В. Н. Яхно

ФИЛОСОФИЯ И МЕТОДОЛОГИЯ НАУКИ

УЧЕБНО-МЕТОДИЧЕСКОЕ ПОСОБИЕ по одноименной дисциплине для магистрантов экономических и технических специальностей дневной и заочной форм обучения

Гомель 2019
Яхно, В. Н.

Пособие предлагает комплекс необходимых рекомендаций для организации работы по написанию реферата на право допуска к сдаче кандидатского экзамена по философии и методологии науки. Материал пособия подготовлен с целью повышения эффективности самостоятельной работы магистрантов.

Для магистрантов экономический и технических специальностей.

© Учреждение образования «Гомельский государственный технический университет имени П. О. Сухого», 2019
Introduction

This instructional guideline is designed to teach the basic skills of writing a research paper on the right of admission to the candidate examination in Philosophy and Methodology of Science. The guidelines suggested in this book have been informed by findings from the latest research studies and authoritative sources on academic (research) writing addressed to non-Native English speakers.

Before writing up your research paper, you should thus reflect on the following questions:
1. What is my research topic? What is known about how this topic has been addressed by other scholars in the field?
2. What are the specific aspects of the topic that I am going to focus on (your research problem)? Why is it important to investigate the topic at all?
3. What would be my data? How will I collect and analyze the data?

The success of producing a strong research paper depends not only on a good grasp of your topic and your research skills but also on your ability to justify the need for your research using clear, concise, and compelling language.

The structure of research paper
Here is a possible framework for structuring research paper:

1) Preliminary sections (front matter): should include the title (12-14 words) and title page, list of contents;
2) Main sections:
   1. Introduction
   2. The Main part of proposals (two or four head of research paper, but not more than four)
   3. Conclusion
   4. References (also Works cited)
3) Supporting sections (back matter): a list of references, tables and graphs, and appendices (if applicable).

The standard length of a research paper does not normally exceed 5,500-6000 words, including references.

Follow-up activity
Match the name of sections in the left column with their purpose in the right column.
<table>
<thead>
<tr>
<th>№ №</th>
<th>Section</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Title page</td>
<td>to hint at what the research is about in 12-14 words</td>
</tr>
<tr>
<td>2</td>
<td>Title</td>
<td>to detail how the study’s problem will be addressed</td>
</tr>
<tr>
<td>3</td>
<td>Page of contents</td>
<td>to list the sections of the proposal</td>
</tr>
<tr>
<td>2.</td>
<td>Introduction</td>
<td>to show the proposed organization of the study (with page numbering)</td>
</tr>
<tr>
<td>5</td>
<td>Basic part</td>
<td>to analyze the basic problems of the research paper</td>
</tr>
<tr>
<td>6</td>
<td>Conclusion</td>
<td>to present supplementary material at the end of a proposal</td>
</tr>
<tr>
<td>3.</td>
<td>References</td>
<td>to demonstrate an understanding of what has been done in the research area and what gap(s) need to be addressed in the present study</td>
</tr>
<tr>
<td>8</td>
<td>Appendix (optional)</td>
<td>to provide a more detailed overview of the proposed research</td>
</tr>
</tbody>
</table>

**APA format requirements**

Just like others pieces of academic writing, international research proposals follow specific *format requirements* proposed by established *citation styles*. These requirements relate to the structure and presentation of the material, language use conventions, as well as how sources should be cited in the body of the paper and in the list of references. Examples of these styles include the APA (The American Psychological Association) and MLA (the Modern Language Association) styles, Chicago, Harvard, and others. The guidelines for preparing papers and documents in line with the requirements of these styles are covered in depth in published style manuals that are constantly updated (e.g., see the sixth edition of the APA Publication Manual – [http://www.apastyle.org/manual/](http://www.apastyle.org/manual/)).

This guide to writing research proposals follows the formatting requirements of the *APA style*, which is commonly used in the *social sciences* (e.g., anthropology, political science, economics, business studies, psychology, etc.). This means that the guidelines on formatting your proposal will reflect key APA style requirements.

Here are basic APA formatting requirements that apply to academic papers, including research proposals:
1. Use standard 210 × 297 cm or 8.5 × 11 inch (letter size) paper (the format of A4).
2. Set 2.5 cm (1 inch) margins on all sides (left, right, top, and bottom).
3. Left justify the margins (the left margin will be aligned to the left side of the page, while the right margin will be uneven).
4. Use 14-pt Times New Roman font throughout the whole document (except in tables and references).
5. Number all pages, including the title page.
6. The whole volume Research Paper is 25-30 pages of printed text.
7. Use only one side of the paper – the reverse side is left blank.

You will need to follow these guidelines to format the entire document.

