM) is that public organizations should import managerial processes and behaviour from the private sector (Box, 1999; Carroll and Garkut, 1996; Newman and Clarke, 1994; Hood, 1991; Keen and Murphy, 1996; Metcalfe, 1993). In particular, public managers should seek to emulate the supposedly successful techniques of their private sector counterparts (e.g. management by objectives, total quality management, devolved management, performance-related pay). This was one of the earliest features of NPM, and remains one of the most enduring (Ferlie et al., 1996). Indeed, this formula for public sector success predates NPM, and has been a recurring theme in public policy. For example, the 'reform movement' in US municipal government during the early decades of the twentieth century emphasized the benefits of business-like behaviour (Welch and Bledsoe, 1988). Similarly, the 'corporate revolution' in UK local government

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# Table of Contents

- In the table of contents You need to present the numbers of chapters and sub-chapters
- Complete titles of chapters and sub-chapters with respective numbers of pages.

# Introduction –"business-card" of research paper

**Introduction is a program of research paper (layout) that has to include:**

- Explanation about the need for a research, i.e. reason for selecting the topic, topicality, importance and novelty.
- PROBLEM and its status currently
- The objective of a research (incl. research object) – what do You want to show?
- Main research questions that You try to answer; these research questions are the basis for the content of chapters.
- Description of reserach methods
- Overview of the structure of research paper

DO NOT leave the introduction part for the end!

Introduction would enable You to get a focus

i.e. that the objective of research paper becomes clear for You only once You written it down in Introduction part. Not to mention supervisor.

Keep the objective in mind throughout the writing process.

# Research methods:

- What methods are used (observation, interview, document analysis, visual data (movies, photos) etc.), what materials are used for conducting a research, how data is collected and analysed.

In introduction You give a description, what You plan to do and why

In Empirical part, You describe, what You actually did – exlanation of conduct of research in more detail.

- What / Who is studied – how many objects are studied, how the objects have been selected.
- Procedure – how the research is conducted
- Acknowledge the boundaries of used methods

# The main part of research paper or core text

- The structure of research paper depends on the nature of topic, available materials and research approach (deductive-inductive).

- The main part of a paper gives **answers to objectives and research questions**, presented in Introduction. In addition, researcher should arrive at solutions, results and conclusions (recommendations).

- Chapters and sub-chapters must be logically interrelated with each other and form an entirity, based on the topic.

**NB! Research paper is not a sum of its components – the purpose is not to write two different and excellent chapters, but they must be logically connected to each other.**

Logically structured research paper would not enable to withdraw any information from it. Otherwise, the "card-house" would collapse.

## As a rule, the main part consists of two components: theoretical and empirical (practical) part

**In Theoretical part You:**

1. analyze the problem and give an overview about the topic, based on literature;
2. construct theoretical framework, derived from scientific literature;

**In Empirical (practical) part You:**

1. give a description of research methods (used materials, methods of collecting and analyzing data etc.);
2. introduce the object studied;
3. apply theory into practice – based on theoretical framework and previous studies, discuss about Your research object / case.

The solutions (recommendations) of conducted research must be concrete and realistic, i.e. applicable in practice.

# In order to achieve a good analysis, check:

- If the research questions presented in Introduction, have been dealt with and eventually answered
- If analysis includes ideas that are not exactly related to research topic.
- What are the conclusions and recommendations based on.

# Summary

- Sum up, what was studied, why and how it was done
- Sum up the main conclusions (critically) – are they adequate, is it possible to make some generalizations etc
- Whether formulated reserach questions and objectives have been answered and achieved.
- Recommendations and solutions how to improve the studied phenomenon / object.
- In Summary no (new) information is presented that has not been covered in previous parts of reserach paper.
- No references to text of literature.
- (Future research questions can be discussed that derive from conducted research)

