

Petre Shotadze Tbilisi Medical

Academy

Academic Writing Standard

Chapter I. Scientific Paper and its' Types

Preparation of scientific paper at the higher education institution and scientific-research institutes, represents one of the main components among activities, implemented by students and academic staff. While preparing scientific paper, author should demonstrate the following:

- a) necessary skills for carrying out scientific work;
- b) field-specific knowledge;
- c) knowledge of relevant standards and regulations, coherent with corresponding scientific direction;
- d) ability to process, evaluate and analyze relevant scientific literature;
- e) ability to discuss research topic and analyze presented cause-effect relationship.

Scientific papers differ one from another by several different aspects, such as: period of topic processing, volume, applied methodology, academic degree, which is to be awarded and publishing obligations. Within academic field following types of papers are common:

- Homework Assignment: which is the first scientific text, created by the student. Recommended length of the paper is determined by 10 pages. Homework assignment considers selection of particular topic by the student, around which he/she will work independently during the semester and in order to obtain final assessment, by the end of semester will forward to course instructor/supervisor or lecturer. While working on homework assignment, student should be able to address selected topic/problem in a scientific manner: devide and classify topic, conduct analysis, find scientific literature, present selected topic from new and different prospective, using scientific literature or find and demonstrate new ways for problem-solving.
- Seminar Paper (Report): considers in-depth analysis of a particular topic and expression of knowledge by the student. Topics of the assignment can be processed during seminars. Within frames of seminar paper, work can be carried out either individually or by a small group of students. Usually, in order to create a seminar paper is required duration of one semester. At the beginning of semester, student selects particular topic, which is discussed with the lecturer during the semester and at the end presents corresponding report. Recommended volume of the seminar report is 15 pages, while duration of the presentation - 10 minutes.
- Bachelor Thesis: this work is created by the student during final semester. Recommended volume of the work is 40 pages. Within frames of bachelor thesis student is expected to process and conduct research around particular topic, using existing scientific literature and analysis. While working on bachelor thesis, student is obliged to collect literature and data around selected scientific topic, as well as conduct analysis, select relevant methodology, plan and implement research process and successively formulate a scientific paper. Final work should

reflect both theoretical knowledge and practical skills, obtained by the student during studies at the undergraduate level of education.

- Masters Thesis: recommended volume of such paper is 70 pages. After completion of this type of work, student should demonstrate ability to design and apply a combination of new methodologies, in order to resolve a particular scientific problem. Through argumentative analysis and causal reasoning, the student should introduce present state around research topic within particular scientific field.
- Doctoral (PhD) Thesis: through indicated work, student creates new knowledge, as well as analyses and evaluates its' impact and significance. Minimal volume of PhD thesis is determined by 100 pages, at the same time, volume of the work should not exceed 150 pages.
- Scientific Article: similarly to a PhD thesis, scientific article is also designed to create new knowledge. Such work represents a rather smaller paper, which focuses on a single particular scientific question and reflects findings of original research, conducted by the author(s) of the work and sustained conclusions. Volume of an article, as well as style of completion is determined by the particular publishing body.

Chapter II. Structure of Scientific Paper

Scientific paper has a strict structure and includes the following components:

- Title pages – title page, disclaimer statement, table of contents, list of used abbreviations;
- Core pages – introduction, general section and subsections, conclusion;
- Final pages – bibliography, annexes (if necessary).

2.1. Title page

Each scientific paper begins with a title page, which in its turn must carry following indications, in accordance to the Academic Writing Standard of Petre Shotadze Tbilisi Medical Academy (hereinafter – TMA):

- a) title of the scientific paper – font size 14, bold;
- b) name and last name of the student – font size 12, bold;
- c) type of the paper – font size 12, without bold effect;
- d) name of the school and/or educational programme, year of study – font size 12, without bold effect;
- e) name and last name of the scientific supervisor, academic degree – font size 12, without bold effect;
- f) institution (TMA) – font size 12, bold;
- g) submission time and date of scientific paper – font size 12, bold;
- h) title page is not numbered. Above stated information should be centered.

