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PREPARATION OF SCIENTIFIC PAPER AND SCIENTIFIC MONOGRAPH REVIEW

Introduction

In order to write a scientific paper or a scientific monograph review, doctoral students need to have both adequate pedagogical knowledge and methodological skills that will allow them to transform their expertise and skills into a scientific text. For this reason, our classes in the doctoral school focused on methodological preparation of students to write a paper on a topic consistent with their scientific interests and doctoral dissertation. It is an excellent writing exercise during which young scientists can practice presentation of critical analyses of scientific texts, design scientific research and presentation of research results, all according to the highest standards. As they prepare their texts, doctoral students organize their theoretical and methodological knowledge regarding the investigated issue in terms of composition, terms typically used in pedagogical research and strategies or organization of specific stages of the research. Thus, preparation of an article requires them to employ their skills and independent scientific thinking, formulate complex and in-depth research problems and suggest brave, yet scientifically reasonable hypotheses and solutions. It also obligates them to select adequate research methods and techniques and design correct research tools to ensure that necessary empirical data will be collected. Finally, when writing a paper, doctoral students have the opportunity to conduct problem analysis, interpret the results and formulate logical conclusions to summarize the whole work.

This paper aims at presenting the methodological aspects of composition and the specific nature of writing scientific papers and reviews. Its goal is to organize the information doctoral students have in this area and present them with the methodological text about scientific writing.

Scientific paper composition

Before discussing the composition of a scientific paper, it is recommended to remind and order some important scientific-research aspects of conceptualization or critical review of available theories presented in a scientific publication. Thus, we want to point out that writing a paper should follow planning which involves the following stages: formulation of the topic/subject (which may be then modified); determination of the goal; identification of existing theoretical insights regarding the given area (available in international resources); formulation of the scientific objectives of the research presented in the paper, together with the research problems and (depending on the research strategy) hypotheses; identification of methods, techniques and tools used to conduct the presented research; identification of place and time of the research and description of the sample; determination of the research strategy and justification thereof in the context of the research; overview of the way the research results will be presented; identification of methods used to conduct statistical analyses; determination of how the research results will be processed, presented, analysed, interpreted, summarized and how practical recommendations will be presented.

Once the plan of the paper (according to the above-mentioned guidelines and steps) is ready, it is much easier to work on the details. It is worth to remind that a scientific paper should be correct in terms of content and form, methodology and logical reasoning, language and style. The criteria which determine the content of scientific texts include: original subject of research, original topic consistent with a given discipline and formulated as a problem, correctly formulated research problem, correctly selected resources (including the most important and recent scientific achievements or publications in the field showing the area discussed or neglected in the paper), and transparent inner structure consistent with the scientific standards and corresponding with the topic (introduction, theoretical assumptions, methodology, empirical verification, discussion, final conclusions, references – literature, bibliography and appendices if needed). In terms of formal requirements, the paper should have clear and transparent style, explicit and scientifically correct title and subtitles identified according to the methodological

requirements regarding scientific papers, logical structure, unified annotations/ footnotes and complete bibliography.

When writing and composing a scientific text, the author must meet certain objectives. The most important and the most frequent reviewers' comments refer to:

- ability to utilize scientific knowledge in a given discipline (and interdisciplinary) and use it in practice or in theoretical reasoning;
- scientific value of the presented insights and studies, that is, how they contribute to the development of the discipline;
- scientific thinking based on solid methodological grounds;
- methodological consistency with the strategy adopted and justification of its value for further applications (theory, directions of research, application);
- use of clear and precise scientific language;
- sensitivity to new phenomena, analysis and investigation thereof, pointing new directions of research, activities, social and educational changes;
- independent scientific thinking, critical reflections and interpretation abilities;
- exposition of the main thesis and ability to keep it in the narrative and expose it in certain parts of the paper;
- critical presentation of the content, precise analysis and reasoning;
- value of references, their relevance and scope.

Thus, it can be said that a paper which meets the scientific writing criteria must present: justification and critical review of references; properly formulated research problems and goals; methods used to collect, analyse and process data; adequate methodology; coherent and logical narrative; interpretation and conclusions regarding the research results (reasoning based on a logical presentation and well-thought interpretation).

To summarize, young scientists should be taught to prepare their scientific papers using particularly critical approach towards the research problem and the results presented in their texts. This helps to avoid a situation when a paper becomes a compilation (a collection of parts of other scientific works or even parts prepared by the researchers).

