

BALTIC INTERNATIONAL ACADEMY

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**DOCTORAL RESEARCH THESIS IN SOCIAL AND HUMAN SCIENCES:
CONTENTS, STRUCTURE AND METHDOLOGY OF WRITING**

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The methodological recommendations are meant for the doctoral students of Baltic International Academy and other higher school of Latvia conducting thesis research in the area of social and human sciences

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INTRODUCTION

Writing and defense of the research thesis is a crucial stage in formation of a professional researcher. By its nature and intended purpose the doctoral dissertation is not exclusively a research work but also a qualification work supposed to prove the author's extensive and thorough command of systematic methodology in both general scientific knowledge and in specialized knowledge, as well as the skills to apply those in order to address the specific issues in the relevant professional field.

A doctoral dissertation as a qualifying paper must conform to certain formalized requirement establishing the structure of the paper, the requirements being obligatory for all the doctoral degree seeking applicants irrespective of the research topic the applicant pursues and the research area within which the research is conducted.

In the proposed methodological guidelines we make use of the materials of the courses of lectures prepared by the authors for the doctoral students of Baltic International Academy, as well as the materials of the monographs and teaching aids published earlier by the authors and listed in the *references* and *further reading*.

The understanding of a structure as a "blank form" of a doctoral dissertation necessitates the understanding of the specificity of science as a system of knowledge and the scientific methodology as the production technology. Therefore, in order to provide methodological support for the doctoral research, a study course devoted to logic and methodology of scientific research is offered at Baltic International Academy. (В.Никифоров. Логика и методология научных исследований: Курс-конспект лекций. Рига, 2005. – 90 с.; В.Никифоров, Н.Никифоров. Методология научных исследований и методы поведенческих наук: курс лекций для докторантов. Рига, 2015.)

The methodological guidelines comprise original works of the authors, such as: 1) construal of methodology as the theory of rationalization and optimization methods in any kind of activity; 2) logical and methodological tools for analysis of problematic situations and correct problem statement; 3) the method of parallel development and writing of the qualification papers body text.

The methodological guidelines are intended as the methodological support for the doctoral students conducting thesis research the area of social and human sciences.

The Authors

1. THE STRUCTURE OF THE DOCTORAL DISSERTATION

A doctoral dissertation in its function of a research work and a qualification work must come out as *systematic* body of text. Any system implies the unity of the system elements (the parts constituting the system) and the structure (the arrangement of the elements, the interrelatedness of the parts).

The structural elements of a doctoral dissertation are as follows:

1. Title of the paper;
2. Abstracts;
3. Table of Contents;
4. Introduction;
5. Body Text (The main chapters of the Paper);
6. Conclusions;
7. Bibliographic references list;
8. Appendices.

The structure of the paper, i.e. the interrelatedness of the parts, is a more challenging issue; as such interrelatedness is a dynamic one and tends to change in the course of the thesis development. This is due to the fact that each part is interrelated with every other part, and therefore, in line with the stage of the development of one of the individual parts, changes are required in all the others. For this reason, *the sequential strategy* of writing the thesis, is as a rule, unproductive and especially for the aspiring researchers, as not a section of the paper can be written at one stroke and without correction; the sections of the paper (chapters, paragraphs) turn out to be unbalanced in terms of their length, lax in terms of content, and lacking definiteness in structure.

The qualification papers tend to be considerably more unobjectionable in case *parallel strategy* is used. Essentially, the strategy comes to the following: based on the object and the subject of the study having been determined, some tentative ideas of the core results formed the structure of the study is developed elaborating the details of the body structure: the content and the number of parts, chapters, and paragraphs. Accordingly, working with the literature (conducting information search) and carrying out the empirical research the writer will in parallel and meaningfully fill out the initial structure of the study while making the required adjustments to that.

1.1. The title of the dissertation paper

The title of the paper is determined by the subject of the research, and not the object of the research, the problem area or the problem itself. For example, the title of the doctoral dissertation can be as follows: “The value orientation of the young adults of Latvia in the Post-Soviet period.” If in the research relatively unknown methods of study are used, or, else, well-known methods but not earlier applied to the object of research chosen by the writer, the use of the methods can reflect in the title of the paper. For example:” Mathematical modeling of the students’ demand for the refreshment drinks.”

The title of the paper in the first place should be determined by its essential results. Yet, at the start of the research the title can be chosen but tentatively. However, in the final manuscript of the research paper the results must be fully specified and the title of the paper must be determined based on the above results.

Note of warning.

The title of the paper cannot be determined by the area of research, where the principal results are obtained, or the factors that are not directly relevant to the principal result.

The title should reflect not what is being looked into, but the findings resulting from the study. It is an inappropriate option for the title to bear no connection whatsoever to the principal results of the study, which nonetheless is not uncommon. Making this mistake the writers substitute an essential requirement on the title for the unessential ones, such as:”showiness”, “ostentation”,” stylistic appeal”, conciseness and other similar considerations. Those considerations, while cannot be hold utterly excessive as long as the central requirement is fulfilled, should not substitute the above central requirement. As a rule it could be quite difficult to get it that the title reflects properly the principal result of the research. The above difficulty could be overcome quite effectively by clearly formulating the research objective.

1.2. Abstracts

An Abstract is the summary of the contents of the dissertation paper. The abstracts are written in the languages different from the language of the paper. As a rule, the languages chosen are the languages prevailing in the academic community, such as English, Russian, German, French etc., or, the languages linked to most critical advances in the pertinent research area.

In the Republic of Latvia in the dissertation papers written:

- 1) in the Russian language – the abstracts are written in Latvian and English;
- 2) in the Latvian language – in Russian and English;
- 3) in the English language and other languages – in Russian and Latvian;
- 4) in other languages - in the Latvian, Russian and English languages.

The contents of the abstract necessarily must comprise:

- 1) the title of the dissertation paper;
- 2) a short description of the object of research, the subject of the research and the aim of the research;
- 3) a short description of the methodology and the methods as applied;
- 4) the main results obtained and the area of the applicability of those;
- 5) the key words (notions) used in the research.

The short description of the methodology of the research carried out and the methods actually applied are necessary if they are notable for novelty or are of major importance for the paper in question. Well-known methods and the methods commonly used in the scientific area of question are simply pointed out. The results of the research are described as clearly and specifically as possible. The priority is given to the results of significant novelty, of scholarly and practical importance and long-term significance.

The key notions (words) are only listed, not defined.

The key words entered in the list should be the words which serve the tools of the conceptual analysis of the problem under study. It is necessary to enter on the list the notions not previously used to study these issues. For example, in the dissertation paper on financial management devoted to the contemporary economic crisis the notion of “bifurcation point” is mentioned. This is important as based on the key words the reader will get an insight about the tools of the analysis of the problem, their relevance and novelty.

Normally, the abstract is 500 characters with spaces.

1.3. Table of Contents

The table of contents must comprise all the necessary structural elements of the paper:

- 1) introduction;
- 2) Body text (the main chapters of the paper);

- 3) conclusions;
- 4) bibliographic references list;
- 5) appendices.

The body of the paper must have clear structure based on the logic and contents of the study. This means that the chapters and paragraphs should not be deliberately balanced in terms of volume, rather, a text even if only one page long should be separated into a separate structural element of the body (either a paragraph or subsection) if the logic of the study so requires

The structure of the study and research can be so complex that the /customary division of the body of manuscript into chapters and paragraphs will prove insufficient in terms of structure, for example: the problems under consideration can be split into a number of objectives, each of the objective having their "and" or "or", which in turn are split into hierarchised questions. For that reason, over recent years the division into chapters and paragraphs has given way to a hierarchical numbering of the structure.

The arrangement and appearance of the table of contents should not be underestimated /. The headings of the table of contents must faithfully copy the headings of the dissertation paper. It is unacceptable to offer them in different wordings, order, hierarchy or to shorten them.

Note of warning. With the parallel approach to writing the body text of the dissertation paper in case a heading in the text is changed or moved, the changes in the table of contents should be made at once. Otherwise, under conditions of the time pressure of the doctoral completion seminar approaching it can be merely forgotten.

The headings of the same degree of significance (such as section headings) should be arranged one below the other. Accordingly, the succeeding smaller significance headings should be shifted 3-5 characters to the right relative to the headings of higher significance (the section headings). The section headings such as "INTRODUCTION", CHAPTERS, "REFERENCES", and "APPENDICES" are done IN UPPER CASE. The headings of the subsections begin with UPPER CASE. There are no dots at the ends of the headings. The final word of each heading is connected with corresponding page number by leadering.

1.4. Body text (the main chapters of the paper)

The body of the paper must comprise both the reduction of the main research question to the enabling questions for which the answers are practically obtainable, and the deduction of the main results based on the above questions. It is clear that the answer sought cannot be given straight away, otherwise there's no longer any necessity to conduct the research. Thus the specific methodology of the content organization designed to elicit the answer to the main research question is determined by the successive reduction of the questions starting from the main one and moving down to the intermediate enabling / ones. In such a way, the answers to the intermediate questions of a lower level should enable the answers to the questions of a higher level all the way up to the main question, thus making it possible to lend credibility to the main result through the intermediate results provided by the answers to the intermediate questions. Not all the questions have to be reduced towards intermediate questions and the reduction of the kind should not be unlimited. Usually, we are breaking down the questions until the level where more or less substantiated and complete answers are obtainable. Quite frequently in qualification and research papers the intermediate questions of the first level will be named chapters, while the second-level questions will be paragraphs, and accordingly the third-level ones will be sub-paragraphs etc.

Notes of warning:

1. Reduction of the questions should be commensurable so as the questions of different levels do not make chapters (or paragraphs etc.).

2. It would be wrong to think, that the contents of the paper should be divided into equal chapters, paragraphs etc. in terms of their size. Instead, the size should be governed not so much by the subjective intention but rather by the degree of completeness or thoroughness in answering the questions raised in the chapter, paragraphs or sub-paragraphs of the paper.