2.2. Disclaimer Statement

Disclaimer represents second component of scientific paper, which follows duly completed title page and intends protection of scientific paper from the plagiarism. TMA uses a pre-determined text for such purpose, which completed through indicating name of the author and date of scientific paper submission.

Disclaimer Statement Sample

Disclaimer Statement

I, undersigning author of scientific paper state, that presented scientific paper represents original work and does not contain materials published, submitted for publishing or submitted for thesis defense by other authors, which are not cited or quoted in accordance to estimated regulations.

Name and last name of the author; signature

Date

2.3. Table of Contents

Table of contents represents a structural unit of the scientific paper and demonstrates, how the topic is understood, order of research question analysis and ways of determining solutions for scientific problem. There are determined different initial ways for structuring scientific paper; namely:

Deductive – where particular/specific conclusion is drawn from a general provision/event. Deductive structure of research paper implies consideration of a particular theory, following analysis of certain case in accordance to indicated theory.

Inductive – where general conclusions are drawn from the particular/specific facts/provisions. In such cases, new knowledge towards particular scientific direction is created upon findings of one particular case or experiment. Subsequently, prior discovery of given particular case there was no theory or approach, which in its turn would enable study of corresponding research object.

Comparative – where main focus of such structural model is to determine and highlight the similarities and differences between ideas, persons, theories, interpretations and cases. Selection and use of at least 2 different objects is essential for conducting comparison.

A special attention should be drawn to the empirical research paper, which is considered to have standardized structure and implies the following:

- description of research problem
- scientific literature/statistical data review;
- scientific hypotheses and/or research questions;
- description of research methodology;
- presentation of research findings;
- interpretation of research findings;
- conclusions;
- recommendations;

- bibliography;
- annexes.

Table of contents of scientific paper should have logical construction and be easily understood. Each particular point of the table of contents should have direct intersection with the research topic, while numbering should reflect correlation between different aspects of research topic, its core elements and subcomponents with precision. At least 2 chapters and subchapters should be present, while designing table of contents, whereas their titles should be selected with precision. Title of each chapter and subchapter should be in coherence with its content. Following recommendations should be considered while formulating chapter/subchapter titles:

- The title should be short, precise and informative;
- The title should be completed within nominal style (minimal amount of verbs, formulated through using nouns at most)
- The title is completed within stop signs, with exception applied to the title, which is formulated as a question.
- Titles of the subchapters should differ from the general title of the research paper ;
- Each title should be indicated only once throughout research paper;

While designing table of contents, it is important to take into consideration the following aspects:

- Title – “Table of the Contents” should be separated from the listing by 2 rows;
- The components of table of contents are numbered in arabic numerals and begins with the Introduction;
- The chapters and subchapters must be presented by 2 units at least and separated from each other through levels of formatting;
- Numbering of the table of contents does not apply to the Introduction, Conclusions and Bibliography

2.4. List of Used Abbreviations

This component of first pages within scientific paper is intended to define abbreviations, used within frames of the scientific-research paper.

2.5. Introduction

Introduction of scientific paper considers general information regarding research topic. Introduction usually begins with description of particular scientific problem/research topic, continues with justification of its’ relevance and ends with formulation of research goals and scientific hypothesis.

Description of scientific problem/research question – first paragraph of this part should describe main context of research topic. This may consider review of theoretical issues, related to the research topic, or even discussion of historical aspects of the research topic itself, as well as description of a problem, current event and / or citation of a controversial postulate.

Justification of relevance – introduction of scientific-research paper must clearly demonstrate relevance of research topic. In order to achieve this, statistical data, literature review and shortcomings,

which occurred during research process (if any) may be employed. While preparing this part of a scientific-research paper, following questions must be answered:

- What kind of scientific information is available regarding research topic?
- How can the scientific paper be related to the existing knowledge?

