THE FORMAT OF THE PHD SUMMARY (EMP)
Senior Lecturer Ilina Doykova, PhD, Medical University „Prof. Dr. P. Stoyanov” - Varna, Bulgaria

Abstract: The PhD summary in English is an obligatory component of the documentation submitted for the successful completion of the dissertation process. Concerning the PhD summary structure and content, there are no uniform guidelines or assessment criteria and considerable variation is observed at the university level. The present paper reviews the existing practices and aims at providing an outline of its nature, purpose and contents.

A corpus of recently published dissertations at the Medical University of Varna is analysed and compared to open-access resources in various disciplines in the search for a coherent pattern and a framework for structuring the summary. Problems that doctoral students experience in the process of reviewing the scientific text, extracting vital information and presenting significant facts in English are investigated at text organization level. Additionally, the linguistic analysis focuses on the keywords and the descriptive language used to highlight the novelty of the research question.

The composition of an independent text that makes a strong statement requires a good analytic approach, adequate interpretation of the results and the overall conclusions of the research. The key role of the thesis summary in English further emphasizes the importance of the scientific language skills of international researchers.

Key words: PhD summary; structure and content; English as a second language; scientific writing; medicine

Introduction
The present paper investigates the specifics of the PhD summary in English, its structure, function and practical application in the medical domain. In medical dissertations and scientific research papers, the beginning of the document is reserved for the abstract/summary, written in English. A summary is a type of writing very close to the abstract as far as its function is concerned. In the Bulgarian writing tradition, there is one more equivalent for these two concepts – the resume. These concepts (abstract, summary, resume) have different interpretations and their contents are still in the process of being established [3]. The abstract is a stand-alone mini-genre, written to be published separately as an orientation for the forthcoming research article. It contains only essential information and reflects the contents of the paper, making no use of figures, tables, references or citations. The conventional abstract is an informative overview of the main research findings that summarizes the contribution of a paper with no explicit headings. There are usually strict limits on the length of the abstract (500 words are rarely exceeded).
The purpose of writing a summary is to introduce the format, contents and the results to the readers who are familiar with the research subject. Therefore, the text is highly synthesized and contains information from each section of the IMRaD format [2]. The summary resembles a structured abstract with a specific heading for each section that mirrors the structure of the manuscript. Thus, the summary allows for a quick review of the document content introducing the field of study, describing the results, presenting the contributions and the significance of the research with minimal reference to the literature review in the field. Although the headings are the same as in the IMRaD format, a different relative emphasis is placed on each component. The introduction has considerable weight, only extracts from the Methods section are included in combination with the most important results. From the Discussion section only the main conclusions and implications are presented with no figures or tables.

Both the abstract and the summary exist in extended versions. The extended summary resembles the full manuscript but is more concise and usually runs from 30 to 50 pages, written in Bulgarian [4]. These secondary genres with a representative character and analytical nature, designed for academic audiences are totally new texts, based on a primary scientific source [3].

To differentiate from the existing practice and focus on a third emerging format, the term executive summary is introduced here as it follows the structure (the components) of the full document and provides a description of the results as well as a summary of the main contributions. The PhD executive summary has become an obligatory component of the doctoral dissertation procedure at the Medical University of Varna since June 2016 [6]. There are specific requirements regarding its length (10 pages, approximately 5000 words in English), but the variation observed in the nature of the research and in the structure of the submitted summaries (by April, 2017), demonstrates the need for efficient models or certain guidelines that facilitate the clear and informative structure of this PhD element.

**The PhD summary variation**

In the writing practice of Bulgarian researchers, the structure and contents of the PhD summary remain varied. Is this an overview of the dissertation, a separate article, a report of the main findings, a guideline into the contents of the PhD, a list of all contributions of the current research?

For the purposes of this survey, 12 documents with a total of 45 228 running words were collected and analysed for structure and clarity of writing (Table 1):
Table 1. PhD summary samples, Doctoral school at MU-Varna

<table>
<thead>
<tr>
<th>Sample</th>
<th>S.1</th>
<th>S.2</th>
<th>S.3</th>
<th>S.4</th>
<th>S.5</th>
<th>S.6</th>
<th>S.7</th>
<th>S.8</th>
<th>S.9</th>
<th>S.1 0</th>
<th>S.1 1</th>
<th>S.1 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pages</td>
<td>13</td>
<td>12</td>
<td>9</td>
<td>29</td>
<td>11</td>
<td>6</td>
<td>10</td>
<td>12</td>
<td>20</td>
<td>14</td>
<td>22</td>
<td>13</td>
</tr>
<tr>
<td>Words</td>
<td>35</td>
<td>40</td>
<td>33</td>
<td>29</td>
<td>33</td>
<td>16</td>
<td>26</td>
<td>22</td>
<td>91</td>
<td>33</td>
<td>74</td>
<td>34</td>
</tr>
</tbody>
</table>