1. Writing Preliminary sections
1.1. Title and Title page (cover page)

An effective title to a research paper should be specific enough to reflect the purpose, nature, and content of your project. It is best to make it sound catchy, brief, and self-explanatory to attract the reader. There should be no words or abbreviations that can confuse the reader unless the abbreviations are well-known. The title can change after the research is completed, yet you can develop a working title early on to guide your work and keep you focused on your purpose.

Tips:
• the title normally includes only the most important key words
• in line with international requirements, it should not exceed 12-14 words (it is advisable for Russian authors to practice converting some longer Russian titles into shorter English ones)
• it is normally formulated as a noun phrase or a question, although the question type tends to be less formal
• each word in the title that is four or more letters long should be CAPITALIZED; note that the first word in the title is always capitalized regardless of how long it is (e.g., The Technology and its Role in the History of Civilization).

The title page of a research paper follows a present format and is numbered. The number is indicated on the right –hand side of the page, 1 inch from the right margin and 0.5 inch from the top of the page. Like the rest of the proposal, the title page is double-spaced throughout (with the exception of equations, tables or figures) and typed in Times New Roman, 14 point. The
margins for the title page, as well as all consecutive pages, are set at 1 inch (2.54 cm) on all sides (left, right, top, bottom).

Here are the main elements to include in the title page of a research paper. The elements which are specific to an institution to which a proposal is submitted as marked as “optional”:

- full title of your research paper in capital letters
- your name: first name, middle initials, and last name (no titles, such as Ms., should be used)
- your institution’s name (e.g., Educational establishment Sukhoy State Technical University of Gomel)
- your academic advisors’ titles (e.g., instructor, senior lecturer, assistant professor, etc.) and names (optional)
- an year of submitting the research paper.

See Appendix A for a sample of a full-sized template of the APA style title page for a research paper.

1.2. Page of contents

To provide an overview of your research paper’s structure, it is important to list your contents on a separate page that follows the title page. Your list of contents should reflect the sections of your proposal arranged according to section numbers (together with headings and subheadings). Use Arabic numerals to indicate page numbers for specific sections and subsections.

See Appendix B for a sample of a page of Contents for a research paper.

2. Main sections.
2.1. Writing the Introduction Section

The Introduction Section in research paper (as well as research articles, theses, etc.) is one of the key sections of the whole work. Although placed first following the abstract, just like the Abstract, the Introduction is usually the last section to be written as it is difficult to describe your study effectively before you have conducted appropriate survey of relevant literature, identified the problem to be addressed, worked out the research methodology, thought out expected outcomes, and even obtained preliminary findings.

The aim of a typical introduction is twofold: 1) to appeal to the reader’s interest and signal why your proposal is worth reading, and 2) to orient the
reader as to the significance of the research problem within a broader research area, the gap or needs that your study seeks to address, and how well it appears to address that gap. Much like a **mini-synopsis** or an overview of the whole proposal, a typical Introduction first sets the scene for the current investigation and then explains why the present study is important, what its purpose is, and what its major contribution (significance) to the field is.

To give the reader an idea of established knowledge in the research area, the introduction section includes a **review of relevant literature** that concludes with a statement of gap(s) that need to be filled. By the end of reading an Introduction, the reader should be able to what the proposed study is about, what previous research it builds on, and what one can expect to find in subsequent sections of the work. In research proposals, dissertations and theses, however, the review of literature on the chosen topic is often not integrated into the Introduction section. It appears as a separate section (called the “Literature Review” section) which immediately follows the Introduction section and provides a detailed review of relevant sources on the topic.

Just like other section in a piece of research writing, most Introductions follow a logical pattern of organization that can be described in terms of so-called “moves” (Swales, 1990) – stretches of text that fulfil the author’s communicative functions in a text (e.g., providing the background to a study, describing the study’s purpose, etc.). Moves can be divided into smaller units called “steps”. Steps serve to convey communicative functions within a certain move. The length of a step can vary from a single sentence to a number of paragraphs. Although there are some steps that carry the weight of the entire Introduction section and are thus obligatory (e.g., indicating a research gap), other steps (e.g., providing definitions) are optional.

**Move 1. Establishing a territory**
- Step 1. Showing the importance of the topic
- Step 2. Providing background information on the topic (optional)
- Step 3. Clarifying definitions (optional)
- Step 4. Reviving previous research

**Move 2. Establishing a niche**
- Step 1. Indicated a research gap or needs
- Step 2. Presenting justification for the present study (optional)

**Move 3. Occupying the niche**
- Step 1. Stating the study’s purposes, research questions, and hypothesis
- Step 2. Presenting methodology (this is usually done in one or a few sentences), and the aim of research paper.
As you will see later, many of these moves and steps will be recurring throughout different sections of a research paper, with various degrees of details. Some of them will in fact become the focus of entire sections such as “Conclusions”.