Formulation of research goals and scientific hypothesis - this part of introduction is determined to describe and introduce issues, which will be addressed by the presented scientific work. This part of scientific work can be considered as the most valuable part of paper itself.

It is desired, that introduction of presented work also includes short description of research design and applied methodology. Final paragraph of introduction should be allocated for description of scientific paper structure. Recommended volume of introduction for scientific-research work is determined by 5 pages.

2.6. The Body of Scientific Paper

Body is the biggest part of scientific paper. Main objective of this part is to provide answers to the scientific questions, identified in the introduction, based on the conducted research. The scientific paper body may include: description and review of historical background and preconditions, related to the project; definition of key concepts and detailed analysis of particular research problem, based on literature review; comparative analysis of various scientific theories and assessment of obtained research findings; detailed description of research process etc. Structure and composition of paper body is determined by the research topic, object and general aims. Subsequently, there is no universal standard of structuring for this part of research paper, however general requirements can be formulated, such as:

- a) discussion of historical background and preconditions, related to research topic and definition of concepts;
- b) scientific literature review.

Each paragraph and subparagraph of this part should be clearly structured, which in its turn is rather convenient for demonstrating causal relationships, analysis etc. It is recommended to provide short descriptions in the beginning of each paragraph:

- What was discussed through preceding paragraphs?
- Which aspects of research topic will be addressed by given paragraph?
- What is the significance of this particular paragraph for discussion of research question?
- How is the given paragraph structured?

Paragraphs and subparagraphs should end with analysis and summary of discussed topics and issues.

2.7. Methodology

This part of scientific paper body considers precise description of research process and it's details. More specifically, which regulations, procedures, approaches and/or tools will be employed while implementing research.

Thus, main body of scientific paper describes conducted research: material, read, processed, analyzed and interpreted by the student; as well as findings, obtained through the process and how they were interpreted. In order to complete this part of the scientific paper, it is essential to:

- Find relevant literature sources
- Argumentation
- Citing, paraphrasing and summarizing;
- Use of relevant sources and referencing.

2.8. Conclusion

Conclusion serves as a summarizing component of scientific paper, which should be written with excessive attention and consideration. Main goal of conclusion is to formulate an answer for presented research question and demonstrate the line, in accordance to which was fulfilled research and whether estimated research goals were achieved. Conclusion should summarize specific results of the research, particularly: what was determined by analysis and interpretation of findings and identified by research process itself.

Conclusion of scientific paper should include the following:

- Main goal of research and scientific hypothesis;
- Obtained specific findings;
- Prospects for further research.

The conclusion should not include discussion regarding new topics and questions, which were not addressed within main body of the paper beforehand. However, within this component may be emphasized obtained research findings and their significance. At the same time, the conclusion should be brief, with recommended volume of 3-5 pages.

The conclusion should not include any of the following:

- Text intervals, which were already introduced within other components of scientific work
- Theoretical review
- Quotations and paraphrase
- Definition of concepts.

2.9. Bibliography

Bibliography, i.e. used literature is a structural unit of scientific paper, where all sources reviewed, processed, and cited in the work are presented in alphabetical order. Following requirements should be considered in accordance to the Academic Writing Standard of Petre Shotadze Tbilisi Medical Academy:

- Bibliographical sources, cited within text of scientific paper should correspond with the bibliographical paragraphs.

- Literature, listed within the bibliography should be arranged in alphabetical order by authors' last names.
- Bibliographical data should not be translated.
- Listing of bibliographical sources should not be numbered.
- Listed sources can be categorized considering its' type (manuscript, archival collection etc.), order (primary sources, secondary sources, tertiary sources) and language (used literature in Georgian, used literature in English etc.).
- Bibliographical data should not be repeated. Instead of name and last name of the author should be indicated intermittent line.
- Together with complete bibliographical data, each electronical source (book, article, web-pate etc.) should additionally include hyperlink and indicate last date, when it was accessed.
- If the number of authors is or exceeds 4, their indication within text of scientific paper should use reference – “et al.”

