

**QUALITY ASSURANCE SYSTEM OF THE TEACHING /  
LEARNING PROCESS AT THE UNIVERSITY OF AVEIRO  
- Doctoral Programs -**

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## Glossary

- CAC- Course follow-up committee
- CAe- Student follow-up committee
- CC- Scientific council
- CP- Pedagogical council
- Doc – Professor
- DPD- Doctoral program director
- DUO- Director of organic unit
- EDUA- Doctoral school of University of Aveiro
- Es- Student
- Or- supervisor or co-supervisor
- PD- doctoral program
- RUC- Responsible for the curricular unit
- SGA- Academic management services
- UO- Organic unit/Department



## 1. QUALITY ASSURANCE SYSTEM OF THE TEACHING / LEARNING PROCESS AT THE UNIVERSITY OF AVEIRO (SGQ\_ensino)

The development and implementation of the Subsystem for Quality Assurance of PhD Programs (SubGQ\_PD) is part of the process of consolidating the UA's Internal Quality Assurance System. (SIGQ\_UA), in particular the Quality Assurance System of the Teaching-Learning Process (SGQ\_ensino). SGQ\_ensino has evolved naturally to cover the cycle of missing studies - 3<sup>rd</sup> cycle.

Usually considered separately because it respects specific rules, distinct from other cycles, SubGQ\_PD was integrated into the existing System, with all the advantages that come from the experience acquired by the academic community since 2009, when UA first implemented the Subsystem for quality assurance of Curricular Units (SubGQ\_UC). The SubGQ\_PD recommended model follows the theoretical model implemented in the SubGQ\_UC, with the necessary adaptations, in particular the smaller number of students enrolled in the curricular units of the doctoral programs, and extends it to the research component, integrating the various aspects of the development of the research work. This model (SubGQ\_PD) allows the integrated analysis of teaching and research components present in doctoral programs (implementation of the SubGQ\_PD may allow in the future the extension of the SubGQ\_UC to the UC of Dissertation / Project / Internship).

In 2017, when the UA obtained certification of its SIGQ, the application of the described model was considered a crucial step because it allowed, on the one hand, to fill the absence of the 3<sup>rd</sup> cycle in the SGQ\_ensino, and on the other hand, to integrate into the model the research component, closely intertwined with the teaching-learning process.

## 2. Subsystem for Quality Assurance of PhD Programs (SubGQ\_PD)

The Bologna Process, adopted by the signatory countries of the Bologna Declaration (1999), posed and poses a number of challenges to higher education institutions, in particular as regards the adoption of common quality standards for all their study cycles, including doctoral programs. However, reality shows that to date most institutions have not adopted these standards in their doctoral programs, generally leaving these study cycles their internal specific quality assurance systems, implemented according to the standards and guidelines Part I of the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG).

The University of Aveiro was one of the pioneering Portuguese universities in the deployment of a structure responsible for the supervision of all activities related to this cycle of studies - Doctoral School of the University of Aveiro (EDUA). Since its creation, EDUA has been working to incorporate the standards and guidelines of ESG at the level of doctoral programs, namely through the development of internal mechanisms to assurance and improve their quality. This effort was partially inspired by the mechanisms that the UA has already implemented for the 1<sup>st</sup> and 2<sup>nd</sup> cycles of study and for the Integrated Master Programs (SubGQ\_UC), especially regarding the component of the PhD course. In addition, it was based on other models currently being implemented in European universities belonging to the Council for Doctoral Education of the European University Association (EUA-CDE).

In short, it is intended that the SubGQ\_PD to be implemented in the UA will contribute to the sharing of good practices among all actors involved in the doctoral programs (PD), to the early



detection of problematic processes, to the detection of failures in the available resources and to the systematization of the signaling of progress.

## 2.1 Model

Based on the assumption/idea that a PD consists of a PhD set of courses (articulated set of curricular units) and subsequent research (for the preparation and defense of the doctoral thesis), the quality of doctoral programs of the UA aims to answer the following question: how to assure and improve the quality of the two components of a PD? (See Figure 1).

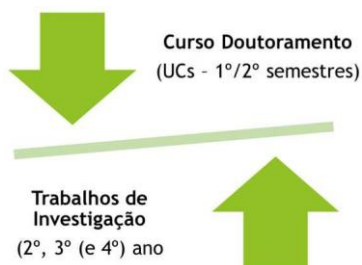


Figure 1 – The two components of a PD

The PhD course typically takes place in the first year of the PDs and includes, as mentioned, the set of UCs that students perform in the 1<sup>st</sup> and 2<sup>nd</sup> semesters. The quality assurance system follows the logic of what is already implemented in the scope of the SubGQ\_UC for the UCs of 1<sup>st</sup> 2<sup>nd</sup> and MI, including some adjustments due to the smaller number of students enrolled in each UCs (for example, neither students will not be asked to respond to educational inquiries about the functioning of UCs, nor Professors).

