

Quality criteria for doctoral theses. EDI-Saúde

This document establishes quality criteria for theses ascribed to EDI-Saúde. They will be taken into account by the academic commissions of the Ph.D. programs (CAPD) of the School when authorizing the process for the thesis defense. The academic committee of the EDI (CAEDI) will also consider these criteria in the admission to the processing of the theses.

When a CAPD detects a thesis which may not meet these criteria, the members will ask the doctoral candidate to clarify the adequacy of the thesis and/or to adjust it to the criteria. If the problem is not solved, the CAPD may not issue a favorable report for the processing, or forward the case to CAEDI, which may also act independently of the CAPD in the admission to process the thesis. Further, the CAEDI may also request the opinion of an external expert in the area.

In principle, all theses must meet at least the following criteria:

- The work presented must be research based and novel, and the conclusions must reflect this research work.
- The conclusions must be justified by the obtained results.
- The doctoral student must have acquired the competences of the doctoral degree.
- The thesis should reflect the work performed by the doctoral student, making clear which part was made by him/her and which was not.
- The reflected workload must be in accordance with that expected from a doctoral thesis.

1. The work presented must be research based and novel, and the conclusions must reflect this research work.

The work and its conclusions should be based on research, and not on aspects of management or teaching, unless they provide new information derived from the thesis itself. Therefore, the conclusions must be novel.

The degree of novelty or the relevance of the results are not included in the present criteria. At this moment, the evaluation of this aspect is considered to be the responsibility of the CAPDs, which may set the specific quality requirements for each doctoral program.

2. The conclusions must be justified by the results.

This criterion intends to avoid theses in which the studies or analyses are incorrect or misinterpreted, and conclusions do not correspond with the studies performed in the thesis. The reasons of such discrepancy between results and conclusions are very diverse, but some can be noted as:

- Poorly planned studies that do not consider all the variables that can influence the results, or that from the beginning do not have enough statistical power to test the hypothesis.
- Badly executed studies.
- Poor data analysis, both from the experimental and especially, the statistical point of view.
- Thesis with conclusions that over/misinterpret the studies carried out.

3. The student must have acquired the competences of the doctoral degree.

These competences are, according to RD99/2011:

- a) Systematic understanding of a field of study and mastery of research skills and methods related to that field.*
- b) Ability to conceive, design or create, implement and adopt a substantial process of research or creation.*
- c) Ability to contribute to the expansion of the frontiers of knowledge through original research.*
- d) Ability to perform a critical analysis, evaluation and synthesis of new and complex ideas.*
- e) Ability to communicate with the academic and scientific community and with society in general, about his/her fields of knowledge in the modes and languages commonly used in their international scientific community.*
- f) Ability to promote, in academic and professional contexts, scientific, technological, social, artistic or cultural advancement within a society based on knowledge.*

The writing of the thesis document, the analysis of previous studies in the field and of the studies of the thesis, and the ability to communicate the studies themselves, describing and interpreting them properly, should all reflect that the relevant competences have been acquired by the candidate.

4. The thesis should reflect the doctoral student's work, making clear which parts were done by him/her and which were not.

All thesis must specify which parts were made by collaborators or by central research services and which were not.

In the case of a thesis presented as a compendium of articles, the contribution of the doctoral student to each of the articles will be specified in the most detailed way possible, unless explicitly included in the corresponding articles.

5. The workload must be in accordance with what is expected from a doctoral thesis.

According to the regulation of doctoral studies of the USC (article 25)

The minimum duration of doctoral studies will be 18 months at full time, and 30 months if it is carried out part-time. In case of a mixed full- and part-times, the duration will be established according to the sum of the total time.

If one year of full-time work accounts for 1600 hours, the minimum work time for a doctoral thesis is established for 2400 hours. The maximum time would be 4800 hours, or 8000 hours counting with the legally possible extensions. Therefore, the theses must reflect a workload of at least 1600 hours.

There are many reasons for which a thesis may not reflect the time dedicated to it. The techniques used may be much more intensive than meets the eye, or may have required a very laborious tune-up that has not been included in the thesis. It is also possible that a large part of the work has had inconclusive or negative results, which have not been included in the published version of the thesis. In these cases, the hidden work should be included either in the thesis or in an annex, printed or in an electronic format, and in this way make visible the work that often remains hidden.

In many lines of research, theses are linked with work done previously. This work should not be computed in the total workload of the thesis, especially if it has already been used in other theses or in scientific publications.

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Juan B. Zalvide Torrente