2.10. Annex

The data, which is necessary for comprehensive perception of the scientific work, or illustrates obtained findings, analysis of cause and effect relationships (causalities) and conclusion should be accumulated within Annex. this structural component can provide detailed information regarding particular issue around the scientific work. Inclusion of Annex is recommended in cases, when indication of such data within the basic text of the scientific paper will complicate its' perception. Such material includes: tables, graphics, illustrations etc. Provided Annexes should be numbered in cases, if paper includes more than 1 Annex. Within the text of the scientific paper should be made relevant reference to the corresponding Annex.

Chapter III. Quoting and citing

3.1. Quoting

Quoting in its turn considers an unchanged repetition of a passage within the scientific text, which is an exact repetition of original source formulation. Quoting in its' turn enables the following:

- Support the author's position through presenting corroborative and confirmatory facts;
- Use the original vocabulary and language style;
- Present an opposite point of view, in order to maintain objectivity;
- Create a foundation for further discussion.

While quoting, following standards must be considered and maintained:

- quoting from the reliable source: the quotation must be selected with precision and care. Relevant and reliable quotation determines value and quality of scientific work, as well as indicates author's level of professionalism.

- Amount of quoting: scientific paper should be completed with author's own words. Quotes should be included within the text only in cases, when their presence is essential for further development of reasoning and analysis of causalities.
- Quotation marks: format for quoting varies for different languages. While quoting from sources, originally completed in Georgian or German languages, should be used quotation mark under format - „...“; for quotes in English should be used inverted commas - “ ”, while in case of quoting from French language, - « » quotation marks should be used.
- Short quotation: does not exceed four lines, is placed within general text body and is outlined with relevant quotation marks.
- Long quotation: exceeds by length 4 lines, is set up within general text without quotation marks, yet for optimal visualization, is distinguished from general text by one line above and below, indented margins by 1 cm from each side, reduced font size (11) and line spacing (1.15).
- Fragmented quote: is in order to align logically with the author's views, is permissible to modify the quotation without altering the content. In case, if a word or sentence is omitted from the quote, the missing section should be marked with a square bracket - [].
- Quote in quotation: while quoting a quote from another source are used simple quotation marks, e.g. Apostrophes ('. ').
- Foreign language quote: within general text of the scientific paper the quote must be set up in original language, while translation along with the information regarding translator should be reflected to the footnotes. Translator data should be pointed only once with the first indication of translation.
- Quotation error: an error in the quotation mark section is indicated by Latin citation [sic!] in the square brackets.
- Including quote within reasoning: quotation within scientific work can be carried out by two ways: a) an independent sentence, or passage, which will be followed by the author's explanatory discussion, or b) included within the author's discussion.
- Paraphrase: is an indirect quote, where structure of the sentence structure is altered, while content remains unchanged, most of the words are replaced with synonyms. Presented content is written without quotation marks. After the paraphrase is completed, the text of the scientific work should be cited as a quotation. Paraphrase should be accompanied by the author's assessment.
- Summary: review and summarization of extensive sections within the text of scientific literature review in the author's own words. The summary should be as short as possible and answer following questions: a) Who is the author? b) Where was the source published? c) What was the aim of the study, how was structured the summarized scientific paper? d) How was the research conducted? e) What were the findings?

3.2. Citing

While working on the scientific paper, it is essential to use citing when:

- A quote is used;
- Author of the scientific paper exercises in own words (either by paraphrasing or summarizing) ideas, opinions and conclusions of another author;
- The author of the scientific paper should clearly highlight the relevant sources to exercised reasoning and arguments (makes reference);
- Author of the scientific paper uses statistical data and facts of other authors' studies (in such cases is necessary to indicate the author of the statistical data directly).

Citing can be carried out either in-text format (by using so called short references or remarks may be used, as well as footnote format) or alternately, reference list can be provided outside the general text, within bibliography. There are several citing styles, such as Chicago, Harvard, APA (American Psychological Association), MLA (Modern Language Association) etc.