The texts are structured mostly within the IMRaD format. The purpose and results of the thesis, as well as the contributions of the research are highlighted. Although many similarities are identified, the differences concerning the content and the layout of the investigated documents are substantial (Table 2):

Table 2. Interpretations of the IMRaD format in the PhD executive summary

<table>
<thead>
<tr>
<th>PhD summary</th>
<th>Format</th>
<th>Graphic elements</th>
<th>Technical layout</th>
<th>Use of English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample 1</td>
<td>IMRaD</td>
<td>Tables (8)</td>
<td>Title / author’s name Times New Roman, 14 1,15 spacing</td>
<td>Word order Use of articles Tenses</td>
</tr>
<tr>
<td>(no reference)</td>
<td>Hypothesis Motive</td>
<td>-</td>
<td>Title / author’s name Times New Roman, 12 1,5 spacing</td>
<td>Word choice Prepositions Verbosity</td>
</tr>
<tr>
<td>Sample 3 Ab-</td>
<td>IMRaD</td>
<td>Figures (6)</td>
<td>No title / author’s name Times New Roman, 12 Single spacing</td>
<td>Proficient use of English</td>
</tr>
<tr>
<td>Abstract</td>
<td>No conclusions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample 4 Ab-</td>
<td>IMRaD References</td>
<td>Tables (2)</td>
<td>No author’s name Times New Roman, 12 double spacing</td>
<td>Proficient use of English</td>
</tr>
<tr>
<td>Abstract</td>
<td>Figures (8) Appendices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample 5 Summary</td>
<td>Overview Conclusions</td>
<td>-</td>
<td>Title page Times New Roman, 14 1,15 spacing</td>
<td>Word order Word choice Tenses, Spelling, Punctuation</td>
</tr>
<tr>
<td></td>
<td>Contributions No headings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample 6 Abstract</td>
<td>Purpose Methods Results Conclusions</td>
<td>-</td>
<td>Title / author’s name Arial 14 1,5 spacing Key words</td>
<td>Word choice S – Verb agreement Linkage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample 7 Resume</td>
<td>IMRaD Conclusions Recommendations</td>
<td>-</td>
<td>Title / author Times New Roman, 14 1,5 spacing</td>
<td>Use of nouns</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample 8 -</td>
<td>Questions (headings) Photos and bilingual charts (8)</td>
<td>Title / author’s name Times New Roman, 14 1,5 spacing</td>
<td>Prepositions Word choice</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample 9 Summary</td>
<td>Conclusions Contributions Literature review</td>
<td>-</td>
<td><strong>No title / author’s name</strong> Times New Roman, 12 1,5 spacing</td>
<td>Prepositions Use of articles</td>
</tr>
<tr>
<td>Sample 10 Summary</td>
<td>Chapters Scientific tools Survey design Suggestions</td>
<td>-</td>
<td><strong>Title / author’s name</strong> Times New Roman, 14</td>
<td>S-Verb agreement Linkage, Tenses, Word choice Prepositions</td>
</tr>
<tr>
<td>Sample 11</td>
<td>IMRaD</td>
<td>Figures (2) Tables (6)</td>
<td><strong>No author’s name</strong> Times New Roman, 12 1,5 spacing</td>
<td>Proficient use of English</td>
</tr>
<tr>
<td>Sample 12</td>
<td>IMRaD</td>
<td>Tables (2)</td>
<td><strong>No title / author’s name</strong> Times New Roman, 14 1,5 spacing</td>
<td>Sentence structure Tenses Word choice</td>
</tr>
</tbody>
</table>

The comparison highlights the need for a standardized model such as the one provided by the Bulgarian Academy of Sciences [5] or the establishment of explicit institutional requirements concerning the PhD summary design and its components, the inclusion of tables and figures, references and literature review sections, the identification of keywords, the obligatory title page, etc. Furthermore, the quality of the English document would benefit from a uniform technical layout as a standard requirement for all scientific papers.

Most problematic remains the use of English at an advanced or proficiency level and the readability of the scientific texts. The process of effective writing comprises structuring of the document as a separate unit (creating sentences, planning paragraphs, and choosing words with precision); eliminating the common writing problems and grammatical errors (use of prepositions, conjunctions, pronouns, modifiers, plurals, tenses, etc.); use of proper punctuation, abbreviations, symbols, numbers, and the professional design of all graphic elements. Thus, improper use of English encompasses all areas of scientific writing at the PhD candidate’s responsibility.