The main characteristics of a scientific paper is that it presents a piece of research, a discovery or a classification of facts, phenomena typical for a given area of pedagogical explorations. It is also worth remembering that highly valued elements of the paper are goals of the research, which are determined through

investigating the nature of new social and educational phenomena. In addition, papers which are considered valuable for the discipline development are texts which discuss new problems or issues presented according to methodological standards and the logic of scientific research. Publication of the paper, that is, dissemination of the research results not only shows new scientific facts, but also contributes to the development of the discipline and points to new areas and research problems worth further investigations.

In general, it can be said that every scientific paper consists of three main parts: introduction, main body and conclusions. Introduction presents briefly the focus of the whole text. Its role is to explain the title and the scope of the paper, as well as present chronologically the most important aspects discussed therein. This section should be interesting to attract the readers and encourage them to study the whole text.

In the main body, the author presents theoretical, methodological and empirical assumptions of the research. It is easy to notice that this part of the paper includes several aspects identified by adequate subtitles. The author must remember to keep the narrative consistent so that readers are able to identify the theses which connect certain parts of the paper. This ensures continuity and coherence of the text as well as smooth transition from one thought to another. The narrative should help the readers navigate between the certain components of the content. Many young scientists tend to expose specific problems which are not connected in a single whole. Also, the subtitles should clearly identify certain parts of the texts. When all subtitles refer somehow to the main title and are interconnected, it is easy to assess if the composition of the text is logical. The structure of the paper should be proportional, which means that certain problems should be given as much coverage as they deserve.

The final part of the paper are conclusions. This section should confirm that the goals have been completed, the problem has been solved and the hypotheses have been verified. It should not introduce any new evidence. Everything what is written there should refer to the content of the previous parts. One should be careful not to draw conclusions reaching beyond that what is presented in the empirical part. This section should also have a statement that the problem presented can be further investigated as such or explored within other research areas resulting from it. One should also outline the limits of further scientific explorations and justify them, that will set the direction of the future studies. The awareness of the limited character of the work does not diminish its value, but rather shows new research perspectives. It is a valuable guideline for other

researchers. In addition, this section should present practical conclusions resulting from the work (as a discipline, pedagogy is not only theoretical, but also practical).

As for the composition, the most popular structure consistent with international standards is the following:

1) Title – precise, signals the problem;
2) Author/authors, affiliation, ORCID;
3) Abstract with an overview of the theoretical assumptions, methodology and research goal, research problem, methods and data analysis method as well as main conclusions;
4) Key words with 3-5 crucial words describing the scientific categories exposed in the paper;
5) Introduction which focuses on the goal of the paper;
6) Theoretical assumptions which describe the research problem in the light of the scientific theories assumed and existing studies (theoretical interdisciplinary approach and knowledge of international publications regarding the problem is particularly important for the development of the scientific discipline);
7) Methodological assumptions of the research:
   a) identification and justification of the research paradigm,
   b) identification of the goal and object of the research,
   c) identification of the research problems,
   d) formulation of the research hypotheses,
   e) identification of variables and indicators adopted in the research,
   f) justification of the methods, techniques and tools used,
   g) sampling and sample characteristics,
   h) research procedure;
8) Research results illustrated with statistical data in graphs, diagrams or tables;
9) Discussion over the results, which also refers to the theoretical assumptions and other existing studies;
10) Final conclusions (theoretical and practical applications);
11) Possible use of the research and directions of further investigation which could use the data presented in the paper;
12) References in alphabetical order (it is worth remembering that scientific texts must have annotations, that is, a list of exact references cited or mentioned in every part of the paper).

When writing a paper which is to be published in a scientific journal or a collective monograph, the author should also check the editorial requirements of the specific journal or publisher and potential limitations of the number of characters in the text. In social sciences, it is assumed that a paper should have 20-40 thousand characters (half to one publishing sheet).

Scientific review composition

Writing a scientific review of a scientific monograph can be a challenge for young scientists. It is often confused with a summary. In addition, such reviews often lack critical evaluation. Thus, one must remember that good review does not summarize the book, but the content of the publication is only recalled for a specific purpose – to show the character of the whole text and, at the same time, draw reader's attention, to encourage or discourage them to further reading. Skilfully selected quotes may also enrich and illustrate the review. Thus, reviews which present all aspects important for the reviewed monograph and give complex evaluation are the most valuable. Therefore, a scientific monograph review presents all the important aspects: from the goal, content, structure and evaluation of the content through language to publication recipients.