1.5. Conclusions

In the conclusions to the dissertation paper it is demonstrated based on the results (the thesis statements as formulated in the introduction and submitted for the defense procedure that the research goal has been accomplished and the answer to the main question has been found, that is the main result of the research ensues from the intermediate results. The main result must indeed be deducible from the intermediate questions and other premises, accepted in the paper. As a rule

In the conclusions, the major focus should be on the issues left by the author outside the dissertation thesis and the direction that the further research should take, as well as the reason why the further research should be required.

From the requirements to the main structural components of the paper (introduction, body text and conclusions) it can be clearly seen that all the components should be interrelated and adjusted to each other. In the system of the inter-linkages among the components of the paper the key factor will be the main result of the research. Hence, without taking into consideration the main result of the research, the decision concerning the appropriateness of the choice of the title, the formation of the subject of the research, the setting of the goals, constructing the contents and choice of the research methods cannot be made.

1.6. References

The list of the contributing information sources would be practicable to divide into the following sections:

1. Laws and regulations. To be listed as follows: UN law, international legal enactments and laws, regulations of EC and other international entities, Satversme (Constitution of Latvia), laws and regulations of Latvia, secondary legislation of Latvia in hierarchy order and laws and regulations of other states.

2. Specialist literature in the language of the paper (monographs, publications in collections of research papers, academic proceedings, proceedings of higher education institutes, publications in magazines and other periodicals, textbooks and manuals).

3. Specialist literature in other languages

4. The Internet information sources.

5. Practical materials, comprising both those published in specialists editions and yet unpublished.

The group “Specialist literature” comprises all the monographs, publications in collections of research papers, academic proceedings, and proceedings of higher education institutes, publications in magazines and other periodicals, and educational materials on the subject used as linked to the research. All the sources of the group are given in the alphabetical order.

The sources of the group “Laws and regulations” are given in the following order:

UN law and laws of other international entities, Constitution of Latvia, other laws and regulations of Latvia, secondary legislation of Latvia (in hierarchy order), laws and regulations of other states. At that, besides the titles of the documents the title and other details of the edition, in which the piece of legislation appears, must be indicated.

The materials of practice comprise the practice published in specialist editions, as well as unpublished practice. When referring to the unpublished practice the number and the case name should be indicated (file or item number) as well as the storage data.

The list of the specialist sources is an indispensable component of any qualification or research paper.

It should be understood, that in evaluation of the dissertation paper the quality and the length of the references list is one of the major criteria.

The quality of the list of specialist literature is determined by the presence of the major reference sources:

- 1) the foundational monographs acknowledged by the world academic community;
- 2) the publications of research centers holding advanced positions in the relevant research area;
- 3) the publications of the major acknowledged authorities in the research area;
- 4) articles in specialist international magazines.

The length of the list of specialist literature is determined by:

- 1) the degree of the scientific novelty – the higher the degree of the scientific novelty, the shorter the list;
- 2) the type of the work – the number of the reference sources in a doctoral dissertation should be at least some 60-70 titles.

The list of the specialist literature should be arranged in a definite way: first the reference sources in the language of the paper, then the sources in other languages.

ATTENTION!

- 1. Only the reference sources referred to in the text of the paper can be included in the bibliographic references list.***
- 2. The reference sources in the section of the specialist literature must be arranged in alphabetic order (based on the first letter of the author's surname).***
- 3. Each section of the “Bibliographic references list” must have its own separate numbering.***

2. STRUCTURE AND CONTENTS OF THE INTRODUCTION

It may seem surprising to an aspiring researcher, but the introduction in qualification and research papers constitutes the most important part. If only because everyone will read the introduction. And yet, not only for that reason.

«The governing members of an academic institution, a professional, or a client will need just a little time to appreciate the quality of the research work. It is enough for them to read what is said about the research topicality, how the object, the subject, the goal and objectives of research are described, what constitutes the scientific and practical significance of the research. These parts allow getting the general idea concerning the research paper and appreciate the level of the scientific competence of the author. Correlating those with the conclusions the logic and completeness of the research can be readily evaluated». (Добренъков В.И., Осипова Н.Г., 2009, с. 86).

The structure of the introduction is invariant relative to the topic and the content of the dissertation paper and comprises the following minimum of the indispensable components the volumes of which could be approximately as follows:

1. description of topicality and potential novelty of the research theme 1-1,5 pages;
2. extent of previous research– 1-3 pages;
3. the theoretical framework and the methodology of the research– 1-1,5 pages;
4. description of the object of research– 2-3 expanded sentences;
5. description of the subject of research– 2-3 expanded sentences;
6. setting the goal and objectives of the research– listing;
7. research problem statement, statement of the research tasks and subtasks– listing;
8. writing a research hypothesis– several sentences;
9. выбор и описание методов исследования – listing;
- 10.description of the main research results as the key notes offered for the oral defense – 1-1,5 pages;
- 11.provision of a rationale for the research results topicality – several expanded sentences;
- 12.provision of a rationale for the object, subject, goal and objectives, methods and/or results of the research novelty– several paragraphs;
- 13.scientific and/or practical significance of the research – several paragraphs;

description of the results evaluation - several paragraphs.

The size of the *introduction* differs according to particular character of the research area and the topic of the specific dissertation paper, but usually does not exceed 30 000 characters (i.e. some 16-17 pages of printed text).

2.1. Topicality and novelty of the research theme

The topicality of the dissertation thesis is understood as its social significance, i.e. its “usefulness” for somebody apart from the author himself/herself.

The novelty of the dissertation thesis is understood as absence of publications on the matter in the world scientific literature.

A topical theme can be not a new one; similarly, a new theme is not always topical. In an intellectual resource - constrained environment, the contemporary academic community tend not to consider the novelty of the problem as ample grounds for utilization of research facilities and resources for finding a solution for that without justification of its social significance...

In this part of the paper references would be desirable to official documents, statements, speeches in which the theme of the paper is described as a topical and/or novel one and a need for scientific research is pronounced. At the end of this part the author must arrive to a well-grounded conclusion that in order to find a solution for the topical and/or novel problem as described above a dedicated research is required which eventually constitutes the theme of the dissertation thesis offered by the author.

*« ... now we are getting on to the most complicated and delicate issue – «Scientific novelty of the research»... And here two bad pieces of news are in store for us. The first one is – **everyone reads the paragraphs of scientific novelty**, even those who did not take the pains just to skim the text of the extended abstract of the dissertation (let alone to read the hefty „brick” of the dissertation paper). Further still, just having read the paragraphs they will start finding fault with them. The second bad one – **such a thing as a good scientific novelty statement virtually does not exist** , at least, when it comes to the economic and social research. The fundamental reason is that the novelty in the required sense of the word cannot in principle be found in social research, if we are not considering procurement of some new factual information (though nobody seems to think so). Besides, social*

research is evaluated not for the novelty, but primarily based on the general level of the professional culture as demonstrated ... Here two core requirements should be met. **The first one:** one should try and phrase the „novelty” paragraphs more precisely, while exposing the content of the proposed statements. To achieve this in a couple of sentences is quite a challenging task. That is why the greater part of the dissertation authors settle for indefinite phrases with obvious reference to the text of the paper. Most frequently they would write: «A model of development is proposed ...» or «The major factors have been looked into ...» The kind of the wording giving no idea about what exactly has been done is good for nothing, and can give rise to unfavorable though justified criticism and disgruntled questions. Instead, the essence of the model should be explained, its particular characteristics denominated, while the above major factors should be listed in the very least. **The second one:** one should be more humble. It isn't that easy either. On the one hand, such words as „for the first time” and „we have discovered” should be used with the utmost care since as we have already mentioned, in social research to “discover” anything, all the more „for the first time” is quite problematic. Thus, for any somewhat knowledgeable person it will be no trouble “to put us back on our heels”. While, on the other hand, immodesty is required from us, as by formal pressure put on us we are compelled to answer the question about what “novel” we are actually have to offer ...» (В.В. Радаев. Как организовать и представить исследовательский проект)

2.3.Extent of previous research

In this part of the introduction it is necessary to give a sufficiently complete and thorough though a concise review of the scholarly literature and other sources available on the theme of the dissertation paper.

Note of warning! It should be kept in mind that the scientific knowledge accumulated by the mankind is stored not only in the language of the author of the dissertation, but in many other languages as well. The basic mass of the scientific knowledge is stored in the major world languages. In the same way that up to the beginning of the 19th century Latin was the language of education and science, the contemporary science increasingly show tendency to using the English language. Therefore, irrespective of the country and the language in which the doctoral dissertation is written, the review of the English sources is a must.

As a rule, a concise literature review is carried out eventually leading to the conclusion that the theme of the dissertation has not been explored (or has been only partially explored, or has been covered from a different aspect) and therefore further research is required.

It should be noted that exactly here the author must demonstrate good knowledge of the scientific literature available on the topic including: 1) seminal works in the area; 2) contemporary research of national and international researchers; 3) most recent publications on all the aspects of the range of problems.

Important!

When for each part of the paper the appropriate references to the specific scientific literature are provided it serves the proof of the competence and conscientiousness of the researcher.

This part of the paper usually ends with a conclusion that the part of the entire problem that constitutes the theme of the present research has not been sufficiently covered and explored in specialist literature. Furthermore, frequently the author can rightfully argue that the understanding of matter point of the problem as well as the solutions offered is highly questionable and inconsistent.

2.3. Theoretical and methodological framework of research

This part of the introduction allows the reviewers of the dissertation paper and the examination panel to evaluate the level of scientific competence of the dissertation author all too well. Science is a specific form of cognition and knowledge of the world distinctive in that it strives to describe the objects, phenomena and processes of the reality in the way they are in themselves “putting outside the brackets” what the contribution of the human mentality.