# IV EDITING RESEARCH PAPER

# GENERAL REQUIREMENTS

- Free space on A4 sheet (3cm on all sides)
- New chapter, Intoduction, Summary, Table of Contents, Bibliography begin on a new sheet, 6cm from the upper edge of a sheet.
- Numbers of pages.
- Separation of paragraphs (one click)
- Font style (Times New Roman), size (12), line spacing (1,5)
- Text alignment as *justified*
- Stressed words in the text as **bold**

# (Course work) Title page

1918
TALLINNA TEHNIKAÜLIKOOL
TALLINN UNIVERSITY OF TECHNOLOGY

**TALLINN UNIVERSITY OF TECHNOLOGY**
**Faculty of Social Sciences**
**Ragnar Nurkse School of Innovation and Governance**

**Michelle Stanford**

**POLICY FORMATION IN LOCAL GOVERNMENTS**

**Course work**
**(*essay, term paper*)**
**Technology Governance**

**Supervisor: professor Peter Cell**

**Tallinn 2013**

# TABLE OF CONTENTS

# REFERENCES!!!

- Researchers (incl students) need to refer to all studies, sentences, ideas, thoughts, data that have been presented by other authors and used in compiling a writing.
- If You do not do it, it equals to **Plagiarism!**
- All writings are considered as plagiarism that have not been composed by a person, who presents himself/herself as an author. Textual content that matters!
- In other words, it is **stealing**. Can end with expulsion of a student.
- Both intentional and unintentional plagiarism is punishable. Being unaware of reference rules does not exempt from responsibility.

**Golden rule for reference: One has to refer to this source of information (article, monograph) that he/she has personally worked with.**

- Reference only to **original source**.

**e.g. You cannot refer to Stiglitz without reading his writings – "holding the book in Your hands".**

- In case You cannot get the sentences, ideas or data are not from original source, You can refer to them indirectly through other sources. In that case You need to **refer first of all to original source and then to the source, where it was used.**

e.g. (Serra 1613 cited in Reinert, Kattel 2007, 4).

It is not recommended to use such practice
Do not rely on academic sources of low level – secondary school textbooks, press notices, daily newspapers etc.
All paragraphs need to refered to, even if they are taken from the same source.

# CITATING

- Citating is the repetition of others' ideas, thoughts, sentences word for word.
- Citating must resemble exactly to original one and indicated by quotation marks. In case, some words are left out, it should be marked with three dots (...); in case quotation is supplemented with additional words, square brackets must be used [].
- If the text of another author is presented word for word (basically copy-paste) without quotation marks (" "), it is plagiarism.
- It does not mean that the whole text in copy-paste style can be marked with quotation marks in a writing.
- **The number of citations must be limited (2-3)!!!**

Example: "One of the characteristics of public policy-formulation [first of all present in NPM tradition] ... is the Principal-Agent problem" (Lane 1996, 7).

# REFERENCING

- Referencing is a rephrased presentation of someone else's standpoints by using Your own wording.

- In that case quotation marks(" ") are not used, but it is important to refer to the author / source. ONE SHOULD ADD THE NUMBER OF PAGES, WHERE THE REFERRED TEXT WAS TAKEN FROM!!!

Example: Weiss (1996,98-99) finds that the ringleader of changes does not have to be kind of hero-type manager.

# About the codification of referencing and citations

- **Harvard reference system– references presented in the text.**

E.g. (Perón 1951, 212) **NOT** (www.ttu.ee/24785)
NB! Use only last names! Incorrect (Graham T.Allison 1992, 2-3)

- **Footnotes used only in case of legal acts and other formal documents, comments/notes, or translations.**

- **If authors are not detectable, use the title of a source**, e.g. (*No one wrote me* 2004, 118).

- In case You need to refer on one page to same source several times, use after the first reference the abbreviation ***ibid.*** together with the number of page(s). E.g. (*Ibid.* 94).

- **When the source has two authors, both are referred to. In case there are more authors, refer only to first author and use the abbreviation *et al.*** NB! In Bibliography the names of all authors need to be written out.

