

# GUIDELINES FOR DRAFTING AND DEFENSE OF THE DOCTORAL THESIS

## **I. BASIC RULES IN PREPARING THE THESIS**

The drafting style of thesis must be clear, precise, and concise.

**Clarity.** A rigorous conception leads to a clear enunciation which allows for a wide diffusion and a proper perception among the interested ones.

It is recommended:

- the choice of the most proper wording for the ideas and facts to be reported;
- achieving a simple and clear expression to facilitate the reading and the comprehension to a wider audience, with a minimum to average level of information in the field;

**Precision.** The lack of precision in the drafting may raise suspicions on the rigor of performing the research; it is reflected in the most clear way in the sections *Materials and methods*, *Results*.

## **II. STRUCTURE OF THE DOCTORAL THESIS**

The thesis is organized in two main distinct sections: **The current stage of Knowledge** (General part) and the **Personal contribution** (Special part).

**The ratio between the two sections is of at least 1/3:2/3.**

**Number of pages: 100-200**

**1. The introduction** is the part where the PhD candidate presents:

- the general aspect of the topic through the prism of the scientific results available in the literature, in doing so allowing to encompass the tackled topic into the field of interest;
- the particular aspect of the approached topic, precisely the purpose/ the objectives of the study (for instance: clarifying a controversial aspect, covering for some lacunae in the existing knowledge on the subject, establishing a mechanism of action, testing a hypothesis, practical applicability of the results).

### **2. Current stage of knowledge**

- performs the presentation of the existing information in the specialty literature on the tackled topic: current state of knowledge in the field;
- ensures the theoretical grounds (the referential) of the research, and by accumulating it, the PhD candidate makes his own clear ideas on the directions to be tackled.

In text, the bibliographic references must be placed between brackets [ ] and located in front the punctuation: for instance [1], [1-3] or [1,3].

All bibliographic references quoted in the text must show up in the list of bibliographic titles in the order of the quotation, respectively numbering.

**3. The personal contribution** comprises the totality of the personal results, organized on chapter and they enclose separately various studies, experiments, mechanism validation, etc. Each of these chapters is divided into: Hypothesis/ purpose/ objectives, Materials and methods, Results, Discussions, Conclusions.

### ***Hypothesis/ purpose/ objectives***

- it is mandatory to comprise the targeted elements of novelty/ originality;
- establishes / defines general and/ or specific objectives which correspond to the direction/directions of research;

### **2.2. Materials and methods**

- the PhD candidate is to submit precise verifiable data;
- the techniques employed in the doctoral research are to be presented more detailed, providing pertinent bibliographic references, and the eventual changes to the data from the literature are to be

discussed; the detailed presentation is required for ensuring the reproducibility of the research; the study protocols may be included in the *Annexes*

### **Materials and Methods**

*The Investigated Material* - examples

- the population selected for analyze: the way of selection, description;
- type of study: consecutive/non-consecutive series, retrospective or prospective study, randomized or not randomized study, open study or blind on, case testimonial study, study on short series;
- animals for experiments: species, origin, duration of the observation, conditions of growth;
- cell cultures: ways to achieve and preserve – the culture environment, pH, temperature, addition of some substances.
- chemical substances, kits

*Employed methods or tested elements* – examples

- the action of a drug – daily dosage, way of administration, timetable of administration;
- surgical interventions – technical description;
- morphologic/ biologic investigations – technical description;
- experimental model.

Statistic analyze

- to establish correlations the methods which were employed are specified and described in details (statistic tests of analyze and validation) – ex. ANOVA, Student test

It is recommended to pay the appropriate attention to the following aspects:

- specification (i) of the chemical name and of the manufacturer for the reagents, the substance, (ii) the type, the manufacturer for the equipment;
- to avoid to introduce personal comments;
- to avoid to introduce long descriptions related to the technical aspects;
- to avoid to introduce some results;
- to use a telegraphic style.

### **Results**

- the PhD candidate is to use an objective, impersonal, neutral wording, without making comments 0 the results being enunciated.

It is recommended:

- to present chronologically (immediate results, delayed results);
- to present entirely: positive results; negative results – possibly useful information in a diagnostic, prognostic research or for avoiding an inefficient treatment;
- to assurance the concordance when presenting digital information (text, figure, tables);
- to avoid the “loss” of a result in this chapter, and to “find it again” in the chapter of Debates;
- to avoid introducing some results which are not connected to the research purpose.

### **Debates**

- The PhD candidate is to interpret the obtained results, the chapter being constructed by personal comments reflecting the authors’ scientific culture, intelligence and the level of elaboration of the paper; the debates go according to the following items:

- it is mentioned if the purpose of the research was reached or not (by synthetic presentation of the main results directly connected to the purpose);
- the research contribution to the progress of knowledge in the area and *the degree of originality and novelty* are emphasized;
- the results quality and validity are evaluated, by critical and objective discussion on the employed material, methods, on the interpretation of the results;
- the personal results are compared to those of other authors (the comparison may be facilitated by figures and tables allowing to avoid the repetitions, and by referential comment, without précising in detail the contents of the respective graphs/ figures) and, consequently, the occurred differences are explained (for instance due to the particularities of the material and of the method);

It is recommended to pay the appropriate attention to the following aspects:

- avoiding to discuss the topic overall, and not on the results of the thesis;
- repeating some notion existing in the General Part;
- avoiding some improper quotations – incorrect results, wrongly undertaken ideas;
- avoiding the absence of the bibliographic references.