There are various methodologies of description of the world yielding diverse results when applied to exploration of nature, society, the human being and the cognitive process itself. Thus, in natural science the hypothetical-deductive method is prevailing. At the same time, methodological pluralism is still prevailing in social and liberal arts areas – various researchers, studying one and the same social and humanitarian issues would apply varying methodologies. With the purpose of providing orientation for the authors of dissertation papers we will make an inventory of the major methodological approaches (for further information see В.Никифоров. Логика и методология научных исследований. Рига, 2005. с.59-73).

The major methodological conceptions

- 1. Hypothetico-deductive methodology**
- 2. The methodology of logical positivism**
- 3. The methodology of critical rationalism**
- 4. Thomas Kuhn's methodology of paradigm**
- 5. The methodology of scientific research programmes of Imre Lakatos**
- 6. Methodological anarchism of Paul Feyerabend**
- 7. Methodological conception of post-non-classical science of Vyacheslav Stepin**

In contemporary socio-humanistic cognition there is a range of methodological approaches (those already mentioned above and more). However, virtually all the existing methodologies were developed as reflections on natural-science process of cognition, i.e. as the technologies pertinent to exclusively one single type of activity, and namely to the natural-science cognition. For this reason the existing methodological conceptions fail to achieve optimum effect when applied to the area of socio-humanistic cognition. Social sciences and the humanities unlike the natural science describe and explain the phenomena, having „double” determination, i.e. the present is determined not only by the past, but also by the ideas of a subject thinking about his future, the above subject being the object of the socio-humanistic research. It appears, that this constitutes the major conceptual difference of social and humanistic cognition from the natural-science cognition.

Methodology as the theory of the methods rationalization and optimization of activity

As a comprehensive theoretical and methodological framework for any social and humanitarian research, an approach to methodology as a theory of rationalization and optimization methods of all types of human activities developed by one of the authors is offered. (for further information see Никифоров В.Е. Проблемная ситуация и проблема: генезис, структура, функции. Рига, 1988. - 185 с.).

Within the proposed methodological conception the subject of the methodological analysis is not the rationality of its **objectives** (this is axiological problem), but the rationality of actions to achieve the stated objective. In such a case, also the actions pointed towards irrational objectives can be rational and vice versa. The main criterion of rationality of the action will be the extent to which the action contributes to the achievement of the objective.

The issue concerning the rationalization scheme of the component activities involved in rationalization is crucial for the methodological analysis. The review of the rationalization procedures in various types of activities shows that in order to implement rationalization of any type of activity the following parameters of component actions must be in place: 1. normality - as the actions being in keeping with the objective laws, “laws” of nature; 2. purposefulness – orientation of the action towards the objective of the activity even if the program changes; 3. relevance – the action is consistent with the purpose of the activity irrespective of the changes in external conditions of implementation; 4. efficiency is understood as the contribution (usefulness) of the action towards the achievement of the objective without taking into account the losses and the gains that cannot be foreseen before the actions start. Therefore:

Rationality = normality + purposefulness + relevance + efficiency
--

This methodological conception stipulates the normality of evaluation of every component of the process as well as the evaluation of the process in whole. Various types of activities draw on different paradigms of rationality, consequently the rationality criteria also differ. However, the forms of all the diverse criteria are rather small in number. Those are the norms, standards and ideals of the corresponding types of activities. Thus, in the methodology of scientific cognition there is a classic approach to evaluate rationality: the actual cognitive activity (or its reconstruction) is compared to some standard concept of rationality which allows in the end to carry out the evaluation of the degree of rationality of the particular cognitive activity.

In non-cognitive types of activities the normative approach to evaluate rationality can be implemented through the use of certain norms and ideals, conveying the standards of the corresponding activities. The standards are the materialized views of various (economic, social, legal, ethnic and other) norms, while the ideals, being kinds of norms are the immaterial expression of norms.

Within the frameworks of this methodological conception, the norms, standards, and ideals are presented as methodological rules which are applied to bring about the rationalization of the activity without looking repeatedly into the nature of rationality and its criteria.

Inasmuch as every activity is a series of actions, the rationalization of activity will necessitate its further optimization.

O p t i m i z a t i o n – is the process of election of the optimal (regarding the particular objective and under the given conditions and limitations) series of steps from a range of possible and reasonable actions.

Optimization is similar to rationalization, and is applied based on the criteria, in this case, the optimality criteria, which criteria can vary, as maximum economic efficiency, minimum material expenditures, time expenditure and other can come to the front. It should be noted, that the criteria of rationality and optimality, as well as the procedures themselves differ by content. It can be explained like this: the criteria of rationality are based on the objectives of the activity, while the criteria of optimality are determined by the factors external both to the process of activity itself and procedures of the activity.

Let us explain this through a simple example taken from daily activities. We have to boil some water. Achievement of this objective will require the following actions: a vessel to be filled with water, the heater to be turned on, the water to be heated. In this case the procedure of election of rational actions is so trivial that it is carried out «automatically» and simply does not require deliberate contemplation – the methodological reflection, similarly as does not require underlying rationale the following: from the point of view of the stated objective filling a vessel with water is a rational action while performing of an operatic aria – is not.

All the above actions are rational as they contribute towards the achievement of the objective of the activity, which constitutes the criteria of rationality. The question about the possible sequences in the series of actions just does not arise, as this is external as regards the procedure of rationalization

However, in order to understand that the above activity can be carried out through different sequences of component activities, certain reflexive attitude is already required. Furthermore, if optimization of the above activity is required and particular criteria of optimization are introduced (in all the cases different from the criteria of rationalization), then even applicable to such a trivial activity some (even though elementary) methodological analysis is required, which will make it clear that as regards such a criterion as time expenditure the following sequence of actions will be optimal: turning on the heater - filling the vessel with water – heating the water, while as regards energy saving: filling the vessel – turning on the heater –heating the water.

Thus the reflexive attitude to the activity finds its expression in evaluation of the rationality of the components of the activity and the optimality of their sequence, which in turn constitutes the object of the methodological analysis understood as rationalization and optimization of all types of activities. The proposed approach to the understanding of the content of the methodological analysis will allow making the methodological reflection one of the means of constructing of the theory and the methodology of the problem. Orientation of the

methodological analysis towards rationalization and optimization of the activities of the problem statement and problem analysis allowed us to elicit in concrete procedures of setting various problems those actions and operations, which are purposeful, useful and effective with regard to the aims of the corresponding activities and optimal under the given conditions and limitations, thereby creating a definite system of knowledge about the genesis, structure and functions of problems, which system made the basis of the methodology of survey of problematic situations and problem statement.

Further reading:

1. Никифоров В.Е. Понятийный аппарат проблемологии: основные понятия и процедуры //Глобальные проблемы мирового развития. Рига, 1981.
- 2.Никифоров В.Е. Проблемные ситуации в структуре человеческой деятельности // Сб.: Логико-методологические вопросы науки: практика, познание, истина. Рига: ЛГУ, 1985.
- 3.Никифоров В.Е. Методологические основы коллективной мыследеятельности: опыт, проблемы, перспективы. Рига, 1987.
- 4.Никифоров В.Е. Методологический анализ: специфика и перспективы. Социально - филос. проблемы научно-технического процесса. М., 1987
- 5.Никифоров В.Е. Методология проблем: Основные понятия и процедуры //International Congress of Logic, methodology and philosophy of Science. Abstract. Vol. 4. М., 1987.
- 6.Никифоров В.Е. Проблемная ситуация и проблема: генезис, структура, функции. Изд. 3- ое, переработ. и дополн. Рига, 2002. -264 с.

2.4 Description of the conceptual framework.

Thesis research must comprise a system of substantial and definitive arguments. For this end a general system of initial concepts must be delineated. Such a general system presets the aspects of presentation of the research object and the plan of how the research subject will be looked into. In constructing the general system of the initial concepts the following requirements must be observed.

1. The initial (basic) concepts of the research thesis must reflect the most essential objects, processes, phenomena and laws in the research area.

2. All the initial (basic) concept must have explicit and definitive definitions. When borrowing definitions a clear reference to the source must be given. In case several definitions of one and the same concept are found in research literature choice reasons should be given why one of them is chosen. When a new concept is introduced reasons should be given why it is needed.
3. Definitions used for the first time must not be constructed at random but the logical and methodological requirements applicable to definitions in research discipline are to be observed, and namely: 1) the ontological basis of the concept determined; 2) the concept integrated into sub-sumption relation with other concepts 3) the concept introduced is compared with other associated (of the same magnitude) concepts.
4. The initial concepts must allow for establishing direct connection of the definitions with the empirical reality. For this end the initial concepts must be defined ostensively, i.e. through pointing out the objects representing the concept.
5. The conceptual framework, used in the research thesis must be an open system, allowing for constructing and introducing new concepts, as the case may require.

RESEARCH THESIS IS RESEARCH CARRIED OUT WITHIN A CERTAIN AREA AND A QUALIFICATION WORK BASED ON WHICH A PROFESSIONAL QUALIFICATION IS AWARDED. THEREFORE, THE CONCEPTUAL FRAMEWORK SHOULD BE RELEVANT TO THE RESEARCH DISCIPLINE WITHIN WHICH THESIS WILL BE DEFENDED AND THE QUALIFICATION WILL BE AWARDED.

THE AUTHORS OF THE RESEARCH THESIS, COMPRISING EXCLUSIVELY THE CONCEPTS OF COMMON LANGUAGE CAN ONLY SEEK TO BE AWARDED A QUALIFICATION OF A COMMON SENSE SPECIALIST.

2.5. Description of the object and subject of the research

The objects of scientific research in behavioral sciences are the processes or phenomena of human activity.

The object of research thesis is in a sense defined by its topic. The wording of the topic if clear in the sense of the content and meaning exposit its main idea and further specifies the research object delineating its scope, thus creating the circumstances for successful development and defense of the research thesis.

