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How does quality assurance make a difference?

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Title: How should internal quality processes support doctoral programmes? Illustrated by a case study of IST

Abstract: The process of adaptation to the challenges in the European Higher Education Area, lead to the development of an Integrated Quality System at IST (SIQuIST), consolidating the quality culture developed over the last decades. One of the most advanced dimensions of SIQuIST is the education area, through the system of monitoring the quality of the IST programmes. This system is established for 1st and 2nd cycles, which will be described and analysed in this paper, leading to some pertinent questions: how should we expand the system to the doctoral programmes? Should the instruments and sub dimensions of analysis be the same? Or does the specificity of this level of studies require a different approach?

The purpose of this paper is to present and discuss how to expand quality assurance procedures implemented to doctoral level and analyse potential impact of this on the school supervision, in an illustrated case of IST.

Text of paper:

Introduction

Over the last years, the development of higher education institutions (HEI) in Portugal in tandem with an increasingly market-oriented education and entrepreneurial attitude towards it has resulted in increased interest of employers, governments and ordinary people in the quality of the education system.

As a result today "*universities are expected to function as organisations, to have goals, and to have plans for attaining them*" (Ramirez 2010, p. 46). To achieve these aims, HEI should have smart systems for producing performance assessments in a timely fashion which leads to refining targets, optimizing resource allocation and establishing strategies for attaining their objectives.

To create an effective quality assurance system, Tremblay (2008, pp. 63-64) suggests: "*Avoid fragmentation of the quality assurance organisational structure; Avoid excessive costs and burdens; Improve quality information base; Improve information dissemination*".

Aware of these critical aspects, and in tune with the current trends within the context of Higher Education, IST has carried out an internal reflection process on its quality policy, through the adaption of the best European quality practices and implementing the directives set out for quality in the Portuguese Higher Education system. As a corollary of this process, an Integrated System for Quality for IST (SIQuIST) was launched and a specific (sub) system for monitoring the quality of the programmes taught at IST programmes was developed.

The objective was to try to develop an assessment system that made it possible to:

- create structures and ensure the necessary means to carry out regular internal assessments of its programmes;
- establish a simple and effective system of identification, collection, handling and disclosure of information;
- ensure that the assessment initiatives had visible and timely effects on the programme's management (for example, selection of students, valorisation of the teaching activities, re-appreciation of the objectives, contents and didactical methods of the disciplines).

This mechanism, concentrated in an Annual Self-Assessment Report (R3A) for each programme, was initially implemented in the IST 1st and 2nd cycle degrees. Because this mechanism is now well established at these levels, it is now time to extend it to the 3rd cycle (doctoral programmes).

The big issue at this stage is: What should be the similarities and differences with the instruments developed for 1st and 2nd cycles? Should the instruments and sub dimensions of analysis be the same? Or does the specificity of this level of studies require a total different approach?

Keeping in mind that the doctoral programmes are a different level of studies, with some particularities (the most part of the ECTS of the doctoral studies are achieved through scientific training and work on dissertation), there are expected some differences in the assessment of the educational process. However, the structure for this quality assurance mechanism should remain the same as in 1st and 2nd cycles.

In the following sections of this paper a summary of the functions of the R3A and a brief description of its structure for 1st and 2nd cycles will be presented, followed by a discussion of the impact of this internal quality process in the institution's management. An analysis of what should be extended to the 3rd cycle programmes will then be made, and a set of new characteristics to be included in this level of studies.

At last, the conclusions and some final remarks will be presented.

Annual Self-Assessment Reports for 1st and 2nd cycles

The R3A consists of a compilation of annual data, which allows for an analysis and assessment of the results for each programme. The information gathered meets a standard layout, is presented in graph form and divided in three major groups: Admission in the Programmes; Educational Process and Formative Efficiency.

The reports are produced involving Academia: students and teachers who not only answer established surveys as elaborate reports on several matters; graduates and employers who give information about IST employability; specialized personnel who compile and disseminate the data and carry out several studies; and the elements from the institution's management (programme coordinators, presidents of academic units, pedagogical council) who analyse the available material and make informed decisions, as it can be observed in Figure 1.