2.2. Writing the Main part of research paper

The purpose of the main part is to give a critical overview of scholarly activity in the research area and your topic. While some topics may be novel, the importance of pursuing other topic may seem less evident to the reader, calling for substantial evidence to show why they are worth exploring. Writing this section should thus be aimed at:

- showing how the proposed study fits into the broader context by connecting it to previous research in the area
- providing or clarifying definitions of key concepts that are relevant to your topic
- identifying and giving credit to major studies that have laid the groundwork for your own research
- identifying and discussing major theoretical framework(s) and perspectives that your study will build on
- identifying and critically assessing selected studies in terms of their strengths and limitations.

For many International Master’s Degree Students, especially non-native speakers of English, the complexity of writing the main part lies in:

- doing extensive research and selecting relevant works on their topic
- limiting the scope of their search (which at some point can appear to be never-ending)
- analyzing and evaluating information in connection to their research problem and the overall purpose of the study
- identifying and presenting key concepts, themes, and empirical results to inform their reader about the current state of knowledge on the topic while using effecting quoting and paraphrasing strategies
- making a strong argument for why new research within their area of scholarly inquiry is necessary.

Here is a suggested move-step framework for writing this part:
Move 1. Establishing a territory
Step 1. Identifying the research area and topic of investigation
Step 2. Providing background information on the topic
Step 3. Clarifying definitions
Step 4. Providing a detailed review of studies

Move 2. Establishing a niche
Step 1. Indicating gaps in previous research
Step 2. Providing justification for the present study (optional)

Move 3. Occupying the niche (introducing the present study)
Step 1. Restating the study’s purposes and/or research questions
Step 2. Stating the study’s hypothesis (optional)

As you can see, most of the moves and steps identified in this part overlap with those in the introduction section. While the order of moves is relatively fixed, the order of steps within the moves is relatively fixed; the order of steps within the moves can change, just as in the case of introductions.

Avoiding plagiarism
Whether intentional or unintentional, plagiarism, or presenting other people’s ideas as your own, is a serious offense and is a sign of poor academic practice. The penalties for committing plagiarism are determined by the honor code or ethical guidelines at university and can range from getting a lower grade on a task or failing a course, to being expelled from university. This implies that any idea, scientific insight or finding in another author’s work has to be properly acknowledged unless you are reporting facts which have become common knowledge. Copying the exact wording from the original source (even if just a few words) without putting it in quotation marks is an instance of plagiarism even when the source is referenced (cited) properly. If the original wording from a source text has been changed but no reference has been provided to the source, this is yet another instance of plagiarism.

The avoid plagiarizing other authors’ ideas and content, sources should be acknowledged through references (citations) to the works being cited. The references which are made in the body of the text (e.g., within a sentence) are known as “in-text references”. The same references are then listed at the end of a proposal in the list of references (References). Both types of references are formatted following the requirements of a specific citation standard (in this case the APA standard). The following subsections will provide detailed guidelines on the use of both in-text references and those in the list of references.
Tips:

- remember that any statistics, illustrations, empirical findings, and assertions made by different scholars have to be properly referenced at all times
- if you happen to copy paste information from a source text as you plan or organize you writing, highlight the original wording (e.g., using a different color) to separate it from own text
- keep neat records of reference details for your sources (e.g., the authors’ names and date of publication of the source, and page numbers for the extract you might want to cite)
- double check how you referenced your sources before submitting your work.

In-text references (or citations) are references that are provided in the body of a written text to acknowledge a specific source. The APA style relies on the author-date system for in-text references (e.g., Lloyd, 2010). This means that such a reference will include two components: 1) the author’s last name and 2) the year of publication of the source. These are normally placed in brackets depending on the reporting style being used.

With most author-prominent citations, the author’s name will be given outside the brackets within the sentence, with the date being placed in brackets.

Examples:

- Nguyen et al. (2008) suggest that cultural understanding increases as…
- According to Winner (1980), some technologies are inherently normative in the sense that they require or are strongly compatible with certain social and political relations.

With information-prominent citations, both the author’s name and date are provided in brackets at the end of the sentence, with page numbers indicated if direct quotes are used instead of a paraphrase:

Examples:

- …as reported in some earlier studies on computer ethics (Bechtel, 1985; Snapper, 1985; Dennett, 1997; Floridi & Sanders 2004)
It substantiates this position by recognizing that any “informational entity has a Spinozian right to persist in its own status, and a Constructionist right to flourish, i.e., to improve and enrich its existence and essence” (Floridi, 2006, p. 11).