The object of research is an actual process or phenomenon existing in actual reality, having a total of their own qualities and entering quite a number of diverse relations and interactions with other processes and phenomena. It stands to reason that to survey the object as such with all the diversity of its qualities and relation

with other objects in one particular research thesis is virtually impossible. Therefore, the author of the research thesis should deliberately and on reasonable grounds put aside the qualities and relations of the research object, which are unessential as regards the goals of the research. The description of the research object of the research thesis is exactly the description and the substantiation of the process of such abstracting.

The objects of the research theses devoted to social and humanitarian topics are the specific processes of human activity. However, in the course of any given research the object is not studied in its entirety and comprehensiveness, instead, only a finite number of its qualities and relations are studied. In carrying out the research the object of research is described through the means of the conceptual framework of a given research discipline. Thus, the process of a thesis defense can be described through the means of conceptual framework of **management science** (such as goal, resources, external environment, possibilities and limitations, expert estimations, performance, checking operation and other); **economics** (demand, expenses, actual costs, investments, liquidity, cost and other); or **psychology** (affect, adaptation, apperception, imagination, patience, interest, interference, motives, skills and other). Resulting from representing and describing the object of research through the conceptual means of any given scientific discipline a corresponding **subject** of research is formed. Thus, one and the same process of human activity, and namely, the research thesis defense, can feature as different subjects of research in a range of studies.

The subject of research is a mental construct, reflecting the aspect of research which the cognizer (researcher) making use of the conceptual framework considers the most significant as regards the cognition objective.

One and the same object of research through the use of the conceptual framework pertaining to different disciplines will turn into different subjects of research. For example, reading a lecture as a process of human activity can make a research subject of the area of economics, law, methodology or other field.

If the description of the object of research is the substantiation and description of **the process** of abstracting from unsubstantial qualities and relations of the processes and phenomena in question as regards the cognitive objectives, then the description of the research subject must constitute the description of the result of such abstracting.

Definition and description of the research subject in a way determines and formularizes the goal of the research.

2.6. The research goal in dissertation thesis

The goal of the research thesis as a qualification work consists of a demonstrative presentation carried out by the author and proving that he possesses the necessary academic and professional knowledge, skills and abilities to conduct by scientific means the analysis of problems and tasks existing or potential that may arise in the researcher's professional field.

The goal of the research thesis as a scientific research consists of surveying a certain object (a system of objects) with the help of definite cognitive means (methods of research) with the aim of obtaining new knowledge. From the above it immediately follows, that the goal of the research is determined by its result. For example, the main result of this paper will be the methodological requirements and recommendations of such kinds: requirements concerning the structure of the analysis of problem situations and the procedure of the problem statement; the requirements concerning the content and structure of the qualification and research papers, recommendations regarding optimization of information search. Therefore, the goal of this paper was formulated accordingly. The wording of the goal, on the one hand corresponds with the title of the paper (in the sense that the goal of the paper consists of the reduction of the core question reflected in the title), on the other hand it corresponds with the core result of this paper(as it points out the questions the answers to which will enable getting the answer to the core question.

Based on the above, some rather general methodological requirement can be formulated concerning setting the goal of the research: the goal of the research should be the reduction of the core question towards the enabling questions, the answers to which will provide the possibility to get the answer to the core question.

The goal of research must consist of getting certain results, not pointing out any research area. In other words, it is necessary to formulate the statements, which must be substantiated as the research result, and not something that the author is intending to research. It follows hence the some phrasing defining the research goals can be clumsy such as “ To research this and that..”, “To study this and this” and the like. The examination panel during the thesis defense is primarily interested in the results that the researches intends to receive. Therefore, the research goal should point to the results that will be presented to the reader and not to the area in which the author will be conducting the research, though the latter must also be described explicitly.

The phrasing of a research goal illustrated by an example.

The goal of the research is that what the researcher intends as the result of the

research. As discussed earlier, research thesis must be both research and qualification work at the same time. Therefore, already at the stage of formulating the research goal the author should foresee the possibility to demonstrate his scientific, professional and methodological qualification.

Let us consider the wording of the object, the subject and the goals of research as illustrated by the example of the diploma master thesis accomplished by one of the authors of these Guidelines for the topic “Regulatory matters in lawmaking in the field of higher education in Latvia, Lithuania and Estonia.”

«The object of the research is the lawmaking activities in the field of higher education in the Baltic States. Lawmaking activities are considered based on their main results, and namely the laws regulating higher education as passed by the Parliaments of the Baltic States.

«The subject of the research is the regulatory matters and the regulatory processes relating to lawmaking ...»

«The subject of the research is the regulatory matters and the regulatory processes relating to lawmaking ...»

«The goal of the research consists of revealing, describing and analyzing the regulatory issues in lawmaking in higher education both potentially possible and currently functioning in the Baltic States.»

(Никифоров Н.В. Регулятивы правотворческой деятельности Латвийской, Литовской и Эстонской республик в сфере высшего образования. Магистерская работа. Рига, БМА, 2007 с. 13-14).

2.7. Proposition of the hypothesis

The hypothesis in socio-humanistic research is a scientifically grounded proposal concerning the nature, the structure, and the functions of the social objects, phenomena and processes.

In formulating the hypothesis the researcher is speculating about how s/he is going to achieve the desired goal. The scientifically-grounded proposition helps the author study purposefully various objects, phenomena and processes in order to reveal the data that will either prove or disprove the proposal. The scientific inquiry if based on the hypothetical supposition will find the goal and structural sequence thus becoming much more effectual.

The proposed hypothesis must be evaluated against the following: 1) correspondence of the content of the hypothesis to the content of the research problem as stated; 2) correspondence (absence of contradictions) of the proposed hypothesis to the currently available authentic knowledge for the topic; 3) verifiability of the proposed hypothesis, i.e. availability of the procedure by which the content of the hypothetical arguments can be collated against the empirical data or true theoretical statements.

2.8. Problem statement

A problem as an initial form of any human activity is a certain sum of arguments. The object of the arguments is in general practical or theoretical activity of a human being linked to the necessity of obtaining new knowledge.

The notion that genetically precedes the notion of the problem is the problematic situation.

A problematic situation is the contradiction arising in the course of practical or mental activity between a certain social need and the means to satisfy the need.

No problematic situations exist outside human activity. A human being exploiting nature unavoidably juxtaposes own practical activity to the naturally occurring „activity» of nature, thus creating problematic situations

The core of any problematic situation is the contradiction between some need and the means available for its appropriate satisfaction.

In the most general case, four types of relations can occur based on the contradictions between the needs and the means of satisfaction:

1. there is a need, however there is no means to satisfy it;
2. there is a need and there is the means to satisfy it, however the means are insufficient in some respect (amount, cost, quality etc.);
3. the means to satisfy the need are surplus with respect to the need;
4. there is no need, though there is the means (actual or potential) to satisfy the need appropriately

It should be noted that in the latter case we are witnessing not the absence of need but the absence of the awareness of the need. For example, such natural human needs as the need of exercise, the oxygen need, the gravitation need are often not realised at the level of everyday awareness by reason of their prompt and constant satisfaction.

To reveal and recognize the needs a cognizing subject is required, while at the same time the needs are objective both in respect to the origin and to their nature, arising from natural reasons and economic relations prevailing in society. This should be taken into account when classifying problematic situations with respect to the proportion of the needs and the means of satisfaction they avail.

It appears that the classification of the kind can look s follows:

Type of problematic situation	Need		Means of satisfaction	
	Known to others	Known to the researcher	Known to others	Known to the researcher
1	+	+	+	-
2	+	+	-	-
3	+	-	+	-
4	+		-	-

Problem as a reflection of a problematic situation becomes a form of organization of activity and comprises a system of statements relating to the problematic situation. However, one and the same situation can be perceived differently by different researchers. In other words, different problems can be stated based on one and the same problematic situation. For example, a problematic situation linked to energetics can result in 1) setting up a problem of finding new energy resources and increasing power capacities and 2) the problem of power saving and efficient use of the available power capacities.

A problem is the initial form of organization of knowledge constituting a system of statements relating to the problematic situation and a total of issues which are necessary to solve and is possible to solve by obtaining new knowledge in order to provide a solution for the problem.

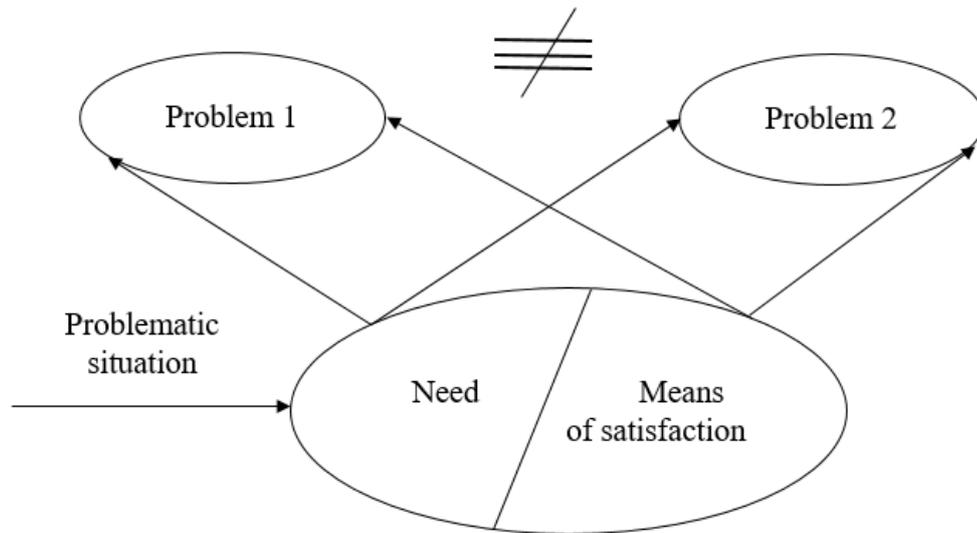
As the means to describe such situations a notion of problem domain seen as a set of non-identical description of contradictions between the needs and the means to satisfy those can serve.