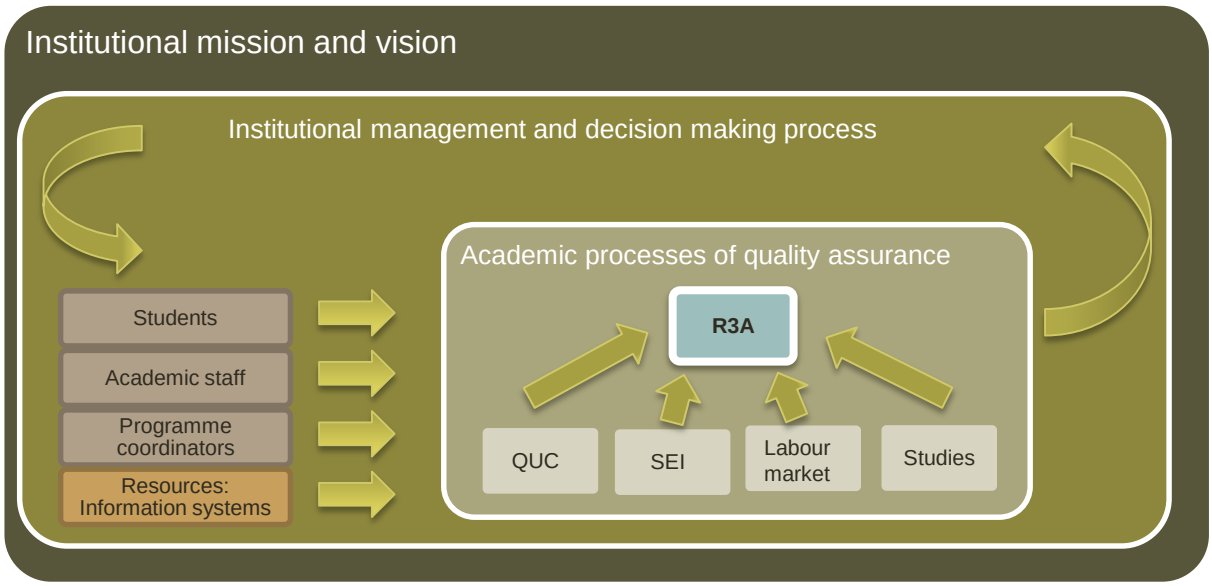

Figure 1: Quality assurance processes at IST in the scope of education.

This process has several sources of information and is articulated with other quality assurance instruments of the institution, namely: IST information system – FÉNIX; the quality assurance sub system of the course units taught at IST (QUC); and IST Survey System (SEI) which includes feedback from students, teachers, employers, graduates and other members of Academia on several aspects. In particular QUC plays a significant role at the task of surveying the learning and teaching process, on an half-yearly basis.

This procedure is measured by mandatory student surveys regarding the curricular units they attended, and then analysed in detail by students' representatives, teachers, programmes coordinators and pedagogical council, who need to define improvement plans in problematic cases, follow up and should publish excellent practices in teaching.

The final results of R3A, which interest all the school community, are addressed specifically to the programme coordinators who are responsible for and giving written feedback on how well their programmes are performing, and, if necessary establishing follow up plans.

On the 1st and 2nd cycles, a total 37 programmes were evaluated and, as a result, there was a significant impact in managerial aspects, in institutional planning, and in the quality of teaching and learning. With the aim of achieving similar results on the 3rd cycle programmes, in a constant pursuit of academic excellence, a framework for evaluating the doctoral studies at IST through the R3A mechanism is being set in motion. For a better understanding of the layout that should be defined for this assessment, the next section of this paper will be devoted to this matter.

Expanding R3A for 3rd cycle

As mentioned the R3A of 1st and 2nd cycles is divided in three major groups: Admission in the Programmes, Educational Process and Formative Efficiency, which should be kept to 3rd cycle in order to assure some coherence in the quality instruments developed in SIQuIST for the same purpose.

A doctoral degree is more focused on research, innovation, extending the frontiers of knowledge, and less dedicated to the regular learning and teaching process in a traditional way. In practice, doctoral studies have few course units and are much more centred in the development of the thesis. The student profile and the time to conclude the degree are also different, and should be addressed in the scope of the R3A of the 3rd cycle.

Admission in the Programmes

This dimension of analysis includes data on the admission of students in IST and in similar doctoral studies in other Portugal public HEI or among other largest universities of Science, Technology and Engineering (e.g. access criteria, number of entries, percentage of women admitted).

This scrutiny is very important as it examines demand in several institutions, keeping in mind that: "*Universities are expected to act as if they can learn from other universities and from expertise on how to improve*" (Ramirez 2010, p. 43). In particular, the social dimension of access is examined because, as stated in the institutional regulations at Lund University in Sweden: "*For high quality in education and research the admission process to doctoral level shall be characterised by the maximum clarity and openness. On recruitment diversity shall be striven for, as well as a balanced gender distribution amongst the students*"[1].