E.g. (Kattel et al 2008, 13-15)

# Bibliography, formal requirements:

- In the list of references (bibliography) there cannot be sources that have not been used in the text and vice versa.
- The second and every following row of an entry must start from indent.

E.g. Cimoli, M., G. Dosi, R. Nelson and J. Stiglitz (2006) *Institutions and Policies Shaping Industrial Development: An Introductory Note.* Laboratory of Economics and Management. Sant'anna School of Advanced Studies, Working Papers.

- The list of used sources must be presented in alphabetical order by the last names. After that the list should be presented in chronological order, starting with the earlier edition. If an author has published several articles on the same year, then letters a, b, c etc should be added.
- NB! In the text (OECD 2006a, 23), (OECD 2006b, 12)
- Used article must be presented in bibliography in language in which it was originally issued.
- When adding the numbers of pages, do not use abbreviations pp.

# Bibliography

- **Why is it important? To control, on what sources research is based – if they relevant and up to date.**
- **Simple truth: Who? When? What? Where? Availability?**
- **P.S. Same with materials taken from internet. In addition, date of use has to be added.**

E.g. (incorrect!)

Varblane et al 2007 "Can the National Innovation Systems of the New EU Member States Be Improved?" http://web.ebscohost.com/ehost/detail?vid=7&hid=104&sid=83b5ec09-4cfb-4421-81ab-92c639230ebf%40sessionmgr107&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#db=buh&AN=27601355

**Correct:**


- *The Quality of Public Services in Information-Age* (2007). *Report of State Audit Office to Parliament*, Tallinn, 1. november 2007. Available: www.riigikontroll.ee/upload/failid/ka_20056_avalikteenus_01-11-2007_lopp.pdf, April 25, 2010.
- Krugman, P. (2008) "The Great Illusion". *The New York Times*. August 14, 2010. Available: http://www.nytimes.com/2008/08/15/opinion/15krugman.html?_r=1&ref=paulkrugman, September 20, 2008.
- Domberger, S. and C. Hall (1996) "Contracting for Public Services: A Review of Antipodean Experience." *Public Administration*, Vol. 74, No. 3, 129 -147.
- Cimoli, M. (2000a) *Developing Innovation Systems: Mexico in a Global Context.* New York: Continuum International Publishing Group, 13-32.
- Ghia, C. (1979) "A Common-Law Perspective." In Bialystock, M., Bloom, L. (eds.) *Prisoner of Love: Essays on the Theater of Roger De Bris*. New York: Hyperion, 48-67.

# Listings in the text

Chapters or sub-chapters are not recommended to begin or end with listings, tables, graphs or figures.

Every listing, table, graph, or figure should be followed by a short explanation!!!

Shorter listings: 1), 2), 3) or a), b), c)
Longer listings:

- ...;
- ...;
- ...;
- ... .