In the course of human activity aimed at achievement of a goal not one but a host of contradictions will arise between the needs and the means of satisfaction, which we offer to record through the notion of **problematic situation environment**.

Defining a problem

However, one and the same problematic situation can be understood differently by different persons involved into problem setting. In other words, based on one and the same problematic situation different problems can be defined. For example, a problematic situation linked to energetics can result in posing a

problem of finding of new energy resources and a problem of power saving and efficient use of the available power capacities



Defining of two non- identical problems based on one problematic situation.

Construction of the theoretical scheme of a problem

Construction of the theoretical scheme of a problem takes place in the course of interaction of the empirical description of the problematic situation with the corresponding worldview in the mind of the person setting up the problem. The initial scheme of the problem is formed as some hypothetical proposition appearing as the result of projecting of the empirical description of the problematic situation on the worldview. It should be noted that various worldviews can be employed: concrete-scientific (such as physical), natural –scientific or general scientific.

Worldview. Worldview is understood as a system of true ideas about objective reality, obtained through scientific means at a specific historical stage of development. This definition is but a sketch; however it appears to suffice for our purposes.

The theoretical scheme of a problem emerges as a hypothetical proposition about the nature of the problematic situation and at a later stage must get its substantiation. The proof that the theoretical scheme reflects the essence of the problematic situation can be provided by means of successive concretization or introduction of the earlier eliminated parameters of the problematic situation. Concretization of the system of ideal constructs of this kind allows us to bring the

theoretical scheme of the problem more in line with the empirical description of the problematic situation making obvious either their congruence or the absence of that.

The worldview used in building the theoretical scheme of the problem with respect to the empirical description of the problematic situation takes on the functions of organization, selection and evaluation of the empirical data. This is carried out from the perspective of value of the theoretical interpretation of the empirical data within the worldview elected. The worldview sets and substantiates a certain snapshot (perspective) as regards the objectively existing problematic situation.

The role of the worldview in setting the problem is so essential that a professional researcher would maintain the worldview even under the pressure of the empirical data. Rejection from the rational and reasonable conservatism of the kind will ever result in misunderstandings and absurdities.

In the context of contemporary fascination with various irrational phenomena (parapsychology, extrasensory perception, teleportation and other) there are important and responsible decisions and the scientific worldview serves the substantiation for those

Relative to the empirical description of the problematic situation the worldview serves a kind of means to delineate the problematic area as such and the regular part of the description, as the worldview being the knowledge of the reality based on this knowledge allows us to reveal the unknown thus fulfilling the function of differentiation. In respect with the description of the problematic situation the worldview sets the system of the methods and the form to organize the empirical data about the problematic situation, the selection criteria and the evaluation criteria for the empirical data obtained in the course of further studying of the problematic situation with the purpose of elaboration of the theoretical scheme of the problem.

Outside of whatever worldview the empirical description of the problematic situation cannot have a theoretical interpretation and, therefore the problems cannot be set. As a rule, the empirical descriptions of problematic situations performed by means of everyday language receive their theoretical interpretation within the framework of specialized scientific worldviews. Though far from always within that framework can a theoretical scheme of problem be built resulting in a correct problem statement and a subsequent satisfactory solution. A correct statement and effectual solution of the problem are only possible in case if the worldview employed represents a system of true ideas of the world. Otherwise,

the obtained results will be erroneous, though they can look quite credible. Thus, for example, Aristotle within the framework of his contemplative perception of the world considered free falling with the same speed of bodies having different masses so absurd that from the assumption about the possibility of equal velocity free fall of bodies in vacuum, made a conclusion about nonexistence of vacuum

The theoretical scheme of the problem being a generalized reflection of a problematic situation allows moving beyond the limits of the situation, i.e. it presents in itself a fixation of not only the problematic situation in question and its specific types, but also for other similar problematic situations.

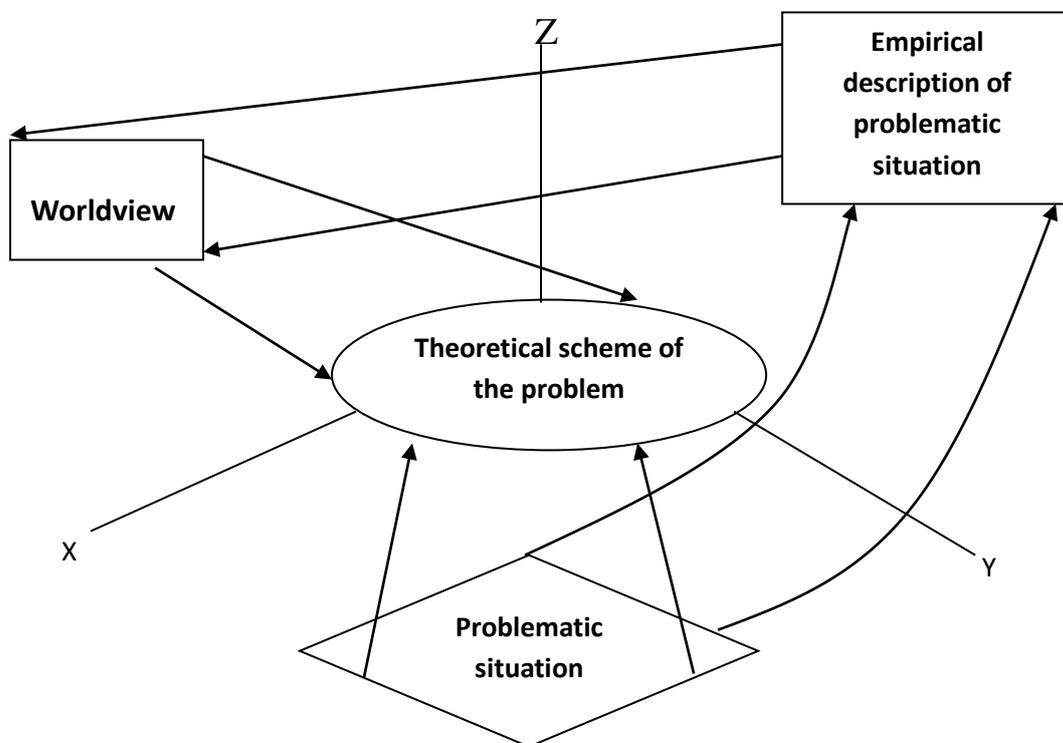


Fig. Construction of the theoretical scheme of a problem

Research problem statement

Problem statement is the final step in problem setting. Therefore, it requires from the researcher to carry out the reconstruction of all the preceding genesis of the problem, revisiting all the preceding steps from the fixation of the problematic situation till the formation of the theoretical scheme of the problem, taking into account all the factors affecting the final result – the problem statement.

First of all in the process of the problem statement the idea concerning the problematic situation should be clarified and concretized. Such clarification differ from the initial empirical description of the problematic situation in that it is

carried out at the theoretical level by means of relating already developed theoretical scheme of the problem to the objectively existing problematic situation. A comparative analysis of the structure of the theoretical scheme of the problem with the structure of the problematic situation, thus they are “matched” to each other. In the course of such matching the extent of the correspondence and completeness of the presentation of the problematic situation in the problem is clarified, perceptually-based representations are counterchecked through conceptual means; the accuracy of rendering the sense data into knowledge is reviewed. The core of the problematic situation is a contradiction. However, actual problematic situations arising in the process of human activity constitute as a rule ensembles of contradictions. To establish the hierarchy thereof and to reveal the core contradiction sometimes can only be accomplished at the level of the theoretical scheme of the problem, and not at the level of its empirical description. Exactly this, primarily, is meant under the clarification of the ideas about the problematic situation. It happens that in the initial empirical description of the problematic situation only one of the opposites is fixated. For example, the problematic situation in energetics as a contradiction between the needs for the energy and the means to receive that can be seen only as the reason for finding new methods of generating the energy without taking into account the possibility to rationalize the needs for the energy. One-sidedness of the kind will also become obvious in the process of the theoretical concretization of the ideas about the problematic situation.

Clarifying the ideas concerning the problematic situation it is important not only to find out how precisely the theoretical scheme represents the problematic situation, but also to reveal which of the parameters of the problematic situation are constant against the theoretical scheme of the problem. The invariants of the kind must be reflected in the theoretical scheme of the problem, otherwise the theoretical scheme will not reflect the essential characteristics of the problematic situation.

The empirical description of the problematic situation always, if implicitly, comprises the goals and intentions of the cognizing subject. Definitely, the goals and the intentions of the cognizing subject are determined by practical needs. Practical activity not only generates problematic situations evaluating their significance, but also defines the extent to which the subject can integrate into the problematic situation. In the problem statement it is necessary to reveal the goal and objectives present in the empirical description of the problematic situation as those also determined to some extent what parameters of the problematic situation were defined as essential and consequently were reflected in the description of the problematic situation, and what parameters were discarded as unessential. Reviewing of such evaluations in the process of arriving to the problem statement should also be carried out taking into account the ideas about the problematic situation at the level of the theoretical scheme of the problem.

The major factors determining the process of the problem statement are the following: the methodological guidelines, values, the style of thought, the worldview, the conceptual framework, the language used.

2.9. Goals and sub-goals of the research

Irrespective of the themes of the research theses, commonly, the goals are defined as follows:

- 1) to bring to light and further explicate the nature, the essence, the structure and functions of the object under study;
- 2) to provide the description of the subject of the research resulting from the process of abstracting from specific characteristics and relations of the object;
- 3) to determine the methods and means to research the subject.

Formulation of the actual research goals and subgoals is determined by the topic of the research thesis, the specificity of the object and the subject of the research and the research orientation. As a rule, this will be the most creative part of the research thesis and its quality will be linked to the preparedness and the talents of the author. In full measure it is also related to the procedure of “splitting” the goals into subgoals (the methodology as described above).

It is important to bear in mind:

The hierarchy of the goals and subgoals determine (“set”) the structure of the main part of the research thesis.