More specifically, the purpose of the system is to identify the strengths and weaknesses of the different units that constitute the course (number of UCs, type of UCs, program content, teaching and learning approaches, evaluation methodologies, teaching staff, academic results) , with the purpose of improving, if necessary, while also favoring the sharing of good practices. Different actors participate at this level, namely the students, the teaching staff of the PD under analysis, the director of the PD, the director of the organic unit responsible for the PD, the director of EDUA and the scientific and pedagogical councils of the UA. Each of these actors is asked to perform a set of tasks, allowing the validation of the diagnosis made on the various UCs of the PDT, as well as the corrective measures to be taken, including the necessary resources.

With regards to research, the quality assurance system has as object of analysis the doctoral student and considers three different dimensions: i) the scientific evolution of the work; ii) supervision; (iii) the resources available. Once again different actors intervene at different levels, including students, their supervisor, other members of the academic staff concerned and external to the PD, the director of the PD, the director of the organic unit responsible for the PD, the director of EDUA and the scientific and pedagogical councils of the UA.

The operationalization of the SubGQ\_PD involved the design and development of a set of forms - called reports – with the objective to simplify the flow of information and enable access to this by the actors whenever necessary.



As with the SubGQ\_UC, the proposed model considers four phases of development (Figure 2): Diagnosis (Phase A), Improvement (Phase B), Assurance (Phase C) and Supervision (Phase D). Each of the phases is associated with a set of actions and a chronology of events, according to the following explanation.

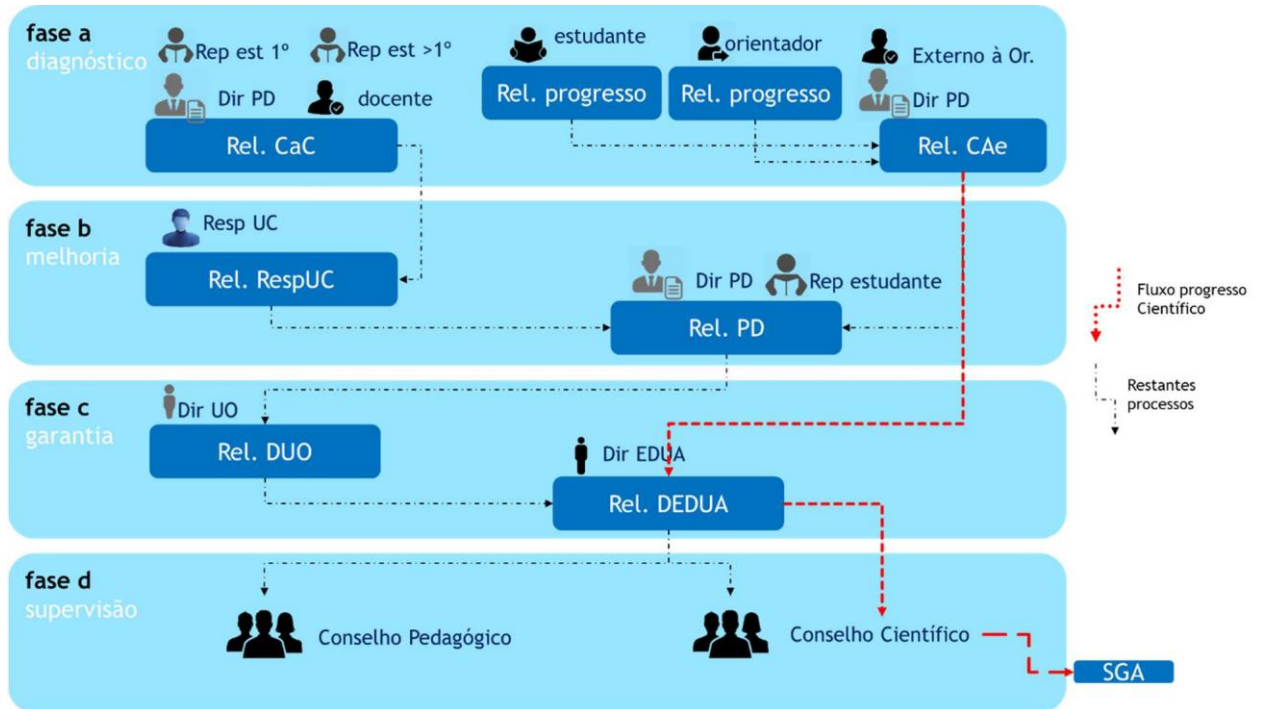


Figure 2 - The four phases of the UA PD quality assurance system

### 2.1.1. Phase a - Diagnosis

In the phase a - Diagnostic phase, the functioning of each UCs of the doctoral course, as well as the course as a whole, is analyzed by a Committee for *monitoring the Course*, CAC - constituted by the PD director (or by members of its scientific committee), a member of the teaching staff assigned to the PD, and two students (in addition the committee may have an external member, but this is optional) (Figure 3). The objective is to have a committee with an equal number of Professors and students, in order to have a balanced view of the functioning of the course.