Moreover, this topic also encompasses information on the type of the former degree held by the applicants to IST (in Portugal, access to doctoral studies is governed by law and candidates must hold a master's degree or show a relevant academic or scientific curriculum) and former HEI of studies.

As it is essential to enhance demand and attract high quality students to the institution, on the presence of unsatisfactory results in this section more efficient recruitment policies should be developed. When the problem is not to select candidates but to find them, a pro-active approach to recruitment becomes a necessity (a solution may consist in publishing the call for applications in newspapers, scientific journals and societies and relevant web databases, for example).

[1] Lund University Policy, retrieved on July 15, 2012, from http://www.lunduniversity.lu.se/.

Students attending 1st and 2nd degree programmes at IST are surveyed, at the moment of admission on the school, about the reasons and sources of information regarding the choice of the programme/institution, and about their hopes and motivations. In the future this survey will be extended to the students of doctoral degrees with the intent of better understanding their applicability along with their expectations towards their postgraduate degree. It is reported that students' satisfaction with their academic programmes, including the perceived fulfilment of their doctoral expectations, contributes favourably to doctoral degree completion (Bair, 2004).

Educational Process

Regarding the Educational Process at IST several aspects for assessing the doctoral programmes were identified:

- Global analysis: includes variables such as the number of students enrolled, percentage of part-time students/student workers, gender distribution, number and type of grants awarded, and dropout rate.
- Socioeconomic profile: sets the students' educational background, in addition to the students' status, age distribution and residence while attaining classes.
- Academic performance: comprises information concerning ECTS criteria (e.g. approval rate in course units) and work on dissertation (during the course of the doctoral study at least 30 and no more than 60 ECTS may be achieved via course units, and all the others are achieved through scientific training and work on dissertation).
- Internationalisation: contains data regarding the number of foreign students, teachers and programmes taught at IST.
- Teaching staff: sets the teacher's profile in terms of their professional category, age, number of working years, publications and number of doctoral students supervised.
- QUC: should present a summary of the results of this subsystem of this quality assurance tool which plays an important role in the pursuit for teaching excellence at IST (in development).
- Surveys/Studies: encompasses information on surveys implemented in the scope of SEI and SIQuIST (e.g. measuring the satisfaction towards the supervision of their research work) and studies concerning this level of studies.

Student academic performance and graduate completion rates are connected with the data included on this section. For example, information regarding the number of part-time students (which is growing) may be related to lower completion rates as these students are typically not funded by research councils or other grant-awarding bodies. In addition, some part-time doctoral students and student workers focus their attention on the demands of their full-time jobs rather on their doctoral studies, and studies show that completion rates for these pupils are lower (Bair, 2004; Martin, 1999).

On the other hand, the excellence of the teaching staff is of high importance to good learning and to effective thesis supervision. Lack of structure in the dissertation stage of their programmes is reported by many students as a major obstacle to completing their degrees (Tluczek, 1995; Mah, 1986) as all postgraduate students need guidance and help create a good environment for their research.

Promoting human resource development, creating workload models for supervisors and evaluating their dedicated time are possible ways to ensure quality of the supervision.

It should be noticed that the internationalisation is strategic for IST as the institution is aware, as mentioned in Bernhard (2012), that "*the experts from all countries emphasize*

the importance of internationalisation and see the growing need of comparability, mobility, cooperation and transparency concerning the quality of teaching and learning as well as research".

Therefore, the indicators contained within "Educational Process" allow for identification of areas where to focus efforts, from a quality improvement perspective, and should be carefully analysed and discussed within the instituting Governing Board.

Formative Efficiency

This topic includes information concerning the graduate efficiency at the institution (e.g. number of graduates, completion rates, time needed for the degree completion), employability and satisfaction surveys to the graduates and employers.

The monitoring of completion rates is essential for assessing the programmes suitability. In the presence of low completion rates, the programme coordinators should take action in order to identify the source of the problem which may vary from employment and financial factors, to the lack of supervision or students' satisfaction regarding their doctoral studies.

In addition, it is also relevant assessing the time to degree completion since recent studies have shown that the longer a student takes to graduate, the greater his/her chances of dropping out before the conclusion of the respective degree (Bair, 2004).

High employability rates mean that not only the institution has a good reputation amongst employers but also delivers good signals to the labour market on the skills and competencies held by its graduates. It guarantees that standards are met to ensure the qualification awarded is fit to the intended purposes as the institution must assure that the doctoral training meets the employment market needs.

In conclusion, the structure of the 3rd cycles R3A should be as presented in Figure 2, and highlighted in orange are the main differences when compared to the 1st and 2nd cycles R3A.