Just like in case of scientific papers, diligence is extremely important when writing a review. The text will reflect whether its authors have read the reviewed monograph thoroughly. It means that the review cannot be based on a cursory look and it depends on the reviewers' competence and their ability to notice shortcomings and omissions or emphasize its innovative and unique character. If the reviewed publication, its form or subject are not completely new to the reviewer, they will easily notice elements, motives and contexts worth mentioning. Therefore, it is worth remembering that young scientists should review monographs which are in the scope of their scientific and research interests, the area they are familiar with.

In case of reviews, the volume is important. Of course, the reviewer must present in a comprehensive manner the advantages and disadvantages of the analysed publication and their own opinion, but one cannot forget that the readers expect a concise form with information which will prompt them to read the book or discourage them from reading if it is not worth it.

The most common structure of a scientific monograph review is the following:

1) Introduction – brief introduction to the text (usually not longer than 3-5 phrases) that aims at attracting the reader with the content of the review and the subjective evaluation presented in it.
2) Information part describes the object of the review, the problems it presents and gives main information about the book. In case of monographs, the main theses, used resources/research project or critical approach are exposed in this section.
3) Evaluation section is the key component of the review. This is what differs the scientific review from other genres like summary, report or description. It must discuss the advantages and disadvantages of the monograph, as well as the subjective evaluation made by the reviewer. This part of the text should be the most complex and internally divided. The most common structures are: division into two big paragraphs which present the positive and the negative aspects of the book, or division into sections which evaluate specific monograph elements (for example, thematic areas, language, structure, methodology).
4) The information and evaluation sections may be either clearly separated or they can interlace freely. That depends on the style and scientific-creative invention of the reviewer.
5) Summary must close the text in a manner relevant to the form. It is there where the final evaluation is presented and where potential readers who might find the monograph interesting are identified.

When preparing a review, the doctoral student should answer several questions. These are: Does the monograph show new approach to the problem and if yes, in what scope? Are the references selected and used adequately? What are the main theses presented by the author? How can the author's research competence be evaluated? Is the narrative and reasoning clear and coherent? Do scientific methods, tools etc. are sufficiently rich and do they help understand the text?

When formulating the evaluation (critical narrative), one must remember that the assessment of the reviewed text and its value must be objective, done with full responsibility and based on the generally accepted criteria, justified and well-thought. However, a subjective comment of the reviewer is also a part of the review; it is very individual, but always supported by a reasoned argumentation.

Very often young scientists who work on their first scientific reviews make mistakes. The most common include:

a) confusing review and summary, too much reference to the content while neglecting evaluation;
b) compositional short-cuts, for example describing a book chapter-by-chapter which is boring and does not really say much about the publication;
c) misunderstanding of the convention (e.g. using relevant criteria for promotion/popularisation to asses a scientific text);
d) insufficient knowledge, lack of technical or linguistic competence (for this reason, it is recommended to review those texts which are coherent with one's scientific-research interests – without it even following all the above-mentioned rules will bring results).

Of course, any guidelines and principles presented above should be treated as one of the many and in the light of the criteria used for different scientific texts. Thus, they are not strict and absolute framework, but rather guidelines.

Conclusions

The paper focuses on practical guidelines based on solid methodological principles of writing scientific texts by young scientists – doctoral students. The elements of preparation to write a scientific paper and a scientific monograph review have been presented. It is a quintessence of the methodological knowledge and it shows how to navigate through different stages of scientific writing. The text is of particular value and importance for the young individuals who have just began their scientific journey and who often lack skills necessary to prepare scientific narratives and thus, fail to comply with the principles of writing different scientific texts. That is why, the authors present synthetically the essential aspects of preparing a scientific paper or a scientific review and provide comprehensive guidelines according to the latest writing and research standards in the field of social sciences and humanities.

Abstract: The paper presents methodology of writing scientific papers. The text aims at showing some issues connected with paper composition, presentation of methodology as well as with discussing the results and formulating conclusions and practical recommendations. The authors also focus on theoretical preparation of a scientific paper and selection of adequate references. They also discuss preparation of scientific reviews.

Keywords: scientific paper, paper review, paper composition, research methodology, literature selection, preparation of content

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