### ***Bibliography***

In text, the bibliographic references must be placed between brackets [ ] and located in front of the punctuation: for instance [1], [1-3] or [1,3].

All bibliographic references quoted in the text must show up in the list of bibliographic titles in the order of the quotation, respectively numbering.

All bibliographic references from the list of bibliographic titles must show up as quotations in the text.

Thus, the references are quoted depending on the type of publication as follows:

#### ***Papers published in Journals:***

1. Author 1, A.B.; Author 2, C.D. Title of the paper. *Abbreviated name of the Journal* **Year**, *Volume*, pagination (or number of pages), DOI or other identification code (if applicable).

#### ***Books or chapters in the books***

2. Author 1, A.; Author 2, B. *Title of the book*, ed. 3; Publishing House: Location of the Publishing House, Country, Year; p. 154–196.

3. Author 1, A.; Author 2, B. Chapter title in *Book title*, ed. 2; Editor 1, A.; Editor 2, B., Editors; Publishing House: Location of the Publishing House, Country, Year; Volume 3, p. 154–196.

#### ***Conference Proceedings:***

4. Author 1, A.B.; Author 2, C.D.; Author 3, E.F. Title of the presentation. In *Title of the conference issue* (if applicable), Proceeding of the Conference with the title ..., Conference location, Conference Country, Date; Editor 1, Editor 2, Editors. (if applicable); Publishing house: Locality, Country, Year (if applicable); Abstract number (optional), pagination (optional).

#### ***Master, Doctoral Theses:***

5. Author 1, A.B. Title of the thesis. Level of the Thesis, University, University location, Date of thesis completion.

#### ***Websites:***

6. Website title. Available online: URL (accessed on the Day, Month, Year).

**The appendix** will comprise the in extenso form of the published papers, or of the papers accepted for publication during the doctoral studies, in the field of the thesis, experimental protocols, additional data not presented in the thesis and supporting the results, bulletins of analyze, histograms, etc.

### **III. WAYS OF ILLUSTRATION: TABLES, FIGURES**

- They are specific for presentation of the results, but they may also be present in the general part;
- In a synthetic form, they offer a maximum of information in a minimum of space;
- They limit the risk of repeating the same information (as text presentation), in the chapter/subchapter Debates; therefore, it is useful that the figures and tables are conceived before drafting the wording;

- They have informational autonomy – by title, legend, footnotes, being self-established entities which can be read/ interpreted independent of the text;
- It is mandatory to refer to them in the text, their numbering being in the order of reference;
- The table contains numeric information;
- The figure contains graphic information: drawings/schemes, graphs, images/photographs; It is recommended to pay the appropriate aspects:
- To avoid the expression under any form of table of some limited information, that can be enunciated clearly and succinct as text;
- To avoid the presentation of the same information under any form of text, table, and figure;
- For figures and/ or tables reproduction, at least quoting the source (as bibliographic reference), if it is not possible to get the titular's approval (authoring rights, copyright).

#### *Tables*

- the numbering is with Latin digits but, if there is a large number of tables and, implicitly the writing of the Latin figures raises issues, the numbering in Arabic figures may be used;
- the numbering corresponds to the order of occurrence in the text, being mandatory at least one reference;
- the title, formulated for instance as Table I, is placed above, being followed by a short text summarizing the contents;
- if the number of columns is larger than the double of the number of rows, the columns reverse to the rows;
- usual meanings:
- column heads – measured or explained variables (measurement units);
- row heads – controlled or explanatory variables (measurement units);
- the tables containing the comparable data must present same information, structured in the same order and using same measurement units;
- data alignment is made related to the coma/ decimal point, mentioning same number of decimal positions for the variables with the same signification;
- in case of absent information, it is mentioned “absent”, avoiding mathematical symbols (-, 0);
- they may contain abbreviations, placed in the footnotes, all abbreviations (including the frequently used now) being explained.

#### *Figures*

- their numbering is made with Arabic digits;
- the numbering corresponds to the order of occurrence in the text, being mandatory at least one reference;
- they have legend placed subjacent and comprising all necessary elements for the comprehension of the figure (symbols explanation, abbreviations, scale, sometimes including some details on the experimental techniques, if they are required for a better understanding);
- types of figures: schemas, graph representations, photographs;
- color or grey-shaded photographs must have a resolution of at least 300 dpi.
- in the economy of the work, the schemas, the images/ photographs and graphs are considered as entities of figure type – thus using a common numbering, the same way for text reference (fig. xx) and the same way for conceiving the legend;
- the data fragmentation is avoided by presenting them in separate figures, being preferred to synthesize them in a “composed” figure (which contains, for instance, multiple diagrams describing the demographic characteristics of the studied population).

#### *Graphic Representations*

- for the graphic representations, the PhD candidate may use alone the computer-assisted ways to create them: exploiting the facilities provided by software programs (software environments) for graphic representations and statistic interpretation (examples: MS-Works, MS-Excel, GraphPad, SigmaPlot etc.).