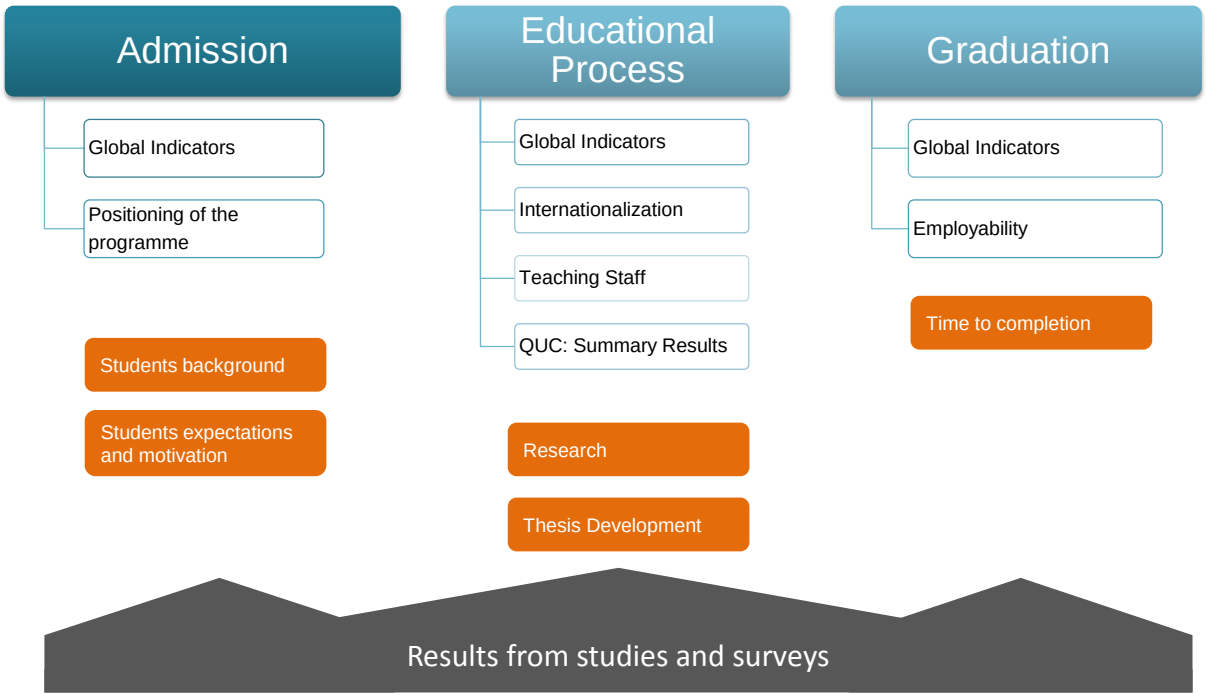

Figure 2: Structure of 3rd cycle R3A.

Impact on institutional decision-making process

On the 1st and 2nd cycle programmes taught at IST, several aspects were identified in terms of the impact of the R3A on the institution's management after its implementation and revision in the recent years:

- Institutionalization of R3A: It was defined a specific schedule for this process and the IST Statistics and Prospective Unit became responsible for supporting this annual process through its organization and dissemination. It was experienced a positive institutional support, in particular by the entities who are responsible for providing the necessary data to deliver the R3A and by the programme coordinators who are in charge of analysing and giving written feedback on the final results of this mechanism.

- Development of internal information systems: there were significant improvements in the quality, availability and coverage of information existing in the IST information system, Fénix.

- Management, governance: there were a set of institutional goals and ways to achieve them through improvement actions (which led to financial priorities). For example, there were taken recruitment actions near students of secondary schools (e.g. guide visits at IST) with the purpose of achieving 100% entry rates in all 1st cycle programmes.

- Management of teaching and learning processes: there were improvements in the students' needs, teacher coordination, curricular plans, and learning resources. In particular, until 2010/11, in the following of the QUC assurance mechanism, 42 courses were audited.

- Participation of external stakeholders: the role of graduates and employers on the assessment of IST programmes was enriched by improving the surveys aimed at these individuals.

- Public awareness of assessing quality: the final results of R3A were presented to the school management, reporting the main figures of student progress. As a consequence the information about the students' academic performance (e.g. pass/fail rates, dropout rates, time to completion) and the programmes attractiveness and suitability became visible.

The next figure summarizes the lines of action proposed or taken by the programme coordinators.

Figure 3: Lines of action proposed by of Programme coordinators.