**The PhD summary role**

The doctoral dissertation begins with an accurate and engaging summary, which presents the vital information and the most interesting facts in the dissertation. This initial component is a description of the scope and the work done - the importance, the purpose, the results, the conclusions and the novelty of the findings. The function and the structure of the English-language document is similar to the extended summary. After its submission for publishing, it becomes **representative** of the dissertation and can be downloaded by third parties without restrictions. Another reason for the submission of the PhD summary in English, is that it as such can be deposited in a national repository and uploaded to the appropriate section of the university’s website. Thus, the summary is written for an
international audience of researchers (not for the examiners) and for inclusion in a scientific database. Some scientific journals publish extended abstracts/extended summaries of PhD theses in the same form as the item is submitted by the PhD candidate to the Doctoral School. The aim is to increase the visibility of the original research and therefore the structure and the contents should be composed with care in a concise, precise and readable manner. Gillaerts and Van de Velde [1] find that article abstracts nowadays function as a separate genre (not an embedded one) and the same is valid for the extended abstracts and the PhD summaries. Unfortunately, these secondary genres rarely go through a formal peer-review process before publishing, while a dissertation typically has at least two reviewers.

The PhD summary components

Knowledge of genre and scientific English conventions is vital for the writing performance of non-native researchers, because in the dissertation review process the factual quick and unambiguous exchange of research results is the primary goal. Therefore, the PhD summary should be a coherent and informative document (rather than promotional), written with a critical and analytic focus. The PhD summary is the main source of information for the international audience and it should reflect accurately the content of the dissertation. Based on the above considerations, the hypothesis, the methodology and the outcomes of the research are included and the logical organization of the text benefits from following the IMRaD format (minor variations in the sequence of the headings are possible):

- **Title** page requirements: title, author’s name, affiliation, year, scientific supervisor;
- **I = Introduction:** an outline of the dissertation structure and presentation of the main argument: hypothesis, research question, aims/objectives;
- **M = Methods:** presentation of data collection and methods of analysis;
- **R = Results:** key findings and their discussion;
- **aD = and Discussion:** comparison with previous studies, novelty of the research;
- **Conclusions & Contributions:** potential applications.

Obviously, the structured abstract evolves into a new kind of document for publication, available in electronic form. The PhD executive summary restates the structure, the main findings and the conclusions of the thesis for those international researchers who will never read the full version in Bulgarian. Supporting data (tables, figures, appendices) are always avoided in the abstracts (as they affect their length) but might be included in the PhD summary on rare occasions to illustrate the merit of the work done.
Conclusions

In writing the PhD executive summary in English, non-native researchers experience difficulties at text organization level that may vary from lack of framework to unbalanced structure, omission of an IMRaD component, inadequate presentation of methodology, directly copied text from the dissertation, etc.

The most common problems in this scientific mini-genre stem from the level of language competence in English. The condensed information packed into the abstract/summary requires excellent skills for planning the paragraph, structuring the sentence, choosing lexical items, emphatic strategies and keywords that allow for easy search and add to the quality of the paper. To serve its purpose, the PhD summary entails structure, content and language precision. Otherwise the response to such concerns about the clarity and the readability of the text is the revision process:

References


Appendix – Corpus samples of PhD abstracts/summaries in English, Medical University of Varna

Sample 1: Factors, affecting the primary stability of the intraosseous screw type implants;

Sample 2: Homeostasis of iron at healthy people and patients with metabolic syndrome with basic accent on hepcidine – hormone regulator of metabolism of iron;

Sample 3: no title, author anonymous;

Sample 4: Serum Expression Levels of miR-17, miR-21, miR-29a and miR-92 as Potential Biomarkers for Recurrence after Adjuvant Chemotherapy in Colon Cancer Patients;

Sample 5: Reasons for turnover of nurses in sectors with high intensity of work;
Sample 6: Morphometric microstructure analysis on normal cornea and somatic and genetic diseases;
Sample 7: Opportunities and barriers for an equal and timely access when providing emergency medical care in pre-hospital and in-hospital conditions;
Sample 8: Endovascular treatment of ruptured intracranial aneurysms and arterio-venous malformations;
Sample 9: no title, author anonymous;
Sample 10: Obstetrics practices in women consulting – development perspective for the Midwife profession;
Sample 11: Determination of some toxic and essential heavy metal in Black sea marine water, sediment and biota, author anonymous;
Sample 12: no title, author anonymous.

Contact details:
Address: Medical University of Varna, 55, Prof. Marin Drinov str., Varna 9002, Bulgaria
Telephone number: 052/677 050 (2662)
E-mail: ilina.doykova@mu-varna.bg