(Further reading: В.Никифоров. Анализ проблемных ситуаций и методы решения проблем. Рига,2008. -126 с., с.32-47).

2.10. Tools and methods of the research

The methods of scientific study applied in the research are determined by the nature of the objects under study (the character of the object kind of presets the methods of its effectual investigation), and, consequently also the research discipline where the research is conducted. Obviously, the study of the laws of the inorganic nature can and must be carried out by means of methods of physical science as an academic discipline, while the study of organic nature by means of the life science. As a rule, the more advanced in terms of theory the academic discipline is the broader is the arsenal of its methods. Thus, for example, the physics being at the forefront of the natural sciences in terms of theoretical advancement, has at its disposal hundreds of research methods, while geography up to now, in spite of its respectable age, being a descriptive science possesses quite a small selection of own specific research methods. The advancement of science and especially in the second half of the 20th century, has demonstrated that at times use of the methods of one academic discipline in relation to the objects of other

discipline can turn out to be quite effectual. A most demonstrative example is the use of the research methods of physics relative to the biological objects. It is exactly through this that for the recent 50 years the mankind has gained more new knowledge about the laws of life, than for the whole preceding period of the science development. It is a good thing to know in the first place for the authors of the doctoral theses aspiring for a considerable amount of innovation and intending to take on research as a professional occupation.

A method of scientific cognition is a knowingly and consistently applied approach to gain new knowledge about the objects, processes and phenomena of the material world, human perceptions and activity.

In methodology, the methods of scientific cognition are conventionally divided into general and specific.

The general methods of scientific cognition are applied in a wide range of sciences with very different objects..

The general methods of scientific cognition are subdivided into:

- 1) the methods of empirical study;
- 2) the methods of theoretical study;
- 3) the methods applied both at the empirical and theoretical levels.

Recommendation. *The researcher should not approach the selection and use of the research methods dogmatically, since even familiar methods if applied to new objects can result in gaining of new knowledge and vice versa.*

2.11. Description of the research results

In research theses as qualification papers the research results are formulated in the form of the statements proposed for the research thesis defense at a viva voce.

Special priority should be given to the statements proposed for the research thesis defense as the statements should not only be included into the text of the thesis (where they will be closely read by everyone), but also be voiced by the aspiring doctoral candidate in his presentation before the Examination Panel. The statements proposed for the research thesis defense will have more impact on the evaluation eventually arrived at by Examination Panel than any other part of the research thesis.

The statements proposed for the research thesis defense must meet the following requirements.

1. They must reflect the core results of the research thesis.
2. They must give the idea of the relevance of the dissertation thesis both as a

qualification work and scientific research.

3. The must demonstrate the scientific novelty of the theme, object, subject or results of the research.
4. They be clear, concise and to the point.

For a clearer picture of typical contents, structure and style of writing the statements proposed for the research thesis defense we will demonstrate as an example the statements from the doctoral dissertation of N. Nikiforov on the theme “Political aspects of the Bologna Process illustrated by the example of Latvia, Lithuania and Estonia”

«The statements proposed for the research thesis defense

1. The universal world processes such as globalization, regionalization, integration and localization are progressing dynamically in the area of higher education. At the close of the 20th and in the early 21st century the globalization trends in higher education are becoming relatively more balanced due to the increase in the integrative interaction among the national educational systems, most notably in Europe. At the same time, European experience has demonstrated that the goals of building of the European Higher Education Area are only achievable on condition that the diversity of the national cultural traditions is preserved, and the academic autonomy of universities is increased, with the universities becoming independent players in the global market of educational services..

2. The interplay of the global, regional, and local trends in the area of contemporary higher education is bringing about the higher education’s growing impact on the world politics. Simultaneously, international cooperation development in the activities of various educational actors comes with rivalry on the market of educational services, while the competitiveness of national educational systems importantly affects the status of the countries in world politics. Currently, many-sided regulation of higher education development is acquiring an increasingly important role. The Bologna Process as a designated project has provided principal conditions for European regional integration at the educational level, promoted the intensification of rapprochement of the European countries in social and cultural areas, has become an important component of cooperation among the EU states and the countries non-members.

3. National policy of the Baltic States aimed from the late 1980s to joining the European Union, was the mainspring of the reform in the system of higher

education. Presently, the main drivers for the state policy changes in the area of higher education come from the international institutions, such as UNESCO, Council of Europe, Bologna Process. Academic and scientific community of Latvia, Lithuania and Estonia while tolerant to the educational reforms were not the group actively promoting those.

4. Latvia, Lithuania and Estonia joining the Bologna Process was a politically important and timely step. At the same time, the reforms taking place in higher education brought into sharp focus quite a number of complex problems of the post-Soviet stage of development, such as cuts in budgetary allocations, unequal access to higher education due to its “commercialization”, decrease of the proportion and the quality of the fundamental academic disciplines on the professional training programs, state languages of the Baltic States dominance in the function of the languages of instruction, deterioration of pre-tertiary education.

5. Social, political and economic changes of the of the post-Soviet period have led to emergence of specific regional trends of social evolution in Latvia, Lithuania and Estonia, which in turn have determined the preeminently state-centered model of Bologna Process implementation in the Baltic states. Nevertheless, the role of the new actors, such as non-state higher education institutions, international study programs and foundations has been increasing over recent years.

6. The major results of the changes in the educational systems of the Baltic States having taken place in the context of joining the Bologna Process are as follows: the growth of the total number of students, a significant widening of the scope of the study programs and specialist fields, the prospective student opting for the training in the humanities, the emphasis on life-long learning. At the same time, due to a number of reasons some negative tendencies are seen such as: the share of the master and doctoral students diminishing, academic mobility increasingly transforming into immigration beyond the national borders.

7. The opportunities created by Bologna process appear to be used not nearly to the full in the Baltic States. The problem is particularly acute for the professional development of the staff members who ensure the operation of the higher school. Due to politically motivated restrictions on the use of foreign (first of all, Russian) languages the intellectual potential has diminished in all the spheres of activity in Latvia, Lithuania and Estonia which has taken an especially heavy toll on the higher education institutions and research institutions.

8. The local trends in the area of higher education of the Republic of Latvia mirror both the global and the regional peculiarities of the educational processes. The most critical ones are: the sharp increase of the number of students, the growth of the number of the higher education institutions including the non-state ones,

changes in sources of funding, deterioration of the requirements towards higher education training on the part of the students and the society. Dealing with these challenges requires qualitative development of the legislative and other national-level regulatory standards of the Latvian system of higher education taking into account participation experience of Latvia and the neighboring countries, as well as other European countries in the Bologna Process.”

(Nikiforov N.V. Political aspects of the Bologna Process illustrated by the example of Latvia, Lithuania and Estonia. Extended abstract of dissertation for the degree of Candidate of Political Sciences. Moscow: MGIMO, 2010. p.15-17).

2.12. Justification of the topicality of the research results

Topicality as social significance (significance for others) can characterize the theme of the research and the research results.

Justification of the topicality of the research results is an explanation of why the results are necessary for the prospective solution of some practical or theoretical problem. Bachelor diploma papers are the first scientific research efforts for their authors; some of them will be taken further in publications and Master thesis. Therefore it is desirable, in justification of the topicality of the research results of the Bachelor diploma paper to show their scientific significance for further research in the chosen, and, possibly, other areas of research.

An example of the justification of the results topicality in the research devoted to the mechanism of emergence of a problematic situation and the algorithm elaboration for the appropriate problem setting.

«Under the circumstances when the human activity acquires global character, understanding of the mechanism of emergence of a problematic situation and correct problem statement are the essential prerequisite of finding a rational and effectual solution, hence not all but only correctly set problems can be eventually solved. The importance of the appropriate understanding of the emerging problematic situation and well posed problem is essential for all the types of activity, though particularly for the complex ones, associated with frequent and radical innovations. The problem is the initial point of the cycle of cognition “problem - hypothesis –theory” through which the direct impact of all the types of human activities on the scientific cognition occurs. Presently, the scientific research is not practically effectual enough to rise to the interests of the rapidly advancing society. One of the reasons is commonly seen in a certain gap existing between the science topics and the actual practical problems. It appears that the

departure point for the situation is the contemporary science property of being able to only to set and offer solutions for well-structured problems, while the majority of industrial and social problems are poorly – structured. The inability to conduct research for poorly- structured problems results in the necessity to replace them for well-structured ones, therefore the real problems are reduced to solvable ones.

Никифоров В.Е. Проблемная ситуация и проблема: генезис, структура, функции. Рига, 2002. – 264 с. С.8-12).

2.13. Justification of the novelty of the object, subject, goals, methods and results of the research

New in the scientific research can become:

- 1) the theme of research;
- 2) the object of research;
- 3) the subject of research;
- 4) the methods research;;
- 5) the conceptual frame work;
- 6) science facts;
- 7) goal of research;
- 8) scientific problem;
- 9) the objective of research;
- 10) research methods;
- 11) research results.

As the matter stands, new research methodologies or new methods of scientific cognitions are extremely rare even in doctoral theses. Even in fundamental sciences new methodologies and new methods are developed much more seldom as compared to new scientific theories. Similarly, setting of a new scientific problem is also unlikely.

Novelty in research theses is mostly comes from setting new research goals and setting new objectives to be achieved to accomplish the desired goal. Setting of new goals in research as a rule results also in the statements of new problems, which in turn leads to obtaining new research results.

Much higher degree of scientific novelty will possess those research theses where the research subjects are new phenomena and processes. New research object will necessarily lead to a new research subject and any result of such study will be novel.

The instances of novelty listed above can be described through quite a range of different formulizations. However, care should be taken with the wording „for the first time” as one cannot be absolutely sure that every part of what has been produced by the author is in fact produced for the first time. With that it is necessary to create and define the elements of novelty in something which is done for the first time at least in some respect.