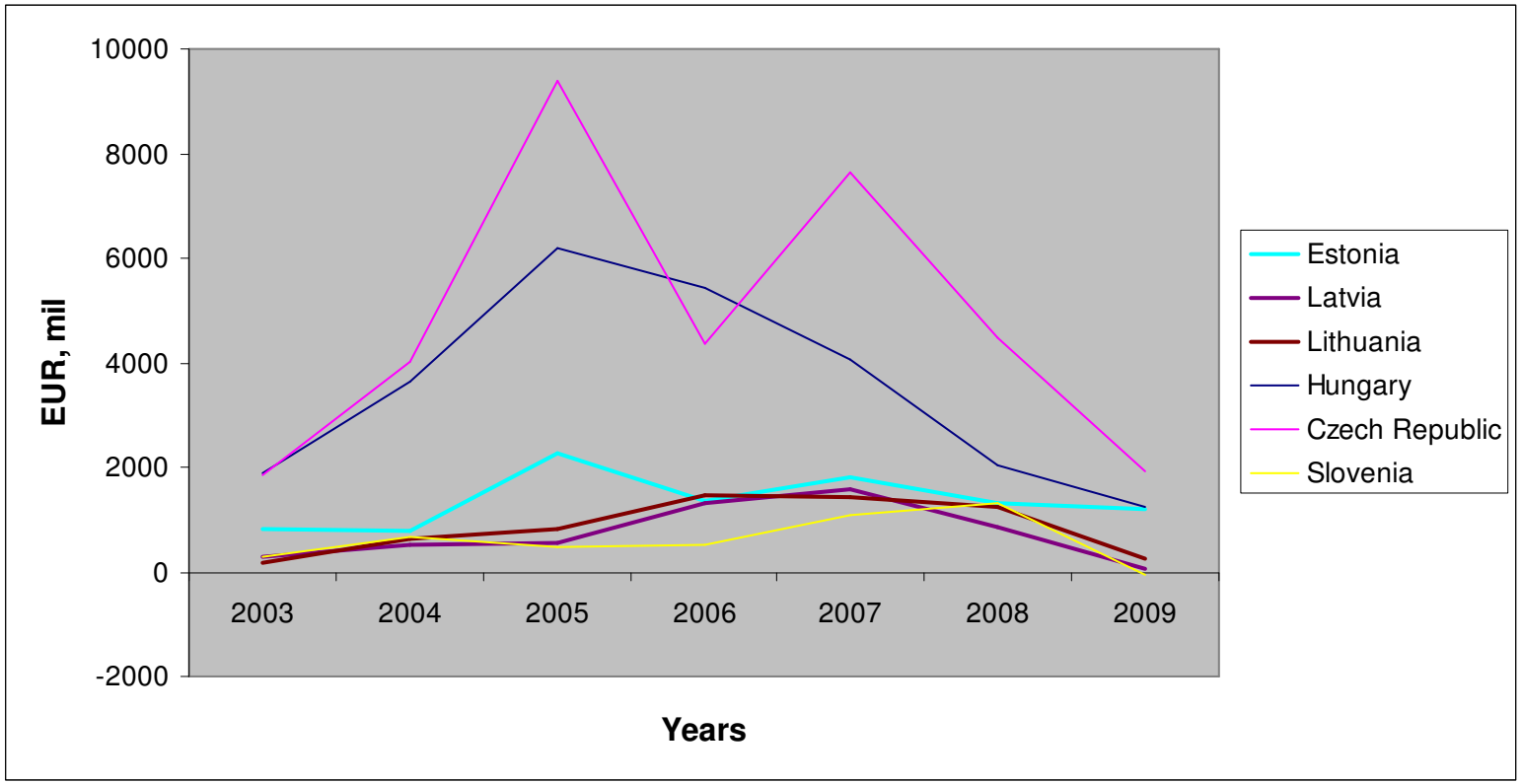
# Tables and figures

- Every table/figure must be clearly understandable with a title/headline, explanation of data (units), and the source of data. All tables/figures must be numbered.

- Data in tables/figures must be connected with a text. Within a text one should refer to tables/figures and locate as near as possible the text, where it is referred to.

# Example

**Figure 1: FDI inflows in selected CEE countries, EUR mil, 2003-2009**




Source: Hunya, 2009

# Scientific style I

Do not use "I" form – "In this thesis, the following asepcts will be explored". It is possible to use a phrase: "In the opinion of author, ..."

Give preference to indicative mode. E.g. The conclusions of a current thesis are... (NOT The conclusions of a current thesis could be...)

Be attentive to self-expression (do not use conversational language, slang) and to correctness in grammar and spelling.

**Pay attention to translations! *Sticks and carrots*. (Google translator-like incoherent text).**

# Scientific style II

Do not use abbreviations, only well-known (i.e.; e.g.)

Avoid emotional phrasings

Wording of sentences must be clear and logical

Use well-known terminology

Express yourself in a simple way – not 10-row long sentences

Do not excaggerate with foreign words (demoralization). In English it not so worrisome.

Avoid repetitions and try to use more ample vocabulary (increase, augment, enlarge)