Figure 3 - Formation of the committees for monitoring of the Doctoral Course (CAc) and the Student (CAe).

The Committee's assessment is based on the opinion of its members on the operation of the different UCs as well as on a set of indicators created for them. From this diagnosis results the identification of a set of strengths and weaknesses for the course, as well as a proposal for improvement actions - CAc Report.

Also in this phase, the diagnosis of the research work in progress is made. In a first instance, the diagnosis is carried out by students and supervisors, individually. In operational terms, the quality of research work under development - Thesis UC - is based on the following instruments / mechanisms:

- a) annual report submitted by each individual student (Student Progress Report), which includes:
  - i. an assessment of the scientific progress of the research work;
  - ii. an analysis of the supervision of the work that is done by its supervisor (and co-supervisors, if they exist);
  - iii. an evaluation of the resources available by the university for the adequate development of the research work.
- b) annual report done by each individual (co)supervisor (Supervisor Progress Report), which includes:
  - i. an assessment of the scientific progress of the research work;
  - ii. an analysis of the supervisory activities developed;
  - iii. an evaluation of the resources available by the university for the adequate development of the research work;

Regarding the scientific evolution of the research work, students also have to submit a technical report with a summary of the work done, including evidence of the expected indicators (articles, conference papers, prototypes, etc.) (see Template in annex 4).

The student progress report and the progress report submitted by the supervisor (and co-supervisors, if any) are then analyzed jointly by a Student *Follow – up Committee* (CAe) (this is done for each student / supervisor). This committee is made up of the director of the PD (or a member of its Scientific Committee) and another member not involved in the research work under analysis (which may be a Professor/ researcher in the field of the PD, who can be external



to the PD or even the UA); optionally CAe may include the student's supervisor if this is determined by specific internal regulations (figure 3). The number of CAe required will depend on the numbers of PD students undertaking doctoral work, the present recommendations point that a CAe can evaluate 10 doctoral students. Each CAe produces a report for all the research work under analysis, identifying good practices, situations within the normal evolution (o.k.) and identify problematic situations for each of the areas under analysis (scientific evolution, supervision and resources) - CAe Report. It is up to the PD director to set up the necessary CAe's for his PD each school year.

The scientific evolution of the CAe report is immediately sent to the EDUA director (phase c - Assurance).

### 2.1.2. Phase b - Improvement

In phase b - Improvement, each UC of PhD course is analyzed by its supervisor, which evaluates the operation and responds to the analysis made by the CAc, namely through the proposal for improvement actions. From this analysis results the **Report of the Responsible for the UC**.

Based on the **CAc Report**, the **CAes Reports** and the **Report of the Responsible of the UC**, the director of the PD and a student of the PD (appointed by the DPD) analyze the doctoral program as a whole, considering its two components - course and research work. Together, the DPD and the student prepare a report on the study cycle - **DPD Report**, with identification of good practices, on-going and problematic situations. For problematic situations, improvement actions and a timeline for their implementation is proposed, as well as the necessary resources indicated. In relation to the improvement actions to be undertaken, the director of the PD can himself decide on its implementation or identify the action as needing an analysis by the director of the UO.

### 2.1.3. Phase c - Assurance

In phase c – Assurance, the DUO analyzes and validates the reports of the DPDs concerning the DPs on their responsibility – DUO Report. In the case of improvement actions identified as not having been implemented by the DPD, it is now up to the DUO to decide whether the implementation of the same can occur at the organic unit level or not. In cases where implementation is within the scope of operation, the DUO should point the decision on the implementation of the improvement actions and passes to the EDUA Director. In cases where implementation is feasible, the DUO should specify the actions to be implemented, their responsible for implementation, the schedule for its realization and the resources needed. The report should also list the good practices identified in the DPs and mechanisms for their dissemination.

The DUO's reports of the several organic units of the UA then are sent to the EDUA director for synthesis and validation - **EDUA Report**. This report presents a summary of the good practices identified in the UA PhDs as well as improvement actions to be implemented to solve the problem situations identified and not subject to resolution at DPD and DUO levels.

Also at this stage, the scientific evolution part of the CAe report is received by the EDUA director. This part already has, processed by the CAe, the scientific evolution resulting from the analysis of the reports of the Supervisor (Supervisor Report) and of the students (Student Report) for



each student-supervisor pair. Of its analysis results an opinion on the enrollment of each student in the following academic year.