Thus the research lacking novel object, subject and goal but having resulted in a more detailed description of a known social phenomenon or process, even if already known scientific methods were used can still assert some originality.

2.14. Description of scientific merit and practical usefulness of research

Scientific merit of the research conducted consists of applicability of its main results in further elaboration of the themes or better understanding of its place in the system of scientific knowledge.

Practical usefulness of research is determined by the theoretical and actual data the research comprises, which data can be used to design and read specialized courses for various categories of learners. The factual material obtained can be used to prepare surveys, analytical essays, reports or accounts.

Practical usefulness of research can also consist of recommendations that can be used by various governmental or private institutions

2.15. Description of the research results evaluation

Evaluation of the research results regarding the main propositions and conclusions of the research thesis can take place in professional, scientific, pedagogical or public activities. For example, application of the research results can take place 1) in the study processes of the higher education institution, where the doctoral candidate is working; 2) in the course of introducing innovations in an organization or at an enterprise; 3) for professional development of the employees of an organization; 4) in conference or seminar reports; 5) in various publications; 6) for presentations etc.

3. THE METHODOLOGY OF PRODUCING THE BODY TEXT OF THE PAPER

3.1. The logic of presenting of the research results

Conducting research and producing the text of the dissertation paper necessitates use of such forms of thought as concepts, simple and complex arguments, deductive and inductive inferences, and analogical inferences. Logic as a science dealing with the forms of thought imposes certain requirements as regards handling the above forms irrespective of their content area and meaning, or, in other words, whatever we are researching or whatever we are writing about, we will, willing or not, use the logical forms of thought; and since this is unavoidable, it is necessary to do this knowingly and appropriately.

Definitions of the concepts used

Conceptual definition (definition) is a logical operation, which defines the content of the concept. To provide a conceptual definition means to point out the essential distinguishing characteristic of the objects that the concept represents.

There are the following kinds of the definitions of concepts: classical definition, real definition, genetic definition, nominal definition and others.

Classical definition of concepts – concepts are defined through the genus and species by means of putting the concept being defined under the umbrella of a broader (genetic) concept, while the essential distinguishing features are specified, enabling setting the object in question apart from other object belonging to the same genus. For example:” A square is rectangle with all the sides of equal length.”

Real definition of concepts is a kind of definition specifying the essential features (feature) of an object allowing us to separate the object being defined from the majority of similar objects. For example: «A human being is a thinking animal».

Genetic definition of concepts is a definition specifying the genesis of the object, the method of giving rise to the object, For example: «Knowledge is the result of cognition».

Nominal definition of concepts (Latin Nominos – name) is a definition which instead of describing the essential features of the object introduces a new term. For example: “The term “problemology” denotes the science dealing with the laws of emergence of problematic situations and the rules of appropriate problem setting”.

Any definition of whatever concept must be logically appropriate, what is achieved owing to observance of certain logical rules..

Necessity to observe the laws of logic

The text of the doctoral dissertation as scientific research must differ from any other text in the first place by its strict logic, i.e. all the laws and rules of logic must be observed. The illogicality of the narrative amounts to non-compliance with the law of logic: 1) law of identity; 2) law of noncontradiction; 3) tertium non datur and 4) law of sufficient reason.

Inferences as means to obtain new knowledge

Our sense perception is the primary source of our knowledge about the external world and about ourselves. Scientific instruments, used in empirical cognition are little more than “the amplifiers” of our senses, amplifying and broadening their range. However, having accumulated knowledge through the empirical research the cognizing subject gets an opportunity to deduce new knowledge from what is already available. Logical means of obtaining such deduced knowledge are the inferences (*discursus*), or the operation by means of which from a certain amount of the arguments given a different argument is deduced in a definite way related to the initial one. All the inferences can be divided into inductive, deductive and on the analogy.

3.2. Conclusiveness of the text of the research

Argument is a reasoning in the course of which and resulting from which the veracity of some statement is established and proved by means of other true argument related to it. By saying that the text of the dissertation is conclusive it is meant the text provides proofs for all the main arguments.

Every proof is invariant to its content, and has one and the same universal (logical) structure comprising the following indispensable components:

1. thesis of the argument – the statement the veracity of which we are setting on to prove;
2. reasoning of the proof – relating to the content of the thesis arguments earlier proved to be true, which are used to prove the veracity of the thesis;
3. arguments - facts, as veritable descriptions of events relating to the content of the thesis and used to prove the veracity of the thesis;
4. demonstration as the mechanism and the procedure of proceeding from the arguments to the thesis.

To prove means to provide the availability of all the above components and meet all the requirements relating to them.

Requirements towards the thesis of the argument

1. **The thesis of the argument** must be clear, concise and definite. No ambiguity can be allowed. For example, such a simple and clear, as it appears, thesis as: “One cannot break the laws” is an ambiguous one, as the word “laws” describes also the laws of nature, which cannot be breached in principle, as well as the judiciary acts, which are the rules transgressed by some time and again...

Any mistake in the choice of a term in the dissertation paper can result in ambiguity which will make your argument invalid. In the example above the ambiguity arises because the word “law” is commonly used relating to the legal regulatory matters, which are inherently rules

2. In the entire process of the argumentation the thesis must remain unchanged, i.e. during the entire process of argumentation one cannot move away from the initial statement of the thesis.

The review of the texts of the doctoral dissertation demonstrates at least three types of common nonobservance (unintentional mistake) of the requirements concerning the thesis remaining unchanged.

1. **Partial change substitution of the thesis (faulty generalization).** The initially stated thesis is clear, concise and definitive. However, in the process of the argumentation the arguments are given that do not prove the thesis in its full extent. For example, it is intended to prove that a cut down in budgetary expenditure will allow any state to overcome financial crisis. However, in order to demonstrate the trueness of the thesis a limited number of countries are considered with similar structure of the economy. Hence, not the entire initial thesis is proved to be true, but only part of it, i.e. we are witnessing a partial substitution of the thesis

2. **Full substitution of the thesis.** The initially stated thesis is clear, concise and definitive. In the process of the argumentation the arguments are given, which are true and have the evidentiary force. However, the arguments brought forward correspond to a different thesis which is seemingly akin to the thesis to be proved, but is different as regards its content. For example, we have to prove that the planet Earth is spherical in shape. Actual instances of the tours round the world are brought forward as proof. However, such facts of the round-the-world tours do not testify to the spherical shape of the Earth, but merely to the closed surface of it. If the planet Earth were of the shape of suitcase Magellan would be still able to sail around it. ..

3. **Loss of thesis.** The thesis having been stated the author goes over to another thesis directly or indirectly linked to the first one but different in principle; then the author goes over to the third instance and so forth.

Requirements towards the arguments used to prove the thesis

1. The arguments must correspond content-wise to the thesis to be proved, i.e. the arguments put forward must be the proof of the thesis in question to full its extent.
2. Only the proposition the veracity of which was proved earlier can be used as arguments, i.e. the arguments must be true assertions. The requirements relative the trueness of the arguments is based on the fact that they fulfill a function of the means of proof for the thesis. The nonobservance of the requirement can result in a number of mistakes. The first one is the so-called „bogus argument (fallacy)” or using as an argument a nonexistent fact, then, the use of a scientific hypothesis in the function of a proven theory, a reference to an event that in fact did not occur. The second fallacy is the “anticipatory reasoning” occurring when the validity of the argument has not been established yet but is only proposed or announced by an authority.
3. The arguments must be self-sufficient i.e. their validity has been proved independently from the thesis in question.
4. The arguments must be non-contradictory.
5. The arguments must be sufficient (satisfactory).

3.3. Language and style of the dissertation

Doctoral dissertation is a research paper and a qualification paper; therefore special attention should be paid to its language and style. The linguistic and stylistic culture of the dissertation papers allows us to get a clear idea of the general culture and professional qualification of the author.

The academic and logical style of the text is one of the most pronounced peculiarities of the written scientific language: the text comprises mostly arguments intended to prove the veracity of the propositions obtained as a result of studying a certain topical area

The text of the dissertation must be **cohesive, coherent and definitive** in terms of its meaning. The logical connection can be conveyed thorough specific syntactic means pointing out the progression of the idea elaboration (to start with, at first, subsequently, firstly, secondly etc.), contradictive relations (however, yet, meanwhile, whereas, nevertheless), causative-consecutive relations (therefore, for this reason, as a result, in accordance to, hereupon, likewise, furthermore), transition from one idea to the other (defore proceeding to..., let us address,, let us consider, having examined, let us turn to..., it is indispensable to dwell on the issue of, it is essential to consider..), closing remarks (to conclude, therefore, as a final comment, allow the above allows us to conclude...).

The purposiveness and rationality of the text

The emotive linguistic elements do not play a significant role in dissertation texts. The text of dissertation should primarily comprise accurate data and facts obtained as the result of the research. This in turn requires that special academic terminology should be used distinct from the terminology of vernacular language by a much higher degree of explicitness. Special terminology enable us in a short and concise form to offer extended definitions and descriptions of scientific facts, concepts, processes and phenomena. It should be born in mind that a scientific term is not a mere word, but the expression of the essence of the given phenomena. Consequently, the scientific terms and definitions should be elected with great care. Terminology borrowed from different fields cannot be randomly mixed in one text, since each science possesses its own inherent system of terminology.

The number of terms used in contemporary science significantly exceeds the number of words used in imaginative literature and vernacular speech.

The grammatical peculiarities specific for the scientific language also apply to linguistic and stylistic preparation of the text of dissertation. From the point of view of the morphology a significant number of abstract nouns are observed, as well as verbal nouns, (studying, analyzing, processing and other). The verbs and verbal forms have special functions in the text of a dissertation. **It should be kept in mind that the text of the dissertation is not a process of the research, but the presentation of the research results of the research already carried out.**

The syntax of the dissertation text should be noted for the strict logic consequentiality: separate sentences and the components of the composite syntactic total must be closely related; every successive component must flow out of proceeding and constitute the following link in the chain of the argumentation. The text of the dissertation bringing to light complex cause-and-effect relationship and containing complex argumentation necessitates the use of various types of composite sentences of with clear syntactic links.