In accordance to the Academic Writing Standard of Petre Seotadze Tbilisi Medical Academy, citing style is determined by APA (American Psychological Association).

TMA Academic Writing Standard permits use of both parenthetical (in-text) citations and reference list.

While referring to the source within the text (using short citations), should be indicated only the author's last name, year of publication, and page number where the citation is cited from. Full details of the source should be included outside the general text, within frames of the bibliography.

If sources of the paper are cited in the notes under the general text, i.e. using footnotes, at the end of the sentence citation should be marked with a footnote index and duly reflected at the end of the page, indicating full data of the source. Sources, used in terms of in-text citation and marked with footnotes must be reflected to the bibliography as well. While citing sources using remarks or footnotes, it is essential to apply following standards:

- While cited for the first time, notes must indicate complete data of the source, including: name of the author(s), title, publication information and page number(s).
- If the source is re-used, footnotes should indicate its short data only: author's surname, short title, page numbering.
- If one source is repeated on the same page of the scientific paper, (if no other text is indicated after the verified source) the word "there" or Latin *ibidem* (abbreviated - *ibid*) is included in the footnote.

Citing type and style determines the way the sources are indicated within bibliography. If in-text citation is used, source will be reflected to the bibliography in the following order: Name and last name of the author, year of publication, title of the work (in italics), place of publication and publishing house.

If the source is indicated within references, source will be reflected to the bibliography under following pattern: Name and last name of the author, title of the work (in italics), place of publication, publishing house, year of publication.

Chapter IV. Format of the Scientific Paper

Scientific paper must be completed in a specified pre-determined form. TMA Academic Writing Standard considers following requirements:

- Font – for the Georgian text should be used Sylfaen font and Times New Roman font for English text respectively. Font size should be standard 12, (without bold effect), header size 14, bold and centered, footnote and quotation font size – 10.
- Spacing between lines - 1.5 in general text; for quotation and footnotes - 1.
- Paragraphing - text of the scientific paper should be divided into paragraphs. Length of each paragraph should be more than 3 rows and do not exceed length of half a page. An empty line should not be left between paragraphs. Paragraph Formatting Interval: Paragraph -> Spacing After - 6; Spacing Before - 0.
- Margins - upper margin - 2 cm, lower margin - 2 cm; left margin - 2.5 cm; right margin - 2 cm. The text, both from the right and left side, should be aligned at the edges. To do this, the Justify function should be selected.
- Page Numbering - starts from the first page of the introduction (this will be the first page). Page numbering should be located to the bottom right side of the page: Insert -> Page Number -> Bottom of Page -> Right.
- While listing each source within the bibliography, all strings except of the first one are shifted to the right by 1.2 cm.

Chapter V. Academic Writing Center

Academic writing, academic integrity, and effective scientific communication are essential aspects of modern higher education. They play a crucial role in strengthening an institution's research component and supporting the development of individual research careers. In the era of Artificial Intelligence (AI), these areas also present serious challenges.

To raise awareness and ensure the targeted and coordinated implementation of various initiatives and campaigns related to academic writing, academic integrity, and effective scientific communication, the Academic Writing Center operates at TMA. Specifically, the center aims to:

- Promote awareness of academic writing standards;
- Disseminate and reinforce correct practices in academic integrity, citation, and referencing;
- Promote and strengthen effective use of scientific databases;
- Support the implementation of ethical AI use in academic settings;
- Advance and reinforce standards of academic integrity and principles of effective scientific communication.

The Academic Writing Center at TMA is a joint initiative of the Library, the Department of Scientific Research and Doctoral Studies, and the Faculty Development Office, and is coordinated by the Library.

The activities of the Center are planned in accordance with TMA's strategic, action, and operational plans, as well as the recommendations of the Quality Assurance Office, the Scientific-Research and PhD, and Faculty Development Departments.