The strategy for the implementation of the R3A to the 3rd cycle programmes is to attain similar outcomes, being the first big step towards this goal the promotion of the availability of information on each programme in a standard format (R3A), and with defined deadlines for the process.

Discussion and final remarks

As documented in the previous chapters there are significant differences between the doctoral studies and the other levels of studies. That's why the current mechanisms for quality assurance (addressed to 1st and 2nd cycles) at this level of studies cannot be simply extended.

It is necessary to adjust the structure and contents of the instruments, although the focus to compile the information into a single document (R3A) and disseminate it throughout the institution is essential to trigger the intended cyclic mechanism in the context of quality assurance of HEI.

The main aspects that should now be evident and that will certainly be common to several HEI are related to building reliable sources of information for each dimension, to evaluate the mechanisms of quality assurance at this level of studies in other HEI of reference, and to ensure the feasibility of the process.

It should be noted that the institutionalization of the quality assurance process at the level of the other two cycles did not happen overnight. It started up many years ago, before the formalization of SIQuIST, with several independent instruments. Nevertheless they have been increasingly sought after in the pursuit of quality and the need to have structured and reliable information to support the decision-making process.

In this respect, and at this stage of development, it would be very important to know the reality of other institutions in this context, by answering questions such as:

- What dimensions of analysis make sense in the context of doctoral training?
- Which indicators are measurable and capable of integrating a tool for quality assurance in this context?
- Experiences of other institutions at this level?

in parallel with the presentation of an example of the IST proposal currently under consideration for R3A of the 3rd cycles.

References:

Bernhard, A. (2012): Quality Assurance in an International Higher Education Area: A summary of a case-study approach and comparative analysis, Tertiary Education and Management, 18:2, 153-169.

Bair, C. & Haworth, J. (2004). Doctoral student attrition and persistence: A meta-synthesis of research. Association for the Study of Higher Education. In J. C. Smart (Ed.), Higher Education: Handbook of Theory and Research, Vol. XIX (pp 481–534). Dordrecht, The Netherlands: Kluwer Academic Publishers.

Barrow, M. (1999). Quality-management Systems and Dramaturgical Compliance, Quality in Higher Education, 5:1, 27-36.

Bitusikova, A. et al. (2010). Quality Assurance in Postgraduate Education. ENQA Workshop Reports 12, Helsinki, Finland.

Clarke, G., & Powell, S. (2009). Quality and standards of postgraduate research degrees-2009. UKCGE Published Titles 33, Staffordshire: UK Council for Graduate Education.

ENQA (2008). Implementing and using quality assurance: strategy and practice, Roma, Italy.

Hou, A. Y. (2012). Impact of excellence programs on Taiwan higher education in terms of quality assurance and academic excellence, examining the conflicting role of Taiwan's accrediting agencies. Asian Pacific Educational Review, 13(1), 77-88.

Jones, E. A. (2010). Designing and implementing transparent assessments in doctoral education. Curriculum & Teaching Dialogue, Vol. 12, No. 1-2, pp. 153-161, Information Age Publishing.

Mah, D. M. (1986). The process of doctoral candidate attrition: A study of ABD phenomenon. Doctoral dissertation. University of Washington. Dissertation Abstract International, 47(\2A).
Maki, P. & Borkowski, N. (2006). The Assessment of Doctoral Education: Emerging Criteria and New Models for Improving Outcomes. Stylus Publishing: Sterling.
Martin, Y. M., Maclachlan, M., & Karmel, T. (1999). Postgraduate Completion Rates 2001D Occasional Paper Series. Higher Education Division, Department of Education, Training and Youth Affairs.
OECD (2008), Tertiary Education for the Knowledge Society, OECD, Paris.
Ramirez, F. O. (2010). Accounting for excellence: Transforming universities into organizational actors. In J. Portnoi, L. M., et al. (Eds.), Higher education, policy, and the global competition phenomenon (pp. 43–58). New York: Palgrave Macmillan.
Tluczek, J. (1995). Obstacles and attitudes affecting graduate persistence in com completing the doctoral dissertation. Doctoral dissertation, Wayne State University Dissertation Abstract International, 56(05A).
Lemaitre, M.J. et al.(n.d.). “Impact of quality assurance on university work. An overview in seven iberoamerican countries”. Retrieved on 15/07/2012 on “http://www.copaes.org.mx/FINAL/inicio.php”.

Questions for discussion: What dimensions of analysis make sense in the context of doctoral training? Which indicators are measurable and capable of integrating a tool for quality assurance in this context? Experiences of other institutions at this level?