#### 2.1.4. Phase d - Supervision

In phase d – Supervision, the scientific council and the pedagogical council analyzes and discusses the scientific and pedagogical aspects, respectively, resulting from previous phases, reflecting on the quality assurance system implemented and its directives to improve the quality of PhD in UA. This phase takes place throughout the whole process.

It should be noted that at this stage the analysis and validation of the reports by the CC, particularly with regard to the research work, leads to the necessary authorization for renewal of the enrollment of PhD students in the next academic year (with the SGA) , In compliance with the provisions of article 61 of the REUA.

#### 2.2. Pilot

The SubGQ\_PD was tested in pilot in four of the current PDs of the UA, chosen in function of its different characteristics, being considered as representative of the different type of realities in the UA. The chosen programs were: Educação (social sciences; big number of students); Bioquímica (exact science; small number of students); Engenharia e Gestão Industrial (applied sciences; small number of students); Informação e Comunicação em Plataformas Digitais (multi university program; small number of students; with an existing monitoring process ongoing).

The pilot started with the diagnosis phase for the research work and the student and tutors of the 4 engaged PDs were asked to fill the forma available for this phase. The quality and intelligibility of the forms was also evaluated, by comments from the trial project. The input was of great help to improve the forms for the final release, which will always be subject to continuous improvement.

The reports analyzed by a CAe constituted to the pilot. With the opinions was possible to detect a problematic situation and a good practice. The simulation of the CAe meeting was important to improve the flow as well as improve the reports. The overall oppinion was positive about the orocess.

A pilot to test the courses part of the PD was also made for the 4 PDs. Foi também realizado um piloto da componente relativa aos cursos de doutoramento dos quatro PD. The CACs were constituted, and the Ucs analysed. The feddback was quite positive and the raised points were considered relevant dor the courses in analysis.

The oppinion collected next to the actors was very relevant for improving the system and was clear that the system could be used to help triggering problematic situations early on in the PD and also take away gokd pratices to dissminate in the community.

#### 2.3. Calendar

The implementation of the SubGQ\_PD will occur in the end of the 2<sup>nd</sup> semester of each academic year, starting just before the normal period for examination for the research work, and up to the beginning of the recourse examination period for the PD courses. The process continues up to the end of October, moment when the student's registration in the coming year starts.





In the present academic year of 2016/17 there will be some adjustments in what regards the application of the SubGQ\_PD. Also, the scope of application of the process will be restricted to the research work. In Figure 5 we present the chronogram for the application of the SubGQ\_PD.

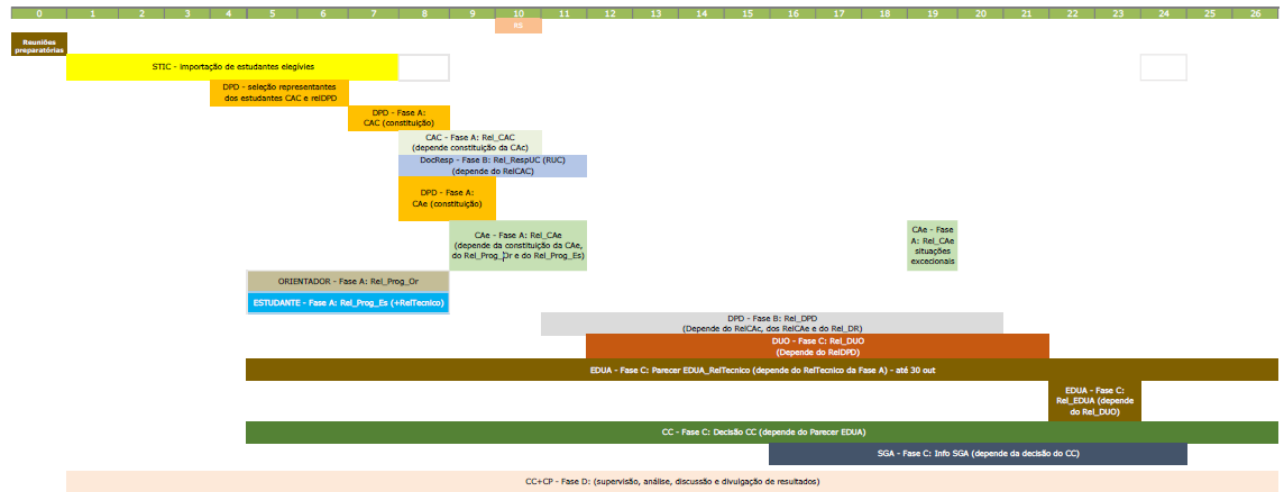


Figure 5 – Calendar for the application of the quality assurance system for the PD (SubGQ\_PD)

#### 2.4. Implementation essential conditions

The implementation of the SubGQ\_PD and its calendar is subject to the availability of consistent information on the students and supervision teams in each of the phases of the PD.

Additionally, implies also the completeness on-time of the committees and actors responsible for the follow-up of the processes.