A business confidence survey by German Chamber of Commerce in China (2015) suggests that…

**Tips:**

- Use a *comma (“,”)* before the publication year for any source (e.g., Eichmann, 2003; U.S. Department of State, 2013).
- If more than one source is cited, *alphabetize the sources* (i.e., list the sources not by years but by the first letters in the first authors’ last names) (e.g., Brey, 2012; Friedman, 1997; Friedman & Nissenbaum, 1996; Introna, 2005a; Introna & Nissenbaum, 2000; Wiener, et al., 1962).
- Use *semicolons (”;”)* to separate the sources (see the previous tip).

**Sources with two or more authors:**

- If there is more than one author, use the *ampersand (“&”)* before the last author’s last name in parentheses (e.g., Introna & Nissenbaum, 2000). However, one should use “and” instead of “&” when mentioning the authors in the sentence (e.g., Sirieix, Kledal, and Sulitang (2011) explored…).
- Use a *comma (“,”)* before the ampersand when there are more than two authors (Lee, Ha, & Widdows, 2011; Kotler, Keller, Brady, Goodmann, & Hansen, 2009).
- Spell out all authors’ names when referencing a source with multiple authors *for the first time* (e.g., Paige, Cohen, Kappler, Chi, & Lassegard, 2002; Walker, Bradley, Walsh, Friedman, & Steven, 2010).
- Use “*et al.*” to refer to a source with multiple authors after mentioning it for the first time (e.g., Walker *et al.*, 2010, instead of Walker, Bradley, Walsh, Friedman, & Steven, 2010).

**Sources with no author:**

- Use the first few words of the title (e.g., Global Monitoring Report, 2016).
- When a governmental body, corporation, organization, etc. is the author, use its full name (not an abbreviation!) as the author’s name (e.g., International Monetary Fund, 2010; The United Nations, 2012).
When cited in a sentence, such sources will read as “According to International Monetary Fund’s (2010) report…”

- For web pages, use the name of the website as the author’s name (e.g., Freedom House, 2015; Vote Leave, 2016; Vriens & Partners, 2014).

2.3. Conclusion

What is Conclusion? Reflect on the following:
1. Is there a Conclusion section in research paper?
2. What would be the purpose of writing the Conclusion?
3. What kind of information would you include in a section entitled “Conclusion”?  

This section (also known as “Expected Results”, “Anticipated Results” and simply “Outcomes”) often features as the final part of a proposal (in place of the Conclusion section in research articles).

3. Supporting sections
   Compiling a list of references (also Works cited)

A list of references (also “reference list”) is an essential part of any work that builds on the knowledge of other authors. These sections list all the sources that have been cited throughout the body of a proposal.

The standard for citing references used in this guide is the APA standard:
- The references are listed at the top of a separate page entitled “References”.
- The reference list has appropriate margins (1-inch on each side), spacing (double), and font (12 -point).
- All reference entries are arranged alphabetically.
- The hanging indent (0,5 inch = 1,27 cm) is used for each reference.
- There are no spelling mistakes in the authors’ names or the publication titles in reference entries.
- The publication years for print sources are indicated correctly.
- The authors’ last names and initials are given in the reverse order and separated by a comma.
✓ The necessary components of a reference are italicized (e.g., book titles, names of journals, and volume numbers) and **CAPITALIZED**.
✓ URLs (and DOI, where applicable) are provided for web resources (no URLs should be provided for print sources!).

See Appendix C for a sample of a page of references for a research paper.
Title Page Template

Educational establishment Sukhoi State Technical University of Gomel

Title of Your Research Paper
(e.g., The Philosophy of Technology and its Problems)

Your First Name, Your Last Name

GOMEL, Year
Appendix B
Page of Contents

CONTENTS

Introduction ........................................................................................................3
1. Analytic Philosophy of Technology ...............................................................5
  1.1. Philosophy of Technology and Philosophy of Science as Philosophies of Practices ................................................................................................................6
  1.2. The Relationship between Technology and Science ....................................10
  1.3. Metaphysical Issues: the Status and Characteristics of Artifacts .................14
2. Ethical and Social Aspects of Technology ....................................................18
  2.1. Approaches in the Ethics of Technology ....................................................18
  2.2. Ethics of Specific Technologies. Technological Risks ........................................2
2 Conclusion.......................................................................................................25
References ...................................................................................................... 26
Appendices (optional)......................................................................................27
Appendix C
List of references (also Works cited)


Яхно Валентина Николаевна

ФИЛОСОФИЯ И МЕТОДОЛОГИЯ НАУКИ

Учебно-методическое пособие
по одноименной дисциплине для магистрантов экономических и технических специальностей дневной и заочной форм обучения

Подписано к размещению в электронную библиотеку ГГТУ им. П. О. Сухого в качестве электронного учебно-методического документа 19.12.19.
Рег. № 84Е.
http://www.gstu.by