In the scholarly texts complex sentence are prevailing rather than compound sentences. This can be explained by the fact that the subordinate structures convey causal, temporal, conditional, consecutive and other relation as well as by the fact that the separate parts in a complex sentence are closer interconnected compared to the parts of a compound sentence. Impersonal sentences and indefinite- personal sentences are used in the dissertations to describe facts, phenomena and processes.. Nominative sentences are used in the titles of the parts, chapters and paragraphs, as captions to figures, diagrams and illustrations.

Stylistic peculiarities. The neutrality (objectivity) of style appropriate to the specific character of scientific research should be the main stylistic feature of the text of the dissertation paper. Hence, parenthetical word and phrases specifying the degree of the validity of the statements should be used, such as: “of course, it goes without saying, indeed, as expected, probably” and others. An indispensable condition of the objectivity of the text are the references specifying the origin of the statement, giving the information about who exactly was the author of the idea or the statement.

3.4. of the research thesis text

Large texts and therefore also the dissertation papers should be structured at least in order to:

- bring out and record the main directions of the research;
- to ensure logical consecution of the text;
- to facilitate the comprehension of the text for the readers (the adviser, the reviewer, the members of the examination panel).

Adding **internal subheadings** is also a useful method. We are in no doubt, that even relatively short text of some ten pages by no means should be completely uninterrupted; say nothing of a more lengthy text. It means that an internal structure of the text should be formed reflecting the general logic of the text helping the reader to capture the content thereof

Besides the headings that separate parts of the text and are written as a separate line (see the example of this book) it is advisable to create internal subheading, which open a paragraph and are highlighted in bold. Not only the body text but also separate passages and sentences should be subdivided. The aim is to keep elephantine wordings to a minimum. Passages taking up the entire page and sentences ten lines long are inadmissible.

If we have read more than five pages and have not come across a single subheading it means that the text is not structured enough.

Other effectual tools are highlighting are in the text. Highlighting can be achieved through the use of fonts, formatting, bullets and numbering.

Highlighting through fonts (by means of bold type, italics or different font size), as well as underlining fragments of the text are important tools to prominently denote key words and sentences. With the help of contrasting fonts most frequently the essential terms, main definitions and conclusions, quotes from other texts, words and sentences translated from other languages are highlighted. Also, the titles of laws and regulations, the heading of the documents and foot notes within the text can be highlighted. At that, it is important to maintain consistence of style: having decided to highlight certain lexical or semantic units this must be carried out throughout the entire text. Contrasting fonts should not be used excessively or the highlighting will lose its point.

Apart form the fonts, **bullets and numbering**, should be used actively – lists with index numbers, bullets etc. This facilitates a clearer structuring of the text, make it easier to read and make it look more accomplished. A research thesis is an analytical text, and the amount of numberings in it cannot be excessive.

Highlighting can be achieved through use of different formats: the sizes of the fonts used, different, the changes in the spacing, alignment and layout. Most frequently different formats are used to highlight the borrowings from other texts, giving examples, underscoring references and others.

3.5. The methodology of parallel writing of the text of the dissertation paper

The traditional consecutive approach to writing research theses, such as the first chapter – the second chapter – the third chapter – introduction, which is used by many aspiring candidates, is not devoid of quite a number of serious disadvantages. The most significant ones are:

- 1) lack of the general design and plan of the research thesis from the beginning;
- 2) the research thesis in the role of the description of the findings of the research carried out previously is substituted by the consecutive theorizing in the process of writing of the text of the dissertation based on the available literature;
- 3) the content of the paper being determined by the information search.

The above disadvantages as well as some other ones inherent in consecutive approach to writing of the research thesis will frequently result in such negative consequences as:

- 1) the thesis containing materials not directly relevant to the topic of research;
- 2) lack of factual data to support some of the propositions submitted for the thesis defense;

3) the volumes of the separate parts of the paper do not correspond to the content thereof as well as some other drawbacks that significantly degrade the quality of the research thesis.

In order to avoid the above drawback the authors suggest the approach of parallel writing of the text to be used for the research thesis preparation, which in essence means that the text is not written in a consecutive manner from one chapter to the other but all the parts of the text are addressed simultaneously all at once.

(Никифоров В.Е., Никифоров Н.В. Бакалаврские дипломные работы: Требования к содержанию и оформлению; рекомендации по подготовке и защите. Рига, 2011. - 172 с.; Никифоров В.Е., Никифоров Н.В. Докторские диссертационные работы: содержание, структура и методика подготовки. Рига, 2013 - 94 с.).

It can be illustrated for more visibility as follows.

Parallel strategy in preparation of a diploma paper

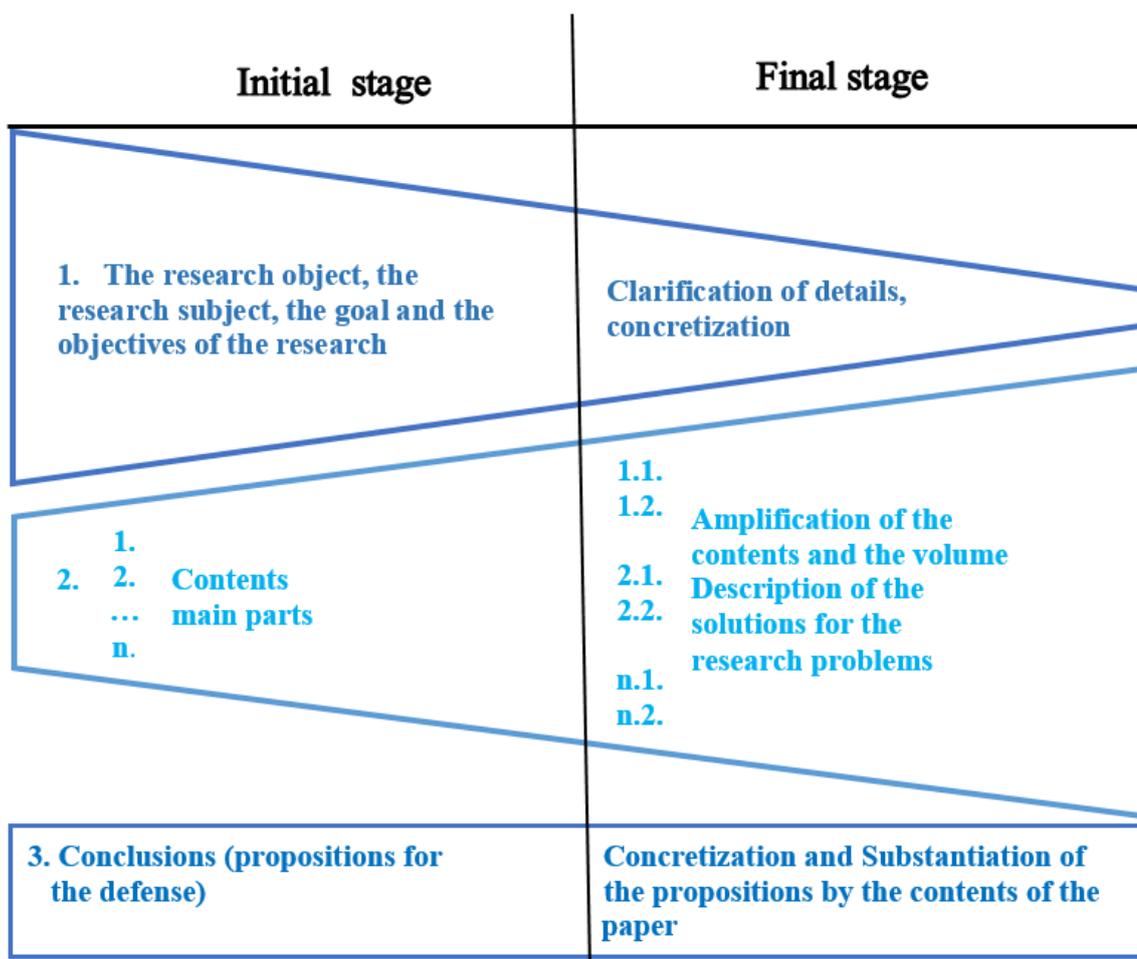


Fig. The methodology of parallel preparation of the text of dissertation paper requires the implementation of a well-defined algorithm of research process. The optimum structure of such an algorithm as the experience of preparation of qualification papers shows is the following one.

The first stage is the preliminary information search is aimed at elaboration of the plan and the range of the problems for the dissertation research.

At the second and the most important stage the description of the research area, the object, the subject and the conceptual framework, the definition of the goal and the objectives, choice of the appropriate research methods; preliminary specification of the expected results, the description of topicality and the novelty of the diploma paper takes place.

The significance of this stage is linked to the fact that at this stage the structure of the research thesis is determined, the contents of its parts, and the direction of the information search, the topicality and novelty of the research in general.

Analytical description must make the basis of the main part of the thesis or introduction (which is read by all the members of the examination panel taking part in the thesis defense).

The outcome of the first stage should be writing of the analytical description of the research, the structure of which should follow the structure of INTRODUCTION which is typical and uniform for all the dissertations in their function as qualification works.

The third stage should be information search. The information search can be effectual and purposeful only after the object, subject, goals, objectives, problems and methods are determined, i.e. after completion of the second stage of the research. Otherwise, the author of the paper will be drowned in the ocean of the information, even if the research topic is “narrow” enough.

Resulting from the preliminary information search (the first stage of the thesis research) initial insufficient and unsystematic data array should be obtained. Through comprehension and analytical description of the research area, the object, the subject etc. (second stage) the arrangement of initial information occurs. The latter is important for carrying out of the further information search at the third stage of the thesis research as the arrangement of insufficient information enable appreciation of what and how much additional information is required.

The fourth and final stage is the writing and formalizing of the text of the dissertation.

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